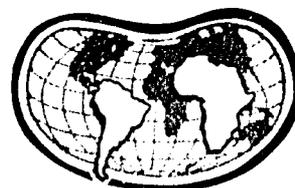


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RESOURCE GUIDE
WOMEN IN AGRICULTURE

C A M E R O O N

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INTRODUCTION

The Bean/Cowpea CRSP is a program of coordinated projects in Africa and Latin America that focuses on removing constraints to the production and utilization of beans (Phaseolus vulgaris) and cowpeas (Vigna unguiculata). Funded by a Title XII grant from USAID/BIFAD, the goal of the program is to support research and training which will ultimately result in a reduction of hunger and malnutrition in developing countries.

In many of these areas, beans and cowpeas are staple foods that provide the major source of protein and an important source of B vitamins in family diets. Usually produced on small farms for household consumption and sale, these basic food crops have not benefited from the kinds of research and extension efforts accorded to crops grown for export purposes. Consequently, yields tend to be low due to high insect and disease infestation, depleted soils and drought. Oftentimes much of the meager harvest is lost during storage.

In many parts of the world the primary responsibility for the production of beans, cowpeas and other crops grown for family consumption rests with women and children. While women's roles in agriculture vary by country and region, women generally play a major part in seed selection, planting, weeding, harvesting, storing, processing and preparing of food crops. These factors combine to pose a special challenge to development efforts, suggesting both a need to direct attention to the constraints faced by small farmers and at the same time to recognize that in many contexts a majority of these farmers are likely to be women.

A total of eighteen projects, eight in Africa and ten in Latin America, are included in the Bean/Cowpea CRSP. All involve collaborative research efforts between investigators located at Host Country (HC) institutions and investigators at US universities and institutes. A wide range of research interests is reflected in the program; all address the small farm context and many focus on agricultural and food preparation tasks usually carried out by women. Included in the program are projects designed to:

1. Increase bean and cowpea yields through developing disease and insect resistant, drought tolerant or high nitrogen fixing varieties which incorporate locally desirable traits (color, texture, taste and cooking characteristics).
2. Facilitate the processing of beans and cowpeas through the development of technologies that are suitable for use at the household and village level.
3. Investigate and where possible remove the anti-nutritional factors and increase the protein content and digestibility of beans and cowpeas.
4. Address storage losses and preparation constraints such as the hard-to-cook phenomena in beans.

In addition to the research objectives each project has a training component tailored to HC bean and/or cowpea research needs. This includes opportunities to participate in formal degree programs and in short-term training courses. Interactions among researchers from the various projects in the CRSP have resulted in an integrated approach which promises to yield realistic and viable solutions to the problems confronting small farmers.

Since its inception, the Bean/Cowpea CRSP has incorporated a strong Women-in-Development (WID) focus and has included a WID Specialist on its Management Office staff. While specific objectives vary by project, certain WID concerns are of program-wide significance. These include:

1. Assuring that gender issues are taken into account in information gathering. This requires an awareness of the ways in which this variable influences resource allocation, decision-making processes and the division of labor within farming households. Such a focus is important in Latin American contexts where women's participation in agriculture has often gone unrecorded and is especially significant in many African areas where women have access to their own fields and are responsible for providing for their family's sustenance. In both situations data gathering must encompass male and female work roles if workable solutions to the problems confronting small farmers are to be devised.
2. Ascertaining that agricultural innovations (be they improved seed varieties, new techniques or technologies) are appropriate to the small farm context and that these innovations do not result in the progressive marginalization of women in the agricultural sector or increase their already heavy work loads.
3. Encouraging the participation of women in the projects as researchers, technicians and students. Over the long run such efforts are likely to result in the diminution of male biases in research and hence to lead to more equitable and successful development efforts.

Overall, the perspective is one which situates small producers within the wider socio-cultural and economic contexts and draws attention to how a consideration of gender differences within households and society will result in achievement of project objectives and ultimately in improved nutrition and health status.

As part of this effort a series of resource guides is being prepared to provide Bean/Cowpea CRSP Principal Investigators (PIs) with an overview of women's roles in agricultural production, processing and marketing in their Host Countries. These handbooks are designed primarily for researchers in agricultural and food or nutrition-related disciplines who may be unfamiliar with the social science literature on the area where their projects are located.

Relying on secondary source materials, the objectives of the guides are, first, to present a description of the local farming systems with emphasis on

women's work roles. The amount and quality of information on women in agriculture is highly variable. A large number of studies exist for some developing countries while in others few investigations have been conducted. Second, a discussion of the relevance of the available information to the specific project objectives is provided. Where studies are not available, suggestions are made as to what kinds of data on women's roles would be most appropriate. In all cases, PIs are urged to gather information on women's roles in farming through consultations with HC researchers and farmers, first-hand observations and interviewing. Where there are plans to conduct on-farm trials, these may provide an opportunity to clarify which members of the household are responsible for the various production tasks. A third objective is to identify, where possible, women's organizations in the HCs and researchers in both the HC and the US who can serve as sources of information and as consultants. Finally, an annotated bibliography of the literature on women's roles in agricultural production, food processing and preparation in the HC is included.

WOMEN'S ROLES IN AGRICULTURAL PRODUCTION: CAMEROON

The first in the series of resource handbooks has been prepared on northern Cameroon where the University of Georgia and the Institut de Recherche Agronomique au Cameroun are collaborating on a project entitled "Pest Management Strategies for Optimizing Cowpea Yields in Cameroon." The principal objectives of this project are to identify the key cowpea insect pests, to develop and evaluate pest-management methods suitable for small farmers in northern Cameroon and to train Cameroonian students and technicians for entomological research. While some laboratory work is to be conducted in the US at the University of Georgia and Boyce Thompson Institute, much of the research is to take place in northern Cameroon and requires a familiarity with local cropping systems, especially as these affect insect-plant relationships.

The literature on the Cameroonian agricultural sector and specifically on women's roles in farming is substantial. However, most research has been conducted in the south with less work having been carried out in the Northern Province where the Bean/Cowpea CRSP project is located. Because Cameroon has considerable agro-ecological and ethnic diversity a single generalized statement concerning women's agricultural work cannot be made. Instead an overview by region is therefore provided. Section I focuses on the southern, western and northwestern parts of the country. Section II examines the Northern Province, drawing attention to variations within the area by ecological zone and ethnicity. In Section III, the findings of the secondary source materials are related to the specific goals of the Bean/Cowpea CRSP project. Section IV contains information on women's organizations and women-in-development in Cameroon. The Resource Guide concludes with a selected and annotated bibliography. References to many parts of Cameroon are included in the bibliography but the focus is on materials dealing with the North.

I. Women in the Coastal/Forest and Highland/Plateau Zones

The Coastal/Forest Zone includes the Littoral, East, Central South and Southwest Provinces while the Highlands Plateau Zones encompasses the West and Northwest Provinces.

A. Coastal and Forest Zone

A wide variety of ethnic groups live in this region. The Pahouin tribes (among them the Beti, Boulou, Fang and Ewondo) are the second largest ethnic group in the country. Other people inhabiting the area are the Bakweri, Duala, Batanga and Bassa. In her discussion of these groups, Bryson (1979) notes that while there is variation by language and custom, certain social-structural features tend to be shared. Among these are the absence in the past of large centralized chiefdoms. Control over land and resources generally rested with patrilineages and the most usual political unit was what Alexandre and Binet (1958) termed the village family. This consisted of an elder, his close male kin plus their wives and male and female children. These groups often moved when their land was exhausted or when more land was needed, resulting in considerable mixing of ethnic groups. For example, Bryson (1979: 9) notes that "it is difficult to specify exactly where the Ewondo or Beti live."

A second shared feature is that while these ethnic groups tend to be endogamous (marry within the group), they practice lineage exogamy (marriage outside the lineage) and patrilocality. This means that women usually move from their family of origin to join their husband's family. The amount of bridewealth (gifts and/or a sum of money which is given to the woman's family by the husband before the marriage is considered official) varies. In some cases, especially areas where cash crops are grown, it is reported to be high (Bryson, 1979). Polygamy also occurs.

In part, as an outgrowth of women's position between their own and their husband's lineages, they do not usually inherit land. Instead they are dependent on their fathers or husbands for access to fields. However, women in this part of the country have well-established rights of usufruct. They play a major role in the agricultural sector as the primary producers of food for household consumption and increasingly as producers of foodstuffs for the growing urban markets. While there is variation within the zone, males tend to be responsible for the production of tree crops grown primarily, but not exclusively, for the export market and for the clearing of land in forest areas. Relying largely on hoe culture, females cultivate fields usually under an acre and a half in size on which they grow basic food crops such as maize, yams, cassava, groundnuts, peas, beans and melons (Bryson, 1979: 55).

Available evidence suggests that women's roles in food production have grown in importance with the advent of cash cropping. In discussing the impact of cocoa grown primarily for the export market on farming practices among the Beti, Guyer (1980) notes that males have withdrawn from spheres of food production where they once participated with women (i.e. yams, melon seeds). She calls attention to the dependence of households in both rural and urban areas on crops produced primarily by women. Women's fields have reportedly increased in size, are farmed more intensively and are cropped twice a year. This has occurred despite the fact that agricultural extension efforts have targeted males producing for the export market (OFUNC, 1977; Henn, 1983) and despite repeated assertions that female producers will be unable to meet growing urban demands for food.

In addition to working their own fields, women play a role in the production of crops such as cocoa grown on men's fields, participating in the harvest or preparing food for communal work parties. They may be compensated for this by their husbands, either in cash or in the right to sell some of the harvest (Guyer, 1977). Koenig (1976) reports that women are also employed as wage laborers on plantations. Women in the southern areas have become involved in trading activities selling their produce and prepared foodstuffs in village and town markets. References to these trading activities which have become known as "Buy 'em Sell 'em" are included in the annotated bibliography (Buys, 1975; Arouna, 1977; Nordin, 1978).

There is a strong tradition of women's associations among many people in this zone. These include savings associations, mutual aid groups for agricultural work and secret societies. As Bryson (1979: 15) points out, some of these may have the potential to serve as the basis for development activities.

What emerges from this literature is not only an appreciation of the role of women in agricultural production but also a perspective on household organization and economics that differs from prevailing Western-styled patterns. For example, Guyer (1980) notes that Beti women maintain a high degree of control over their domestic spheres, the harvest from their fields and the proceeds from its sale. Rather than a pooling of resources within the household, what takes place here and elsewhere is a system of exchange with men and women responsible for different aspects of the budget. Beti women make small regular purchases and are responsible for the daily living and nutritional standard of their families. When women's incomes increase, the additional funds tend to be spent on items such as fish and meat or oil that improve family diets. Men, on the other hand, pay for medical and educational expenses, bridewealth, house building and other activities that require large cash outlays. While both male and female contributions are necessary for household maintenance, it is important to note that there are certain spheres of responsibility for each sex and that this organization differs from the management of household finances characteristic of most Western industrialized societies.

B. Highland and Plateau Zones

The Western and Northwestern Provinces are densely populated by a diversity of ethnic groups. Among them are the Bamileke (the largest ethnic group in Cameroon), the Tikar and the Bamoun. There are striking differences between this zone, which is predominately rolling hills, and the south with its coastal plains and tropical rain forest cover.

Social organizational characteristics also differ in a number of significant respects. In particular, the people of the Northwest and West Provinces were organized into independent chiefdoms. Some groups, for example the Bamileke, had a large number of chiefdoms, whereas others such as the Bamoun were composed of a single chiefdom (Bryson, 1979: 18). Available information suggests that these were highly stratified societies (Brain, 1972; Kaberry, 1952; and McCulloch, Littlewood and Dugast, 1954), with clear distinctions between "nobles" and "commoners."

A characteristic shared by many of the groups is the high status accorded to the mother, wives and/or daughters of the chief. These women have many rights and privileges which include participating in government and owning property. Women in such positions (i.e., the Mafo or Queen Mother among the Bamileke) can leave their lands, other property and titles to daughters (Bryson, 1979: 19). Overall, while the majority of groups in this zone have patrilineal descent systems, relations with matrilineal kin are strong. Among the Tikar, for example, both men and women can gain access to land through their matrikin, while among the Bamileke women can own property and rights to land which can be left to their daughters (Bryson, 1979: 20). In these cases, women do not have to depend on their husbands or fathers for access to land.

This factor has ramifications for the organization of agriculture and the domestic or household economy. While variation exists, women in these provinces are reported to be heavily involved in food production. In areas

where there is little tree cover this may include responsibilities for land clearing in addition to other agricultural tasks. Although some help from males may be received, it often comes from sons or from daughters' fiancées rather than husbands. Among the Tikar, Kaberry suggests that women perform all tasks associated with food crop production, with the exception of clearing the land; among the Bamoun it is reported that both males and females participate (Bryson, 1979: 24). Men in these areas are involved in growing crops such as plantains, coffee, rice and maize for the market.

Attention was drawn earlier to household organization and economics in the Coastal and Forest Zone. The pattern described there seems to be more pronounced among certain groups in this area. Brain (1972), for instance, reports that among the Bwanga (Bamileke) the concept of a nuclear family composed of husband, wife and children does not exist. Instead a woman and her children are thought to constitute a separate house within a polygamist compound. While males have certain obligations, women are primarily responsible for providing food for themselves, their children and their husbands. They also market crops and exercise a degree of autonomy over the proceeds.

Finally, it should be pointed out that women's organizations and forms of collective action are particularly well developed among many people in this zone. Perhaps the best known of these in the development literature are the Corn Mill Societies organized in the 1950's and described by O'Kelly (1978). These consisted of groups of women who organized to collectively purchase corn mills. Beginning with 15 such associations, the project gradually evolved into 232 societies with wide-ranging functions including collective farming, poultry schemes and the like (Bryson, 1979: 93). Other more traditional forms of organization are the Mansu among the Bamileke which is a special association of the best female farmers, and a form of collective action by women known as the anlu to protect their interests. (Bryson, 1979: 25; see especially Ardner's 1975 description of Kom women's protest against British government agricultural policies in 1958). In addition to these efforts women in many groups organize to collectively work their fields.

II. Women in the Northern Zone

As this is the region where the Bean/Cowpea CRSP project is being implemented, more detailed information is presented. First, major characteristics of the four agro-ecological zones that comprise the Northern Province are outlined. This is followed by a consideration of demographic characteristics and ethnic composition, farming systems and gender-related roles within them.

The sources that were located on the North Province are included in the bibliography. Many of the ethnographies report on fieldwork carried out during the 1950's and 1960's and most are written in French (Boulet, 1975; Boutrais, 1973; deGariné, 1964; Guillard, 1965; Lembezat, 1972; Rodlewski, 1971). The Mandara Mountains Research Reports which provide more current information may be obtained from Michigan State University. Generally speaking, it appears that outside of specific areas, such as the Mandara

Mountains, insufficient attention has been paid to the relationship between the cash crop sector and the subsistence sector. In order to fully and accurately describe the farming systems and the division of labor by sex within them, this type of material and further studies on the dominant ethnic group in much of the North, the Fulbe (also referred to as the Fulani and the Peul) would be necessary.

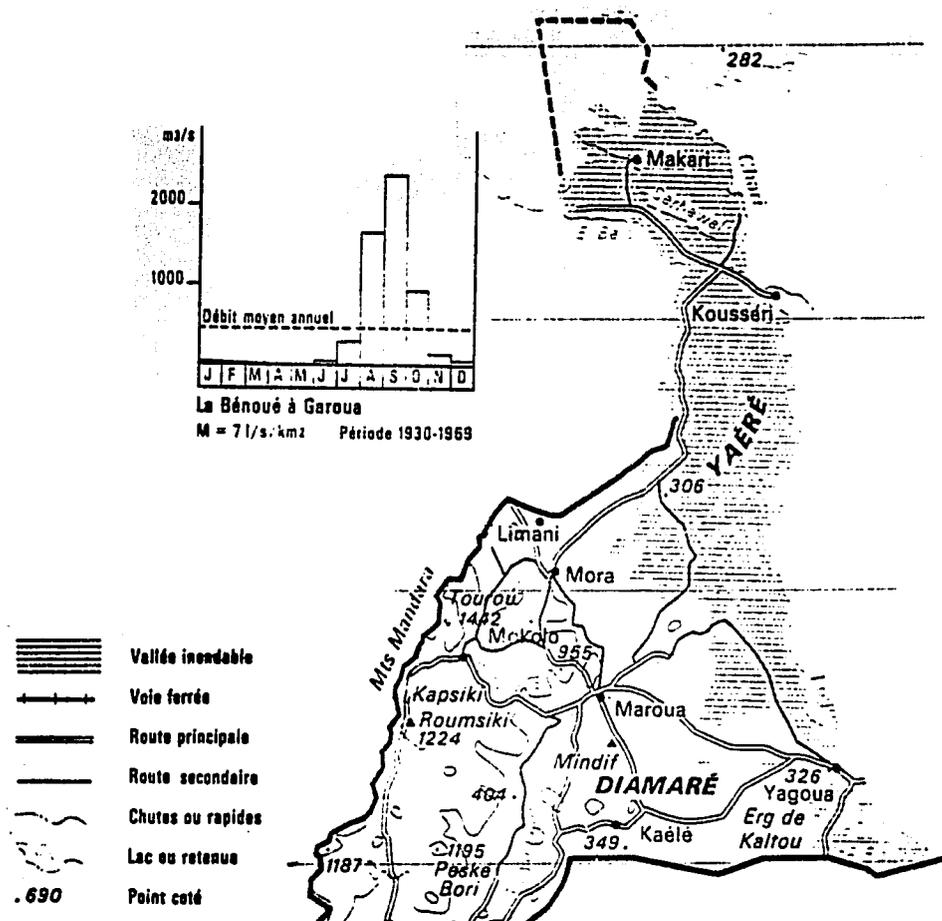
A. Agro-Ecological Profile

The Northern Province, extending from Lake Chad to south of Maroua including the districts of Yaere and Deamare, has several distinctive agro-ecological features (see Fig. 1). The extreme north of Yaere is bound by Lake Chad, the western region is dominated by the Mandara Mountains and the eastern border is comprised of two rivers--the Chari north of Kousseri and the Logone south of that city. There is no distinctive ecological border separating the districts from each other or from neighboring districts to the south. Generally speaking, however, the majority of the Northern Province is located in the Sudano-Sahelian belt, characterized by seven months or more of dry season; a precipitation range between 400mm and 900mm annually and an annual average temperature of 28°C. Much of the land area is not very suitable for agriculture. This differs somewhat from the area south of Maroua which is characterized as humid tropical. Here average rainfall is between 900mm and 1500mm, the average annual temperature is 28°C and the area is more suitable for growing crops (see Jeune Afrique, Atlas de la Republique du Cameroon). Within each of these zones, however, there are variations in the micro-ecology. Four regions, each with distinctive geological, geographical, climatic and human adaptive features, are briefly considered. These are the Mandara Mountains, the Plateau, the Plains and the Lake Chad region.

Mandara Mountains--The western one-third of the Northern Province contains hills and mountains ranging from 3,000 to 4,500 feet. The mountains are eroded and, as a result of the torrential rains occurring early in the wet season, coarse, granular and incohesive soils have been deposited in the foothills. Some of the soils in this area are volcanic. Rainfall in the mountains averages between 951mm and 1,057mm annually. Peak months of rainfall are July (246mm) and August (228mm) with a sharp buildup in May and June and a sharp decline after September. November, December, January and February generally receive no rain at all. Cultivation takes place on the steep mountain slopes. Soils are managed intensively rendering them more fertile at times than those in adjacent valleys. Topsoils wash away in the early torrential rains which generally occur in May. Terracing, which reduces erosion, is practiced by many of the local inhabitants. Virtually all arable land is cultivated. The number of livestock is generally kept to a minimum since foraging areas are limited and livestock must be enclosed and fed for several months of the year to keep animals away from crops. Holtzman (1982) explains that after the harvest, animals are left to browse fields.

The Plateau--The altitude of the Plateau ranges between 500 and 1,000 meters and the area receives from 1,000 to 1,200mm of rainfall annually. Niang (1982) provides a description of the region. He notes that it extends from

Figure 1



Relief and Hydrography of the Northern Province (including roads). Atlas de la République Unie du Cameroun. Paris: Editions Jeune Afrique, 1979.

Tcheoi and Bourrah in the south to Mokolo and Soulede in the north, comprising about half of the Margui-Wandala Department. Soils are not inherently fertile, although they are increasingly being brought under cultivation. As a result of government control of Fulbe raiding for cattle thus making the area safe for cultivation, mountain people are moving to the Plateau (Campbell, Riddell 1981). Both cultivation and cattle herding take place, each practiced by different ethnic groups, as described below. Water scarcity occurs in the dry season.

The Plains--Comprising another one-third of the land area of the North, the Plains lie below 500m and receive between 500mm and 750mm of rain annually. Soils are generally sandy, with more fertile soils found in the river valleys. Water is often not available during the dry season, thus making cultivation difficult. Niang (1982) indicates that most farming occurs in alluvial areas where cotton growing predominates. Pastoral societies are found in this zone, although some cultivation is undertaken to supplement Fulbe and Arab Choa diets.

Lake Chad Floodplain (Yaere District)--Water levels in the floodplain begin to rise in June and July and crest at 1,500 M³/S in August and 2,500 M³/S in September, subsiding to 1,000 M³/S in October with a steady drying out through January. The lowest amount of rainfall in the country (500mm per annum) occurs in the area north of Kousseri and south of Lake Chad. Peak rainfall months recorded at Kousseri are July and August (receiving 150mm and 250mm, respectively). The soils around the lake are alluvial and contain ferruginous and carbonate materials. Along the Serbewel River, soils are also alluvial but tend to be more sandy. Both pastoral and crop-growing economies exist in this region, although practices vary with ethnicity.

B. Demography and Ethnic Distribution

In 1976 the population of Northern Province was estimated at 2,300,000, with approximately 330,000 people in urban areas (67,200 of whom live in Maroua) and the remainder in rural zones. The Lake Chad area has a population density of between 6-12 people per km². Directly south, on the Floodplain, the population thins to between 3-6 per km². Population density around Maroua is between 12-25 per km², with the region west of the city having a density of 25-50 per km². (This generally coincides with the cotton-growing region). The same population density exists along the Logone River in the southeast quadrant of the Province. (This coincides with a rice-growing region.) Boulet (1975) reports that in the valley or Magoumay area there is an average of 245 persons per km² while Zalla, Campbell, et al (1981) indicate that portions of the Mandara Mountains and the Plateau are the most densely populated in the province with up to 250 people per km².

Zalla, Campbell, et al. (1981) also note that the Mandara Mountain region has the highest infant mortality in the country--196 deaths per thousand live births. Trechter (1981) reports 225 per 1000 births, while others he cites found up to 477 deaths per 1000 for the under 5 age group. Contributing to the

high infant and childhood mortality rates is the mild level of undernutrition (children less than 85% of the normal body weight) reported for this region in the UCLA nutrition study (1978). Child feeding practices may play a role as Trechter (1981) notes that supplemental feeding of infants in some Mandara Mountain villages does not occur until they are about 15 months old. The UCLA nutrition study (1978) reported that 70% of mothers in the North breastfeed their children until the age of 21 months and that fresh milk is consumed only in the North and is fed to 7% of children between the ages of 3 and 23 months. Children in the North receive special foods, such as millet or sorghum pap, longer than do children elsewhere. Because they are not being fed family foods their nutritional intake may be poorer than that of the rest of the family. Women in the North have the highest proportion of undernutrition reported for the country. Population growth rates are about 2.5% per year in the Mandara region (Niang, 1982).

Population pressures in the North were intensified during 1981 and 1982 when over 10,000 Chadians took refuge in the area. Not all of these have returned home. In fact, the numbers tend to fluctuate according to political events. Considerable seasonal and permanent out-migration from the North takes place. Temporary migration is especially common from January through March when little agricultural work is done and men search for jobs in urban or more agriculturally productive areas (Boulet, 1975; deGariné, 1978).

Ethnic distribution throughout the province is complex. Riddell (1980) estimates there are at least 23 different ethnic groups in the Mandara Mountains alone. The USAID report (1979) indicates that the Massa and the Toupouri live along the Chadian border in dispersed settlements. They practice mixed farming and also fish to supplement their diets. deGariné (1978; 1980) notes the Massa are divided into two groups, the Northern and the Southern. The Northern Massa are fishermen, practice sedentary animal husbandry and grow red sorghum in the rainy season. He notes that these people do not grow rice, even though it is suited to their habitat, because rice requires a year-long labor commitment which does not accommodate their periodic and cyclical ritual and religious observances. The Southern Massa in contrast grow a late variety of sorghum. deGariné also discusses the Toupouri who inhabit the rice-growing region of the province's southern quadrant. He notes that they plant rainy season sorghum, practice sedentary animal husbandry and fish during the dry season. He estimates that the population density of the Toupouri is about 60 per km².

The Musey, who are found throughout the North, are described by deGariné as bush clearers who plant in furrows, grow rainy season red sorghum, bullrush millet, beans, groundpeas, sesame, false sesame, sweet potatoes and cassava. In the Floodplain, they grow eleusine, transplanted sorghum and rice. They also raise cattle, fish seasonally and hunt. Their population density is approximately 18 per km². Musey homesteads are organized in concentric circles with the homesite at the center, surrounded first by food crops (which are the responsibility of women) then by secondary food crops and finally an outer perimeter of pastureland.

At least one-half of the Plains population are Fulbe (Fulani) who arrived in the area during the 17th and 18th centuries. Originally herders, about 80% of the Plains Fulbe are now sedentary and practice mixed farming (USAID, 1979). Many wealthy Fulbe live in towns and hire labor to work their farms. Dupire (1970) notes that the social organization of the Fulbe varies according to economic variables, i.e., whether groups are traditional pastoralists, settled agriculturists or mixed farmers. No detailed studies of these groups in Cameroon were found. What information is available suggests that the Fulbe are politically and economically powerful. deGariné, for example, states that all trade of importance is controlled by Islamic populations (including Housa who come from Nigeria) and, to a lesser extent, southern groups such as the Bamileke. He also comments that the Fulbe dominate economic and social life (1978).

The Mafa (sometimes referred to as Matakam) comprise the largest ethnic group living in the Mandara Mountains. Boulet (1975), reporting on field research carried out in the Mandara Mountains from 1965-67, provides information on agricultural production, while Martin (1972) details social organizational characteristics and changes that have occurred as the Mafa move from the Mountains to the Plains. Many of the Mandara Mountains Reports prepared by Michigan State University and included in the bibliography also make reference to this population. Finally, it is important to note that there is a large number of other groups living in the zone (see Niang, 1982).

While variation in ecological adaptation and socio-cultural organization exists among Northern groups, one of the most salient divisions is between the Mountain and Plain populations. Holtzman (1982) has characterized the interactions between them in the following way:

Despite the traditional animosity between the montagnards (mountain people) and the Fulani, there is specialization in the performance of agricultural tasks in areas where the montagnards and the Fulani live side by side. While mountain groups concentrate on crop production, Fulani herders raise livestock. Settled farmers sometimes entrust their cattle to Fulani grazers. At the same time the Fulani hire settled farmers as seasonal laborers to cultivate their maize and sorghum fields. Furthermore, specialization in the performance of agricultural tasks leads to exchange, not only of labor services, but of grain and dairy products as well (p. 41).

C. Agricultural Production Systems

Farming systems vary in accordance with environmental parameters, local level socio-cultural characteristics and government policies and economic development strategies. Niang (1982) has divided the farming systems according to agro-ecological zone. His scheme, supplemented by other researchers' findings, will be followed here.

Overall, the people of the Mandara Mountains practice mixed crop and livestock enterprises in order to adapt to the constraints of their environment. Productivity is enhanced through soil conservation, crop rotation, intercropping and a complex interchange between crops and livestock. Campbell and Trechter (1982) report that millet, sorghum, cowpeas, fruits and vegetables are grown in the mountains and that there are seasonal shortages of food. Frazier and Deguefu (1980) note that in the cultivation of cowpeas, fusarium root rot is a problem. Trechter (1981) finds that in the "hungry" season (May through September) people rely mostly on millet, sorghum, leafy vegetables, cowpeas and legumes and gather wild food where it is available. Zalla, Campbell, et al. (1981) note that 98% of the Mountain population live on dispersed farms and that they intensively cultivate sorghum, millet and groundnuts on terraced slopes. They report that people are not self-sufficient in cereals and that the per capita production is declining due to soil erosion and other factors which have resulted in a seasonal out-migration pattern. Higher instances of malnutrition have also been noted. These same authors found that 70% of all households in the mountain region grow cowpeas intercropped with millet and sorghum. Cowpeas are planted in rotation with groundnuts, peanuts, tiger nuts and sweet potatoes. They often provide a crop in years when the cereal harvest fails.

As noted earlier a system of terracing has long been practiced in the Mountains. Soil fertility is maintained through crop rotation and the preservation of acacia and other trees. Farmers here and on the Plateau grow cereals and beans for subsistence and groundnuts are grown for cash. Livestock is often stall-fed due to the limited amounts of pasture and the cyclical need to keep animals away from cultivated fields.

More specific to the Plateau, a variety of ethnic groups practice a variety of farming systems. Originally inhabited by Fulbe herders, the area has been brought under government supervision allowing people from the densely populated Mountain zones to descend to the Plateau thus pushing the Fulbe to the Plains. Subsistence crops such as cereals and beans, as well as sweet and Irish potatoes, vegetables, tobacco, manioc and sugar cane are cultivated on the Plateau. Disputes between herders and agricultural groups over rights to land continue despite government regulation efforts. Mafa on the Plateau and in the Mountains are reported to use a complex system of mulching and intercropping to grow sorghum, millet and other crops (USAID, 1979).

On the Plains, the constraints of low soil fertility and aridity limit crop production. Farming is concentrated in alluvial branches, primarily in the river valleys. Cotton is a major crop in these areas, with the Mandara, an Islamicized group, being the prime cultivators. However, for the most part, herding and mixed farming practiced by the Fulbe and Arab Choa peoples are the dominant form of agricultural production. The most common crops are millet and sorghum (both rainy season and transplanted); maize and rice supplement these in certain areas. Peanuts are grown both for subsistence and for sale. Cassava, yam and sweet potatoes are also produced. The USAID study (1979) draws attention to some of the cropping systems:

In some areas, cotton rotates with sorghum on heavy soils and in sandy soils cotton may be followed by sorghum interplanted with peanuts before prolonged fallow. Transplanted sorghums are grown in the clayey lowlands, without rotation or interplanting (p. III/9).

The Plains Fulbe are reported in the same document to practice a form of shifting extensive agriculture. Farmers live very close to subsistence in this region and do not take unnecessary risks unless benefits to the entire farming operation are likely to result. Food crops are favored over cash crops. Labor shortages occur at key times in the agricultural cycle and may function to deter farmers from adopting new or more intensive agricultural methods.

In the Lake Chad region, sorghum and millet are the staple crops while maize in the extreme north and groundnuts elsewhere constitute secondary crops. Okra, beans and leafy vegetables are also grown. Rice is grown in the extreme north as a cash crop, but not necessarily by Massa groups as commented on above. The USAID report (1979) contains information on rice production characteristics and yields. Cotton is also grown as a cash crop, generally on plantations of under 1,000 ha located in the the southern regions of the Logone River.

Livestock management is also important in the North. Practices are well-documented for the mountain region by Holtzman (1982) who notes that management varies in accordance with ecological constraints and ethnicity. Concerning feeding, one in four Mountain households tend to stall-feed their cattle while at least half of Plateau households range-feed theirs. Plains feeding practices are not discussed but it can be assumed that cattle are primarily range-fed since their owners are generally Fulbe and Arab Choa whose major occupations are pastoral.

Animals are used for traction purposes in the Plains and Plateau areas, plowing fields to be planted in cotton, peanuts and sweet potatoes. Animals are also used for weeding and for transporting harvested crops.

While cattle play an important role in bridewealth and marriage negotiations among many groups, considerably more families own small ruminants than cattle. The goat population is higher in Mountains and the Plateau, while the sheep population is greater in the Plains. Fulbe and Arab Choa Islamic populations require sheep for ritual purposes and thus tend to raise more. In addition, sheep do well on the succulent and moist grasses of the well-watered, low-lying Plains. Families in the Plains and in the Plateau also own donkeys and use them for traction and transportation.

The most productive of the regions in the North are portions of the Plateau where a variety of crops is grown and where animals can be range-fed. Sale of surplus crops is possible in this area, allowing farmers to purchase more cattle.

Some brief comments about the history of cash cropping in the North, particularly cotton, peanut and rice production, deserve mention. Cash crops were originally introduced as a means for cultivators to pay their taxes. As their production was in many cases obligatory, they corresponded to the needs of, first, the colonial and, later, the national government more than they did to the interests of small producers. With regard to peanuts which were originally planted for domestic consumption and represented dietary resource, forced production resulted in the unpopularity of the crop. It is only in the last twenty-five years that peanuts have regained their position in family food production (deGariné, 1978: 48). Available information also suggests that cotton growing has had an adverse impact on food for domestic consumption (and also on soils). Whereas it was once planted as part of a four year crop rotation sequence, in some areas it is now planted every other year (rotating with sorghum and millet). This practice has resulted in a reduced production of legumes, sesame and peanuts (deGariné, 1978: 47). Rice is well suited for production in certain environments in the North and has become an important food crop among some groups. In areas where SEMRY operates, it appears to be a crop grown especially by the economically better-off farmers who are able to comply with the requirements of its production. As is the case with cotton, however, deGariné notes that rice growing competes with animal husbandry and fishing which have customarily supplied an important source of protein in local diets.

D. Gender-Specific Farming Activities

Here as elsewhere in Cameroon, the division of labor by sex is an important variable in understanding farming systems. The literature on women's participation in agricultural production in the North is not as extensive as it is for other zones. However, what information is available suggests considerable variation with especially notable differences between the Islamic and herding populations and the other groups. A brief overview of men's and women's work roles in agriculture is presented below, with notes made where variation by ethnicity is significant.

Non-Islamic Populations--Similar to the situation detailed earlier for the Coastal and Forest Zone, the indigenous peoples (non-Islamic) of the North appear not to have had centralized political systems. Instead, authority rested with individual partilineages. As is also generally the case in the southern parts of Cameroon, residence after marriage tends to be patrilocal. Matrilineal ties in the North are less strong than in the Highlands and Plateau Zone and do not usually provide access to land for either males or females.

The Massa and Toupouri have traditionally practiced polygamy; however, high bridewealth payments coupled with other factors have resulted in the majority of marriages being monogamous (Bryson, 1979: 31). Women gain access to fields through their husbands. Upon the birth of children, wives are reported to be given their own house, kitchen and graneries where they store the produce from their fields and from which they feed their offspring. The picture that emerges regarding the household economy is similar in some respects to that described earlier by Guyer (1980). That is, men and women have separate responsibilities and separate income sources which they employ in meeting their obligations.

Generally speaking, only males can inherit property. Riddell (1980) points out that there is considerable variation by ethnic group with both primogeniture (the oldest son inheriting) and ultimogeniture (the youngest son inheriting) being practiced. Moreover, Campbell and Riddell (1981) indicate that among many Mandara Mountain people every son inherits an equal share of his father's land thus fracturing holdings, making them uneconomic and inadequate for total subsistence reliance. Some exceptions to the pattern of male ownership are found. For example, among the Toupouri upon marriage a woman receives a piece of land for wet season crops and another for dry season crops as well as rights of usufruct on land allocated to her husband (Bryson, 1979; USAID Report, 1979). Upon her death these fields are passed on to her youngest son. Riddell (1980) found one village (Hina-speaking) in his thirty-six village survey where daughters are said to have equal inheritance rights with sons. In this regard, it should be borne in mind that in many areas of Northern Cameroon land ownership is structured differently and implies different rights and obligations than in fully capitalist economies. In indigenous systems, while individual families may have long standing rights to use certain fields or pastures, land belongs to the patrilineage as a whole and hence cannot be "sold." Land sales, rentals and loans often represent a transfer only of use rights (Riddell, 1980).

While women do not generally inherit land, they nonetheless have well respected use rights and here as elsewhere in Cameroon, play an important role in food crop production. However, in contrast to both the Coastal/Forest and the Highland/Plateau Zones, males in the North are reported to play a greater part in growing crops for domestic consumption. This may be due to the fact that the region as a whole is more isolated and less commercialized than other parts of the country. Bryson (1979: 35-36) indicates that among certain groups (Massa and Toupouri) the division of labor is not so much on the basis of agricultural tasks such as planting and weeding but rather on the basis of allocation of fields. For example, Toupouri men communally farm millet and sorghum fields while women cultivate their own individual fields planted in sorghum and vegetable crops. Mafa women work with their husbands on sorghum and groundnuts but, in addition, they maintain their own fields of secondary crops. Women who have moved to the Plain are reported to have diminished rights to land. Boutrais (1973) notes that many of them have become assistants or helpers on their husband's fields and no longer have access to plots.

Women also play a role in cash crop production. For example, among the Massa and Toupouri the primary producers and marketers of tobacco are reported to be women. In addition, Massa women take part in cotton and rice production (deGariné, 1978; Bryson, 1979). Surplus food crops are also marketed. Zalla, Campbell et al (1981) indicate that women in the Mandara Mountains gain some income from the sale of cowpeas and that approximately 10% of the crop is sold. Women are largely responsible for growing peanuts both as a subsistence and as a cash crop. deGariné (1978) notes that income from the sale of groundnuts provides women with a household budget. Campbell, et al (1981) assert that women's budgets are further enhanced by the sale of cereals, beer and wine (which they brew themselves). In cotton growing areas, females engage in spinning and weaving activities (Bulenberg, 1978). Income, then, is generated from a variety of sources including sale of food and cash crops, small livestock such as poultry and woven items.

Estimates of the amount of time women spend in agricultural work are generally lacking. Boulet (1975) is one of the few available sources. He found that during the months of May through July women work more than fifty hours per week in fields and that in addition they are responsible for household chores such as drawing water, pounding millet and sorghum, cooking and meal preparation tasks and child care. Fikry (1978) discusses the difficulties involved in provisioning the house with water during the dry season in the mountains. When nearby lakes and streams dry up women typically make round trips of from twelve to fifteen kms to get water. This task is especially onerous when water must be drawn for animals as well. Both at the peak of the agricultural cycle and in the dry season women are often exhausted and therefore unable to prepare adequate meals for their families.

Two recent articles regarding food and nutritional issues among the non-Islamic Northern populations are especially noteworthy. Campbell and Trechter (1982) have examined strategies for dealing with food shortages in the Mandara Mountains. They found that strategies differ according to the severity of the food shortage and that coping mechanisms are gender specific. (This may very well reflect the differing responsibilities and roles that men and women have in household provisioning which were described above.) During the soudure, or first stage of the food shortage, women tend to borrow food or money, go without eating longer and reduce the portions fed to the family. Men may sell or slaughter some of their livestock. As the shortage progresses, other coping mechanisms are employed. Women may plant or begin to gather certain wild food or they may sell or use seed reserves. Men may migrate to other regions in search of work. The authors propose that local level responses be monitored and used to identify the need for food relief in times of severe food shortage.

In a different vein, deGariné (1980) calls attention to food habits and preferences among the Massa, Mussey and Toupouri populations living along the Logone River. Under the impact of Western and Fulani influences and as a result of the increased monetarization of the economy, food preferences have been moving away from traditional staples such as red sorghum toward what are regarded to be more modern and prestigious foods such as white sorghum and rice.

This description has highlighted women's roles in crop-related activities. It should be borne in mind that for some populations in the North, livestock raising and fishing are of equal if not greater importance. Available information suggests that women in these societies are also involved in these activities (Bryson, 1979).

Islamic Populations--Little information was found concerning the Fulbe and Islamic-influenced groups such as the Mandara. Bryson (1979) provides a brief overview of the Fulbe (Fulani) political organization, marriage practices and agricultural/pastoral activities. She notes that Islamic people are found in the Plains areas of the four most northerly departments and the savannah region of the Adamaoua and Beneoue. As noted earlier, while some Islamic groups are transhumant, most are settled agriculturalists.

Fulbe are organized into political structures known as lamidats, of which there are twenty-one in North Cameroon. The head of each (called a lamido) is responsible for land allocations. In contrast to the situation among many of the non-Islamic peoples, however, allocated land can be sold. In addition, women inherit land. Riddell (1980) reports that daughters are entitled to one half that given to sons. In a similar fashion, Bryson notes that widows are accorded one eighth of the property; two thirds of the remainder is divided equally among sons and the rest is divided equally among daughters. Women are free to use and dispose of their property as they choose with husbands having no rights to the income derived from it (Bryson, 1970: 31). As a consequence of these inheritance patterns some Islamic women have become large landowners.

Considerable differences exist between herding and sedentary populations with regard to women's roles in agriculture and in marketing. Among Fulbe pastoralists, women are reported to milk cows, make butter and sour milk. They also sell or trade these products in town markets and purchase or receive in exchange grains and vegetables for household consumption. These markets may be located fifteen to twenty miles from their homes (Walker and Brozier, 1977). Sedentary Fulbe women are more constrained in their interactions. Some work in household gardens growing peanuts, cotton and millet. Where religious beliefs are more orthodox, women are not permitted to work in their own or their husband's fields and labor is supplied by children, male family members and hired workers. If women are kept in seclusion, husbands, children or servants are responsible for the marketing. In such cases, women may process food in their homes for their not-yet-secluded daughters to sell in the market. Again, the income derived from these activities belongs to the woman.

Fulbe women are reported to use their income for their own purposes. In contrast to the non-Islamic populations described earlier, where women have well defined responsibilities with regard to family maintenance and use their incomes to fulfill these obligations, Bryson (1979: 37) reports that Fulbe women are not expected to contribute to daily household maintenance unless their husbands are unable to do so. Their money tends to be spent on personal toiletries or on daughter's dowries (Walker and Brozier, 1977).

What little information is available on women's educational attainment in the North concerns the Islamic population. Clignet (1977) indicates that these women are more likely to attend Koranic rather than French-styled schools since it is feared that women, who are viewed as the culture bearers of Islamic society, will alter their beliefs and values if exposed to wider society influences. He notes that only girls who come from more "modern" families go to French language schools. Very few of these are enrolled in technical streams. Overall, education for women appears to be valued, although it is not seen as intrinsically worthwhile. Education for women is viewed as instrumental to enhancing a husband's status; hence educated women (mainly from Koranic schools) command a higher brideprice because they are more desirable. Only a very small percentage of the school age population in the North is enrolled. Estimates range from 19% (Walker and Brozier, 1977) to 30% (Niang).

Before examining the project-specific implications of this information, some general points will be made concerning women's roles in agriculture in Cameroon. First, the studies cited throughout the report indicate that women are usually responsible for growing crops for their own domestic consumption and for sale to urban areas. In other words, they are the primary food providers in Cameroon. Women have fulfilled this role without access to agricultural extension efforts, improved seed varieties, modern techniques, technologies or credit, which, when available, are directed toward men. While males may be expected to transfer some of this information to their wives, much is either not conveyed or altered (USAID, 1979). Improvements in food production to meet growing urban needs and to improve nutritional status therefore will require the development of ways to reach female farmers.

Second, families are structured and households are managed in different ways than is the case in western societies and there is little reason to assume that western-styled patterns will be duplicated on a wide scale in Cameroon. As the literature indicates, males and females have separate domains of responsibility in household maintenance. In order to meet their needs and obligations which may include the provisioning of condiments such as salt and household supplies such as kerosene or soap, women often sell part of their harvest. In some cases, meeting these obligations leads to the sale of high protein foods (beans, cowpeas, poultry, eggs) and to the purchase of less expensive and less nutritious products, thus jeopardizing family nutritional status. Again, this speaks to the need to provide females with access to improved means of food crop production so that obligations can be met at the same time that high protein foods are retained for household consumption.

Finally, it should be borne in mind that there is considerable diversity by region in Cameroon and that the situation with regard to food crop production is very fluid. Where urban markets exist, as for example around Yaounde and Douala, males may either return to or commence growing food crops for sale. In other areas, such as the North where employment opportunities are limited, men may migrate either temporarily or on a permanent basis leaving women with increased agricultural responsibilities.

In conclusion, what emerges from the literature is an appreciation of the major role of women in agricultural production, food processing, marketing and food preparation in Cameroon. Improvements in the quantity and quality of the national food supply will rest in large part on the success of efforts to better incorporate female farmers into agricultural development strategies.

III. Project-Specific Implications

As noted earlier, the Bean/Cowpea CRSP project in Cameroon focuses primarily on cowpea pest management strategies. The principal objectives, outlined in the Project Paper and the 1983 Detailed Annual Report are to:

1. Identify key insect pests and their biology within the principal cowpea producing areas of Northern Cameroon.

2. Evaluate cowpea cultivars for resistance to facilitate breeding for resistance.
3. Identify factors within cropping systems which affect insect-plant relationships.
4. Develop and evaluate pest management methods suitable for small farmers in Northern Cameroon.
5. Identify behavior-modifying chemicals' potential for management of major cowpea insect pests.
6. Characterize the chemical and ecological nature of plant resistance.
7. Train Cameroonian students and technicians for entomological research.

Although these goals reflect the interests of scientific endeavors in the area of entomology and pest management, their achievement depends in part on knowledge of the wider socio-agronomic context. This is particularly the case because the University of Georgia/Institut de la Recherche Agronomique project seeks to develop interventions that are appropriate for a specific target population--small farmers. Some understanding of cropping practices, the division of labor by gender and age, land allocation patterns, decision-making processes and the like among this category of farm households is therefore useful and will contribute to the realization of project objectives.

Toward this end an effort is made here to relate the information culled from the secondary source materials to the specific project objectives and to the research strategy as it has been outlined in the 1983 Detailed Technical Report. The question to be examined is: What are the important socio-cultural and economic parameters, especially as they relate to gender differences, that should be taken into account in conducting experiments and designing appropriate pest management strategies in order to maximize project benefits? In areas where data is lacking or needs further elaboration this is indicated and suggestions are made regarding its collection.

The materials reviewed in Sections I and II have drawn attention to the ethnic and agro-ecological diversity that characterizes the North. It is also clear that social class divisions increasingly cross-cut ethnic lines. Together these two factors suggest that care should be taken in properly identifying the target population. There are small, medium and large farmers in the project area and within the small farm category there is a diversity of adaptations (subsistence, cash crop and mixed farming). In other words, it should be stressed that no single small farm type exists. This needs to be taken into account, for example, in experiments designed to identify factors within cropping systems that may affect insect plant relationships or in the development and evaluation of pest management methods. Both cropping systems and appropriate interventions are likely to vary within the small farmer category.

A second and related point concerns small farm management practices. Generally speaking, small farms in Northern Cameroon are family enterprises,

not commercial businesses hence, management decisions rest upon a different set of criteria than those characteristic of large commercial farms. Small farm households are more dependent on and enmeshed in a series of local-level kinship and community relationships. Their goals are not simply those of short-term profit maximization but rather concern social security in its broadest sense. Since farms are perceived of as homes, the primary concern of production is subsistence. In a context of scarcity and uncertainty, such as that found in many areas of Northern Cameroon, this orientation with its greater reliance on friendship and kinship networks provides economic and survival benefits. (See for example, the article by Campbell and Trechter, 1982, describing responses to food shortages.)

It is from this small farmer perspective that issues of land allocation, the division of labor by age and gender, cropping practices, technological inputs and food and nutrition will briefly be examined. In each case an effort is made to demonstrate how attention to gender will contribute to the achievement of the research objectives.

A. Land Allocation, Cropping Systems and the Division of Labor by Gender

The topics of how land is allocated and who within the family makes decisions regarding the crops grown on it are of significance to the project in a number of respects. The studies reviewed earlier indicate that in some cases wives and husbands work together in fields, while in others women have access to their own individual fields. The degree of control over crop management that women exercise in their fields or within family fields deserves consideration. The literature suggests that in the North females are often responsible for the cultivation of vegetable crops while men work on cereal crops. If this is indeed the case, and if it is found that women are the primary decision-makers with regard to the management of cowpeas and other vegetable crops, it becomes clear that experiments and innovations proposed by the Bean/Cowpea CRSP project need to focus primarily on women farmers.

With this in mind, a number of points regarding labor allocation within family farming system deserve consideration.

1. If proposed innovations and pest management strategies require greater or more intensive labor inputs, efforts should be made to ascertain who will be responsible for these inputs and at what stage in the production cycle they are required. The strategies women employ in finding help in peak production periods usually differ from those available to men. When more labor is required male heads of households may call upon a network of kin and friends to participate in a communal labor party. These activities are generally reciprocated by entire families. Women, on the other hand, do not traditionally call work parties and may be able to mobilize only a small number of women for help in their fields. If innovations require more time/labor, then care must be given to how this need will effect the existing division of labor.
2. If research strategies involve the development of early maturing cowpea varieties, some attention needs to be given to how this will affect household labor allocation at different points in the agricultural cycle.

In particular, where women have a dual responsibility to work on the family field and on their own plots, the introduction of changes in the crop cycle may produce conflicts that can undermine the success of the proposed innovations. For example, if women's work is needed in the family fields at the same time when early maturing varieties of cowpeas require tending, it is likely that this will take a lower priority than work on the family field. This suggests that agricultural production needs should be viewed in their entirety in order to assure that the project innovations will not interfere with other enterprises.

3. Small farmers do not usually hire laborers, but often may work as laborers on larger farms. For example, during the dead season in agriculture, men from the Mandara Mountains migrate to the Plains in search of employment. In cases where these and other hired laborers work fields they along with the farm owner need to be appraised of innovations. Also, in data gathering it should be borne in mind that observed field practices may be those of the laborers and not the owners.
4. In many areas the responsibility for the control of predators in fields falls to children and older people. Where chemical means of controlling insects have been introduced (i.e., in cotton production) it appears that males (or male extension agents) are responsible for spraying. Cotton, however, is a cash crop grown primarily under the direction of men. If inputs such as insecticides were in fact available and safe for use on food crops, it is not clear who would be responsible for their application. Men may be reluctant to allow women access to this technology or may not deem cowpeas of sufficient value to justify such inputs.

B. Technical Inputs

A discussion of technical inputs is especially important given that many experiments conducted by the project have focused on the feasibility of using various types of insecticides and sprayers as a means of reducing insect damage and increasing cowpea yields. It is of special concern that proposed innovations, techniques and technologies be appropriate to the small farm context. In this regard it is necessary to interject a note of caution regarding some of the project's working assumptions and strategies as these are reflected in the 1982 experiments. A number of points deserve comment:

1. It is increasingly recognized that technical innovations such as insecticides often require an array of other resources for safe utilization. With regard to chemical products these include access to a plentiful water supply to wash off residues, gloves and other protective equipment and means of disposing of containers so that they are not "recycled" to use as food containers. While some small farmers may have access to insecticides, these other inputs are beyond the means of the majority of the population in Northern Cameroon. In these situations the use of insecticides may present serious risks to health and to the environment. For instance, deGariné (1978) reports that water resources have become polluted and aquatic fauna killed as a result of insecticide use on cotton. At issue, then is not only the safety characteristics of the products themselves (low mammalian toxicity) but also the broader social context in which they will be employed.

2. It needs to be demonstrated that appropriate insecticides are in fact readily available to small cowpea producing households in the North. Reliance on the parastatal SODECOTON as a source of products for use on cowpeas is questionable. Do non-SODECOTON participants have access to sprays and products from this organization? Even within the SODECOTON clientage, are cotton farmers also cowpea growers? If SODECOTON is to serve as a source of insecticides it should be shown that there is indeed an overlap between cotton and cowpea producing families and that the organization is willing to disseminate products to non-clients. Other sources of appropriate inputs for small farms may also need to be sought.

In this regard, a study of the Managri Extension Services carried out in conjunction with the Mandara Mountains/Michigan State University survey deserves mention. Harley (n.d.) draws attention to the inability of these extension agents to do their jobs because they lack access to means of transportation, supplies, machinery and petrol. He reports that Managri insecticide sprayers were either inoperable or could not be used because the regional office did not supply local services with appropriate mixes. Zalla, et al. (1981) report that because SODECOTON is able to recruit the best trained extension agents and because it has a virtual monopoly over access to agricultural inputs, its effect is to undermine the Ministry of Agriculture extension program.

It has also been suggested that Catholic or Protestant Missions serve as disseminators of technological innovations, including insecticide and improved seed varieties. Reeves (1972) notes that missions have redefined their roles to be more instrumental in promoting rural development. He points out, however, that mission employees are seldom aware of the agricultural practices and customs of their constituencies. Moreover, innovations might be distributed only to members of the congregation thus creating ill feelings among the non-member population. (This might especially affect the large Islamic populations of Northern Province.) Thus, if Mission stations are to act as technology disseminators care needs to be taken to ensure that non-members also have access.

3. A distinguishing characteristic of the division of labor by gender within farming households in Cameroon and other parts of Africa concerns the use of agricultural implements. Certain tools and inputs may be regarded as most appropriately used by males while others (often hand tools) are seen as the domain of women. In some cases sanctions exist which prevent females from using male implements and vice versa. These types of considerations have direct implications for the design of pest management strategies. For example, are proposed procedures and implements to control pests compatible with these cultural expectations or will they induce a shift in work roles? If there is a shift, what are the effects on the household in general and women's roles in agricultural production in particular?

In a related vein, the literature on farming systems in Cameroon suggests that inputs used in cash crop production may not be deemed acceptable or necessary for food crop production. Families who readily use insecticides

on cotton and other cash crops may not use them on vegetable crops, even if they are safe, appropriate and increase yields. This is even more likely to be the situation in areas where there are clear distinctions between men's and women's crops or fields.

These factors suggest that the development of insect resistant cowpea cultivars with locally desirable seed types may be preferable to use of insecticides and other such inputs.

Finally, it should be noted that efforts to reduce cowpea losses from pest infestations during storage also involve a consideration of women. The literature reviewed previously indicates that women usually maintain their own granaries separate from those of their husbands and co-wives. Again, means to reduce storage losses that involve development of a "loose seed trait" or treatment with locally available vegetable oils are preferable to more sophisticated technological inputs which may be monopolized or controlled by men or be beyond the reach of small farmers.

C. Food and Nutrition

As Bean/Cowpea CRSP projects have as their ultimate aim a reduction in hunger and malnutrition, food and nutrition issues are of central concern. With regard to Cameroon, the UCLA nutrition survey (1978) indicated that women in the North are the most poorly nourished in the country. It is anticipated that with greater availability of high protein cowpeas to augment a grain based diet, improved nutritional levels can be achieved. Certain points concerning the adoption of improved cowpea varieties are already being taken into account by the project research team: cowpea taste, color, cooking time and protein-content characteristics. Certain other points concerning the role of cowpeas in the diet also merit consideration:

1. What is the role, if any, of cowpea leaves in the diet? If these are eaten at certain stages of plant growth, improved varieties and pest management strategies should be designed taking leaf characteristics into account.
2. Are cowpeas a staple food eaten on a regular basis with grains, or are they considered a "hunger" food to be consumed when no meat or other protein source is available? It is unclear from the project reports whether new seed varieties will be chemically treated before being dispersed to farmers. Campbell and Trechter (1982) report that seed is sometimes eaten when there is a shortage of food. In this context if seed has been chemically treated, serious hazards to health may result.
3. What is the role of cowpeas in the diet of children? Trechter (1981) notes that children in the North eat millet or sorghum pap after they are weaned and before they participate in the full family diet. If cowpeas are also used to feed children at this critical stage in their development, care should be taken to ascertain locally desirable cowpea characteristics for child feeding.

The literature on nutrition in the North does not provide answers to these questions. It is likely, in fact, that there is no single answer and that a diversity of practices exists with regard to each of these issues. This area of inquiry would have to be pursued through on-site surveys.

D. Education and Training

Several issues need to be considered with regard to the project's goal of training students and technicians for entomological research. Given the low level of educational attainment in the North, it is possible that some of the people who may be trained to undertake this research will come from the South. If this is the case, such trainees will be from different ethnic backgrounds than the ones represented in the North and may be unable to communicate in the local languages. Should on-farm interactions be a part of research and training, strategies will have to be developed to deal with this problem.

As the literature indicates, women have received less formal education in the North than in other parts of the country. The fact that women with the requisite training may be fewer here than elsewhere means that added efforts will have to be given to locate and recruit them. In on-farm interviewing regarding cowpea production and cropping systems, women interviewers should be utilized as males may have difficulty in gaining access to complete information. Information presented below suggests some organizations in Cameroon that could be contacted in recruiting qualified women to participate in the research program.

IV. Women's Organizations and Women-in Development in Cameroon

The information presented earlier on women's roles in agricultural production has been drawn from secondary source material. Of equal if not greater importance is information from Cameroonian women themselves. A number of women's organizations have been identified and deserve further investigation as potential sources for information and possible consultants for the Bean/Cowpea project:

1. There is a Woman's Service in the Ministry of Agriculture.
2. In the Community Development Service, extension work concentrates on women's development projects.
3. There is a women's wing of the political party that sponsors workshops and training programs.
4. In Yaounde there is a Sub-Regional Committee on the Integration of Women in Development called Multinational Programming and Operational Center (MULPOC) that has organized a series of national seminars in various provinces which teach techniques of project and economic planning.

5. The Organisation des femmes de l'union nationale Camerounaise (OFUNC) was established in 1966 and has a membership of over 700,000 women. Its activities include the encouragement of primary education for girls and women, assistance in hospitals and clinics, the establishment of social centers with educational programs and the organization of women's groups for community development.

The growing awareness of the role of women in economic development is also reflected in Cameroon's fifth Five-Year Economic, Social and Cultural Development Plan, 1981-86. According to this document, women's issues will be addressed more specifically than they have been in the past. Several programs and policies merit highlighting because of their potential relevance to the Bean/Cowpea CRSP project:

1. Nutritional education programs are being designed as a part of a national campaign for the improvement of weaning techniques and family feeding.
2. Women are seen as target groups in rural development programs focusing on food crops, fertilizers, livestock breeding and other agriculturally related issues.
3. Women are being encouraged to participate in production, food preservation and marketing cooperatives and greater efforts are being made to incorporate them in decision-making processes in these organizations.
4. Women are being encouraged to participate in the young farmer's training programs of the National Office for Participation in Development.
5. More females are being trained in agricultural schools to become agricultural demonstrators.
6. More credit is being made available to women under the FOGAPE program.
7. Applied agricultural research will focus to a greater extent on female farmers and the resulting information will be disseminated to these farmers. Research projects currently envisioned or underway concern food-stuff production, use of fertilizers, methods of preserving and packaging foodstuffs, small animal veterinary research, pollution and product quality control, new energy sources, sociological research aimed at improving women's living conditions.

The Plan also pays particular attention to the training of female researchers and to the increased involvement of women in data collection activities.

All this suggests that within Cameroon itself there are many resources and potential means to assist the Bean/Cowpea Institut de Recherche Agronomique/ University of Georgia project in its incorporation of women as farmers and as researchers.

The foregoing comments illustrate the specific roles and activities of women in Cameroon. Their participation in agricultural production was shown as essential to the economic and social needs of both the family and the community. For a more extensive exploration of these points, we refer you to the selected and annotated bibliography which follows.

A SELECTED AND ANNOTATED BIBLIOGRAPHY

This bibliography is a selected guide to materials available on women's work in agricultural production, food processing and marketing in Cameroon. It draws on a number of previously-existing bibliographies and data sources such as Dissertation Abstracts International, Sociological Abstracts, the Social Science Citation Index (SSCI), Agricola (CAIN), Resources in Education (ERIC) and others.

Africa South of the Sahara. 13th edition. London: Europa Publications, Ltd., 1983.

An analyses of physical and social geography and of the economy are set forth followed by a statistical survey which provides an economic profile of the country. A directory provides data on the government, the press, finance, trade and industry, transport, etc., and a brief bibliography concludes the country description. This volume offers general and statistical overviews of all the countries of Africa. No specific information on women is included.

Ardener, Shirley. "The Comparative Study of Rotating Credit Associations." Journal of the Royal Anthropological Institute of Great Britain and Ireland, Vol. 94 (1964): 201-231.

A scholarly investigation of rotating credit associations which seeks to define what they are and to describe how they operate. Uses Cameroonian examples. Is useful to this review as rotating credit associations are an important savings mechanism among women in many parts of Cameroon. (Annotation from Bryson, 1979)

_____. "Sexual Insult and Female Militancy" in Shirley Ardner (ed.) Perceiving Women. London: Malaby Press, Ltd., 1975.

Describes the group action taken by women in the Bakweri, Balong and Kom tribes against sexual insults directed at women. This activity is called anlu among the Kom. Ardener's lively description of the famous occasion in 1958 when over 6,000 women used the anlu mechanism to protest against the then British government's policies which they considered detrimental to women is based on Cameroonian source documents which are otherwise inaccessible.

Arouna, N'Sangou. Secteur Refuge et Developpement Economique au Cameroun. Yaounde: ONAREST, Ish No. 6, 1977.

This reference to Arouna's work . . . is the most recent and accessible product of his interest in the economic and social concerns involved in the provising of Yaounde with foodstuffs. His work is highly relevant to the review as both the producers and traders involved are primarily women. Arouna is concerned with the circuits for the distribution of foodstuffs, the relationships between producers and traders (Buy 'em, Sell 'em), and

the best means of reforming the circuits. He rejects the philosophy that the middlepersons are excessively exploiting both the producers and ultimate purchasers. He believes that the price differential from field to market is due primarily to the costs involved in collecting small amounts of food from widely dispersed producers, moving the products on an expensive and unreliable transport system and insuring that the foodstuffs arrive for sale in marketable condition. In his opinion, the persons involved in this process are providing a valuable social service under difficult conditions, and themselves have few (if any) alternative means of earning a living. He suggests that improving the transport system and establishing wholesale markets in Yaounde to counter any excessive prices would be the best means of dealing with the problems rather than replacing the traders by a centralized marketing organization. (Annotation from Bryson, 1979)

Atlas de la Republique du Cameroon. Paris: Editions Jeune Afrique, 1979.

The atlas provides a fine set of maps and discussions on various factors covering life in Cameroon. Some of these include relief and hydrography, climate, vegetation, soils, ethnicity and language, population, agriculture, communication, education, etc. No specific information on women is included.

Bah, A., M. Milonevic and B. Tiotsop. Stratégie de Développement Régional Intégré: Le Projet Vivrier Des Z.A.P.I. de l'Est. Douala: PAID, 1973.

Description and evaluation of the food crop production projects of the Z.A.P.I. of the Eastern Region. Contains information on the role of women in food crop production (which is predominant except for land-clearing which is done by men) and the constraints on improving their situation in the rural milieu. Reports that a project in the Eastern Province designed to increase the production and commercialization of food crops produced by women was opposed by men in the area because they were afraid the women would use their income to pay back the bridewealth. (Annotation from Bryson, 1979)

Bielenberg, Carl. A Preliminary Survey of the Applications of Appropriate Technology in the North Province of Cameroon. USAID/Yaounde (1978). Mimeographed.

Report based on a short survey of potential needs and applications of appropriate technology in North Cameroon. Information pertaining to women relates primarily to economics of traditional cotton spinning and weaving practiced by women as well as potential for using solar power for cooking (to lessen burden of collecting firewood). Also discusses certain other items which would be useful to women. (Annotation from Bryson, 1979)

Boserup, Ester. Woman's Role in Economic Development. New York: St. Martin's Press, 1970.

Boserup's work is the first major economic study to focus specifically on the role of women in economic development. It provides useful assistance

in the task of preparing an analysis of women's economic roles and problems in a particular country by indicating areas where women may have an important role and the difficulties they may be encountering. Her description of women's role in agriculture and the economics of polygamy are especially pertinent to Cameroon. However, the Cameroon specific data she presents on p. 21 for work input by men and women in agriculture is misleading as it was apparently drawn from Guillard's study among the Toupouri where men do more work in food crop production than they do in most other parts of Cameroon. (Annotation from Bryson, 1979)

Bot, Henneke. Promotion Féminine au Cameroun. Yaoundé: E.N.S.A. 1974.

The author (a Dutch exchange student at E.N.S.A.) describes the programs for the advancement of women in the Z.A.P.I. (Zones d'Action Prioritaires Integrees) as she found them in June-December 1973. Bot outlines the overall program of the Z.A.P.I., their goals and their administrative structure. She then describes a seminar held for the women in the 4 Z.A.P.I. in the Central South Province, and the program of the animatrice in the Zoetele Z.A.P.I. In the course of these descriptions, she points out difficulties with the programs (insufficient practical work with the village women, lack of time spent on agricultural work and lack of training in agriculture by the animatrice who was the principal contact with the women, lack of personnel, only one animatrice for an area which included approximately 4,000 adult women as compared to one extension agent for every 250 male farmers, inputs for food crop farming such as fertilizer sold at usual retail rates with no provision for credit). Bot also makes some suggestions for improving the situation. (Annotation from Bryson, 1979)

Boulet, Jean. Magoumaz, Pays Mafa (Nord Cameroun). Paris: ORSTOM, Mouton and Co., 1975.

Report on field research carried out in the Mandara Mountains from December 1965-January 1967. Four months, from December 1965-March 1966, were spent making a general survey of the Mandara Mountains and especially the six mountains in the Magoumaz Valley. The population of the Magoumaz area was estimated at more than 4,400 persons or a density of 245 persons per square kilometer. In addition to preparing a series of maps, a study was made of the number of hours spent in various occupations by both men and women and of agricultural yields. Figures on the number of hours worked were collected only for the months of April-December as January-March is the height of the dry season and no agricultural work is done. For most of the year, the number of hours worked by women exceeded that of men and both sexes worked very long hours, especially in May, June and July when both worked around 50 hours per week. The hours worked by women are particularly notable when one considers that men's agricultural work took 84% of their working time while women spent many additional hours grinding grain, collecting wood and water and cooking. The yields were sufficient to cover the nutritional requirements of the populus. Cash income of the families was very limited and was derived primarily from sales of ground-nuts. (Annotation from Bryson, 1979)

Bouman, F. J. A. and K. Harteveld. "The Djanggi, A Traditional Form of Saving and Credit in West Cameroon." Sociologia Ruralis, Vol. 16 (1976): 103-119.

The study of indigenous rotating credit associations in the Third World has recently received fresh attention because of their potential role in rural development. Research has barely touched on the more technical details of the issuing and recovery of credit. In an area where traditional financial systems have met with failure, the tremendous success of the djanggi--a savings and loan system--is noteworthy. Djanggi is more than an ancient economic institution, incorporating much of West Cameroon's systems of tradition, sociality, education and recreation. It is an association of 10 to 30 members who, under chosen leadership, take turns at receiving goods, services and money from the rest of the group which must be returned to the donors before the recipient has had his turn. Its flexibility and adaptive potential have enabled villagers to cope with the problems of security, costs, fraud and controls, and above all with the increasing demands of a changing society. In the final analysis this institution seems ideally suited to carry a community through the initial stages of socioeconomic transition. It thus offers a sound alternative to modern cooperatives and credit unions struggling with complexity and formality of organization and procedures. (Annotation from Sociological Abstracts)

Boutrais, Jean. La Colonisation des Plaines par les Montagnards au Nord du Cameroun (Monts Mandara). Paris: ORSTOM, 1973.

Boutrais collected information on the experience of the mountain tribes who settled in the plains in North Cameroon and the interaction between the tribes and the ethnic groups already inhabiting the plains area. The study also analyzes information collected and presented in a number of other studies made prior to the time. Considerable information is provided on agricultural practices and social relationships. (Annotation from Bryson, 1979)

Brain, Robert. Bangwa Kinship and Marriage. Cambridge: Cambridge University Press, 1972.

Study based on two field trips to former West Cameroon in 1965 and 1967 comprising a total of 20 months. The Bangwa are Bamileke chiefdoms who were on the English side of the French/English division of former German Kamerun following World War I. While Bangwa and Bamilekes still share the same basic culture, the contrasting colonial policies had created considerable differences between them. For example, the marriage wardship system which provided the basis for much of the wealth and power of chiefs had been retained by the Bangwa while it had been abolished among the Bamileke by the French Government. Brain indicates that women were totally responsible for agriculture, they even cleared the land or arranged for it to be cleared (sometimes by sons or by daughters' fiancées). Women also organized the internal trade in food crops and local produce and their children helped them with these activities. Notes that a woman and her children constitute a clearly separate unit within the family compound; if a woman

dies, her children will be raised by her matrikin and not by the co-wives. While fathers are expected to provide such items as meat, salt, school fees and clothing, mothers often are called upon to earn money to pay for these items. Brain provides a full description of the patrilineal and matrilineal kinship systems (which closely parallels the description of Huralt for the Bamileke, reference 98) and clarifies the position of women and their rights. (Annotation from Bryson, 1979)

Bryson, Judy C. Women in Economic Development in Cameroon. Washington, D.C.: AID, 1979.

While this study is broadly based incorporating women in rural and urban areas, the section on women's role in agriculture and nutrition makes several salient points.

Men in the south are mainly involved in cash crop production, while those in the north balance their time equally in both cash and food crop production. Concerning cocoa and coffee, women have played a minor productive role in these crops. Bryson argues that marriage and divorce rules are a disincentive to women to make long-term investments in these two crops. Women help in the harvesting and drying of cocoa and in preparing food for work parties. Women are also becoming more active in planting and in ownership in certain areas. Tobacco, cotton and rice are crops which are primarily grown in the north. Both men and women work in these. Concerning tobacco, which appears to be primarily a male crop, among the Massa and Toupouri it is cultivated only by women. Palm oil and peanuts are grown both for subsistence and for sale. Men care for the palm trees but both men and women process palm oil. Cultivation of peanuts varies from group to group, but in general both the labor and profits are shared.

A combination of communal and individual food crop practices exist throughout Cameroon. Men work in communal millet and sorghum fields and women work in their own individual fields. Harvests are similarly divided, with that of the communal field stored in a central granary representing a reserve surplus, while that of the women's fields is stored in a household granary and used for daily food supplies.

Since women have other responsibilities in the household beyond food production, the total area they cultivate is smaller than that of males. However, most women are able to meet the nutritional needs of their families through their own production and also have some as surplus to sell.

The agriculture calendar varies throughout the country as does the type of crop planted. In the south, maize, yam, cassava, taro and Irish potatoes supply the staple, and groundnuts, palm oil, peas, beans, pepper, melons, green beans, tomatoes, etc., provide both protein and vitamins. Planting is staggered within the parameters set by weather and soil so that harvesting is continual. In the north, sorghum and millet provide the staple with groundnuts and similar vegetable crops, as in the south, meeting dietary requirements. Root crops, rice and maize are growing in importance in the north.

The highest nutritional value crops are grown by women--beans, peas, groundnuts. Women are responsible for almost all food processing--grinding cereals, boiling and pounding root crops, processing of palm oil, grinding groundnuts into paste, etc. Nutritional shortfalls occur as a result of seasonal dietary imbalances, too high a proportion of the harvest being sold, the amount of other work women must do, food taboos, certain cultural rituals, etc.

An annotated bibliography of works on women in Cameroon concludes the book. The author indicates which sources are available in Cameroon.

Buy, Dieke. Les Buyem-Sellem--Une Etude sur la Commercialisation Des Vivres Par Des Buyem Sellem Dans La Lékié. Yaounde: E.N.S.A., 1975.

Dieke Buys' study is based on field work carried out between August, 1974 and March, 1975. It is an excellent study which explains how the trade in food products operates from the fields where they are produced through the local and regional markets to the urban markets in Yaounde and in the process provides a framework for understanding how the cities are provisioned from an essentially traditional agricultural system. At each level, Buys interviewed the agents concerned who were mainly women. Her report includes details of how the traders operate, how prices are set, constraints on the volume traded, problems of traders, profits realized and the characteristics of the traders operating at the different levels. (Annotation from Bryson, 1979)

Cameroon. "Direction de la Statistique." Preliminary figures from the 1976 Population Census.

Information provided included the breakdown of the population by Province and Department showing the relative numbers of men and women in urban and rural areas in each case; figures on economically active women by professional categories, with breakdown into 5 year age groups, shown both as a total and for rural and urban areas separately; total population broken down by year of age and sex. (Annotation from Bryson, 1979)

Cameroon. "Activities in Brief and Plan for 1977/82." Ministry of Agriculture, Department of Community Development, Women's Service.

Describes the program of work and plans of the service concerned. (Annotation from Bryson, 1979)

Cameroon. "Organisation des Femmes de l'Union National Camerounaise (OFUNC)." Papers of the Second and Fourth OFUNC Council Meetings held in Yaounde in January 1971 and January 1977, respectively.

Provides information on OFUNC analysis of various aspects of women's situation in Cameroon (Family Planning, Family Budgets, Agricultural Role, Integration of Women in Development) and their programs and resolutions for improving the condition of women. Attention is drawn to the fact that most programs for women are of a home economics type stressing their roles as wives and mothers. Also advice provided by agricultural extension

agents is often neglected because it is given to men rather than to women who farm the majority of the agricultural labor force. (Annotation from Bryson, 1979)

Cameroon. Visages de la femme Camerounaise. Yaoundé: OFUNC, AGRACAM, N.D.

Prepared in the mid 1970's, this report provides up-to-date general information on all aspects of women's lives in Cameroon--participation in economic development, social life, politics, legal status, employment, etc. (Annotation from Bryson, 1979)

Campbell, David and James C. Riddell. "Patterns of Land Tenure and Land Use in the Mandara Mountains of North Cameroon." Mandara Mountain Research Reports, No. 15. East Lansing: Michigan State University, 1981.

This report details the history of population movements (attributable to conflicts among the ethnic groups) in the Mandara Mountain region of Cameroon. Population in the mountainous area was highly concentrated and land was intensively cultivated through a system of terraces. During the last fifty years the population has begun to move down to the plateau in response to administrative pressures and controls on Fulani raiding. The authors contend that the re-location has occurred within the traditional land tenure framework but has altered patterns of land use both in the lowlands (where conflicts with herders are now common) and in the mountains (where terracing has become less frequent). Both of these trends foster increased erosion and decreased production yields. Traditional patterns of land tenure and inheritance involved each son receiving more or less equal shares of land from his father with either the eldest or youngest son expected to take over his father's compound. Rights to use land could also be rented or borrowed from other lineages. The authors note that this system is "relatively unique" in Africa because each plot of land has its specific owner, although this is not private property per se. Nothing is said about women's roles in agricultural production or their access to land.

Campbell, David and David D. Trechter. "Strategies for Coping with Food Consumption Shortage in the Mandara Mountains Region of North Cameroon." Social Science and Medicine, Vol. 16 (1982): 2117-2127.

Current means of monitoring food consumption shortages tend to be expensive and not adapted to identifying village or local level shortages. The authors suggest that the behavioral responses of rural populations can be used as indicators of impending food shortages. They conducted a study of behavioral responses to food shortages of males and females in three Cameroonian villages in the Mandara Mountain area. The villages were selected to represent the ecological/ethnic zones of the mountains and plateau. Within each village 20 households were randomly selected and both men and women were interviewed. The region itself is given over primarily to subsistence agriculture with the principal crops being millet, sorghum, cowpeas, groundnuts and fruits and vegetables that vary with locale. Three levels of food shortage were identified: Stage I--the soudure which occurs

annually prior to the harvest (June, July-September-October), is a time of relative food shortage. Stage II--while grains, etc., are still available for purchase in local markets, this is a time of shortage characterized by the breakdown of cooperative efforts and the liquidization of capital to deal with deficits. Stage III--is a state of famine precipitated by war, drought, pests and natural disasters. Findings were that behavioral responses differed by degree of food deficit and that within these parameters male and female responses varied. Stage I (soudure)-- Women reported a greater variety of responses than men suggesting that women are more directly concerned with overcoming the shortage than are men. Women sought help from relatives and friends in the form of gifts or loans of food or money. They also reduced the size of food portions and reported not eating for a day at a time. Men sold or slaughtered livestock to purchase food. This appeared to be the most common response across the 3 villages. State II--(Households were asked how they responded to a very bad harvest any time during the last 10 years). The overall strategy differed from the soudure; it included family assistance, gathering wild food, food purchase, migration, selling of livestock, special plantings and selling food. Again there was a difference by sex. Women tended to plant special foods and to use food reserves while men tended to rely on migration (sale of labor). Maies, however, took more action than during the soudure suggesting that in more severe shortages both females and males are involved. The authors contend that Stage II represents the point at which monitoring interventions should take place.

Conclusions are that a hierarchy of responses to food deficits exists. First actions in this region were to sell livestock, borrow food or money and look to the family for assistance. This is followed by gathering wild foods, migration. In this sequence males and females tend to respond differently with males becoming involved especially at Stage II. These responses can be monitored by local authorities and used to target official food relief programs and efforts in time of severe shortage. The authors note, however, that structural changes in food production systems in this and other regions are required if the people are to be able to support themselves.

Champaud, Jacques. Mon, Terroir Bassa. Paris: ORSTOM, 1973.

Study of Bassa agricultural system in the village of Mon (population 668) located near Makak in the Central-South, based on field research carried out between July 1963 and February, 1964. In addition to mapping the size, ownership, value and type of agricultural landholdings and other features of the area (railroad, principal roads, trails, houses, etc.) also considered are the geneologies of the principal families and the social organization in so much as they related to the present agricultural structure. Interesting features of his data are the detailing of the number of female headed households in the area--27 out of 125 or approximately 20%. Nineteen of the female family heads were food farmers, 5 were cocoa planters and 3 were traders. The cash income per capita of households headed by female food farmers was slightly higher than that of male food farmer headed households due to larger sales of food crops. Notes

that production of food crops is almost entirely the affair of women--each active woman cultivates on average 42 ares. Provides data on agricultural methods, the agricultural calendar, and crops cultivated. Also provides information on a women's saving association he studied in Mon made up of 51 women from the same clan. As one woman stated that she had used her collection to set up a trade in smoked fish and others had used it for children's school fees, there was evidence that at least some of the women were using their savings for development purposes. (Annotation from Bryson, 1979)

Clignet, Remi. "Social Change and Sexual Differentiation." Signs, Vol. 3 (1977): 244-260.

The author hypothesizes that changes in the status of women are rooted in both the traditional view of women expressed in each society and the stereotypic view different colonizers had of their subject peoples.

In a footnote the author notes that more women in the north have attended Koranic than European schools so that they have had a more traditional education. Girls who attend European schools are more apt to be from "modern" families. Low participation of girls in technical streams seems to reflect a stereotypic sex bias against women in these fields. Women's occupations after schooling also reflect these biases, are lower in pay, and are of a less risk-taking nature than those of men.

Clignet, Remi and Joyce A. Sween. "For a Revisionist Theory of Human Polygyny." Signs, Vol. 6 (1981): 445-468.

The scanty literature on plural marriage is criticized and the limitations are noted of analysis that treat such an institution only as a culturally variant form of the nuclear family or explain it from an exclusively male perspective. Explanations of polygyny require an exploration of the origin and behaviors of individual polygynous co-wives. The issue of the distinction between power and authority in the domestic context is analyzed, based on a review of secondary sources and analysis of West Cameroonian census materials. Relations between husband and co-wives and among co-wives depend not only on the social significance imputed to differences in their respective backgrounds, but also on the social visibility imputed to the tasks that each individual is performing for the welfare of the familial group as a whole and its individual members. It is concluded that polygyny is not necessarily an instrument of male dominance over women and that, under specific circumstances, it limits the contacts of one or several co-wives with husbands and provides each woman with more opportunities to pursue her own goals. Noting that such conclusions may be influenced by the individualization of roles that accompanies social change, it is suggested that the liberation of women cannot be universal but depends rather on strategies suited to local and historical circumstances. (Annotation from Sociological Abstracts)

Courade, C. and G. Courade. Education in Anglophone Cameroon (1915-1975).
Yaounde: ONAREST, Ish. No. 3, 1977.

This study provides a description of the school system in former West Cameroon (currently Northwest and Southwest Provinces) from its beginning to 1975. The survey also highlights differences between the school system created under the British colonial administration and that which resulted from French administration in the rest of Cameroon. With respect to women, data are provided on the numbers of women teachers in the system and map 8 illustrates of the differences which exist within the two provinces in the percentage of girls in the school population. The report also briefly discusses the situation of women in secondary education noting that girls account for 40 percent of students in primary school, one third of those in the first cycle of secondary school and only one eighth of those in the second cycle and at university level. (Annotation from Bryson, 1979)

deGariné, Igor. "Approaches to the Study of Food and Prestige in Savannah Tribes—Massa and Mussey of Northern Cameroon and Chad." Social Science Information, Vol. 19 (1980): 39-78.

This article reports on research among the non-Islamic Plains populations carried out during eight field missions between 1958-77. The populations surveyed live along the Logone River, 250kms south of N'djamena. All are agro-pastoral, number about 150,000 members each and are engaged in a mixed food production system. Included are agriculture, animal husbandry, fishing and hunting activities. Emphasis varies by group. Among the Massa, cattle are central to society. The staple is early red sorghum and fishing is important. The Mussey are primarily farmers. Their staple is early red sorghum but also important are millet, finger millet, pulses (cowpeas) and sesame. Animal husbandry and fishing do not play as important a role. The Tupuri grow three cereal crops. Staples are red and pricked white sorghum.

The introduction of cash crops over the last thirty years has influenced the food economy of these peoples through increased monetization and extensive cultivation of a new staple (rice) grown primarily among the northern Massa. Among the Mussey and Tupuri the primary cash crop is cotton. Its cultivation reduces the amount of time spent on food crop production.

The local diets are subject to seasonal fluxion with the lowest level of nutrition occurring in the rainy season (August-September). Overall, however nutritional levels are described as adequate with most calories coming from cereals and proteins from animal sources (cattle, milk, fish) and pulses.

As the three groups all occupy the same basic ecological region, the author argues against materialist or cultural ecological models because these cannot adequately explain the differences in food habits between the populations. He contends that the environment provides the theme but that each group develops its own variations and remains distinct from its

neighbors. Attention is drawn to the role of food in ritual and prestige activities and to the role of food taboos in social differentiation. In none of the three populations are food taboos said to have an important nutritional impact.

The influence of outsiders on local food habits is also considered. Three external forces are discussed: Western models transmitted by white collar minorities from Southern Cameroon; Fulani who are heavily backed by the central government and are the main trend setters; and the influence of other neighboring traditional groups. In general, certain foods such as red sorghum have come to be regarded as backwards while others such as white sorghum and rice are viewed as modern. The author concludes by noting that ecological, geographic and genetic factors are losing their importance as compared to economic and budgetary factors. He sees ethnic variation in dietary habits being replaced by socio-economic or class differences. Tables on prestige activities and foods, gastronomy, environmental characteristics, examples of daily food consumption, food production are provided for the three populations.

deGariné, Igor. Les Massa du Cameroun. Paris: Presses Universitaires de France, 1964.

deGariné's study is based on field research carried out over 14 months (in 1958-59) in 17 Massa villages in the department of Mayo-Danaye. He was attempting to discover the nature of the social life of the Massa by studying their economy especially the activities of production, techniques used, results achieved, and the factors which determine how the production is distributed and used. Provides a detailed description of the residences of the Massa, the division of labor between men and women in various types of production and information on contrasting life-styles of Massa living in rural and urban areas. (Annotation from Bryson, 1979)

_____. "Population, Production, and Culture in Plain Societies of Northern Cameroon and Chad--Anthropologist in Development Projects." Current Anthropology, Vol. 19 (1978): 42-57.

All of the societies the author studied (North and South Mosa, Tuburi, Kera and Musey) operate in a mixed economy based on agriculture, animal husbandry and fishing. While economic practices can be generalized across groups, certain distinctions are noteworthy: the Northern Mosa are primarily fishermen who practice sedentary animal husbandry and who cultivate red sorghum in the rainy season. The Tuburi and Kera also cultivate rainy-season sorghum, practice the same type of animal husbandry as the northern Mosa and occasionally fish in the dry season. The Southern Mosa grow a late variety of sorghum. The Musey are bush-clearers, plant in furrows and cultivate the rainy-season varieties of red sorghum, bulrush millet, beans, ground peas, sesame, false sesame, sweet potato and cassava. Musey in the flood zone grow eleusine, transplanted sorghum and rice. They keep cattle, fish seasonally and hunt fairly often. Sheep, goats and fowl are in fair abundance in all groups. Population densities range from 18 per km² for the Musey to 60 per km² for the Tuburi and Kera. The Musey organize their settlements and fields in concentric circles, with the

patrilineally-organized homestead in the center, food crops (sorghum, maize, legumes and vegetables) in the closer circle and secondary food crops (early sorghum, rice) in an outer circle. Beyond this there is pastureland.

A study of nutritional needs conducted in 1959 found that caloric needs are 115% satisfied except in July when they fall to 81%. Daily sorghum consumption is between 500 and 800 g. Total protein consumption is 132% of that required with animal protein consumption very low--about 40% of needs. Serious food shortages occur in July, August and sometimes September.

To reduce population pressures, temporary labor migration by males occurs during the dead period in agricultural work. Wages earned help in saving for bride payments and allow families to purchase food and other commodities.

Cotton is the main cash crop grown by most people. Fertilizer applied to the soil to enhance cotton growth also helps the millet and sorghum crops that follow cotton in rotation. Insecticides have polluted secondary water resources resulting in the destruction of aquatic fauna. Peanuts were earlier an obligatory cash crop but now are planted by choice. They provide most of the fat consumed in rural diets and allow women to earn some income. Rice growing is somewhat problematic among the Mosa because it requires a year-long labor commitment, leaving no time for participation in traditional social activities.

Interest in cash crops would not appear as high as it is in food crops. Monetization of food crops takes two forms: small-scale trade by women to get added ingredients for relishes and for beer; purchase of cereals during periods of shortage. Marketing of other products--cereals, live-stock and fish--is largely in the hands of Islamic traders (the Fulbe).

The article concludes with a section on recommendations to development organizations to improve production, taking into account the full range of socio-cultural factors necessary to prevent radical social change.

DeLancey, Virginia. "Wage Earner and Mother: Compatibility of Roles on a Cameroon Plantation" in Helen Ware (ed.) Women, Education and Modernization of the Family in West Africa. Canberra: Australian National Univ. Press, 1981.

This study was conducted in the Tole Tea Estates in the Southwest Province of Cameroon. The author concludes that due to the positive value orientations toward having children, wage labor and being a mother are compatible. Less compatible is the husband-wife relationship as higher wages received by females tend to promote conflict within the marriage bond.

Delaroziere, R. "Les Institutions Politiques et Sociales des Populations Bamileké." Etudes Camerounaises, No. 25-26 (1949): 5-68 and No. 27-29 (1949): 127-176.

Delaroziere's study was the first general study of Bamileke social and political institutions and remains the standard work on the traditional society . . . With respect to women, Delaroziere provides information on the rights enjoyed by the class of women associated with the Fon: the mafo who was the Fon's mother (sister or eldest daughter if his mother was dead) and helped him to rule as well as enjoyed many personal rights, the Fon's daughters, and the Fon's wives. Delaroziere also briefly describes two women's organizations, the Mandjon which was a group of important women who administered village work done by all women (clearing footpaths, etc.) and organized cooperation in agricultural work, and the Mansu which was an agricultural society composed of the best cultivators. (Annotation from Bryson, 1979)

den Ouden, J. H. B. "Incorporation and Changes in the Composite Household The Effects of Coffee Introduction and Food Crop Commercialization in two Bamileke Chiefdoms, Cameroon in Cleo Presvelou and Saskia Spykes-Zwart (eds.) The Household, Women and Agricultural Development. Wageningen, The Netherlands: H. Veenman and Zonen B. V., 1980.

After a detailed historical study in the western region, the author presents the ways in which women were effected by commercialization of agriculture as a result of colonialism and the activities of mission societies. Conclusions reached include the following: 1. Due to increased land scarcity and commercialization, women are being forbidden cultivation rights in certain instances. 2. Women may obtain land for cultivation in the vicinity of the old chiefdoms which puts them in a stronger position in their home areas as they are able to grow and sell what they produce. Thus commercialization of vegetable crops has helped women grow financially stronger in areas where they have access to land.

Diarra, Fatoumata A. Perspectives de développement des départements autour de Yaoundé: Commercialisation des produits vivriers de la Lékié par les Buyam-Sellam. 1974.

Diarra's study is based on a series of data collection activities carried out from June-October 1974. Amounts of food being sold in two major markets in Yaounde and the source of the foodstuffs was recorded. The Buy 'em Sell 'em (B.S.) in these markets were also interviewed. Subsequently, regional markets were visited and both B.S. and producers in those places were interviewed. As a result, Diarra is able to provide a description of how food moves from the areas around Yaounde to the urban markets, the organization of the markets, those of the B.S. and other important topics such as the factors which go into determining the price of food. In addition, she describes the problems of the actors (who are mainly women) at each level in the food production and sales system. (Annotation from Bryson, 1979)

Dupire, Marguerite. Organisation Sociale des Peuls. Paris: Plon, 1970.

Dupire's work is a comparison of those Fulbe societies which have been the subject of first hand studies covering the essential aspects of their social life rather than an exhaustive survey of all works on the Fulbe. In order to point out the effects of differing economic and environmental conditions, she has attempted to compare the social organization of nomadic herders, settled agriculturalists and farmer/cattle raisers in her study. Although Dupire herself has done some research work in Cameroon among the Fulani, there is little Cameroon-specific information in the book. However, the prevalence of certain forms of social organization among the diverse groups she discusses is helpful in providing an indication of what the situation among Fulani groups in Cameroon may be like and is a useful starting point for further research. (Annotation from Bryson, 1979)

ECA/MULPOC. "Establishment of Sub-Regional Machinery to Enhance the Role of Women in the Progress of Economic and Social Development in the Central African Sub-Region and to Promote and Guide the Activities of the ECA's Training and Research Centre for Women." Feb 27-March 3, 1978, ECA/MULPOC/Yaounde.

Provides a brief history of ECA programs for integrating women in development including establishment of ATRCW. Describes activities of ATRCW in the sub-regions and sets forth the recommended sub-regional organization and its planned activities. Resolutions adopted at the Regional Conference on the Implementation of National, Regional and World Plans of Action for the Integration of Women in Development held in Nouakchott, Mauritania September 27-October 2, 1977 are provided in the annexes to the document. The Inaugural Meeting of the MULPOC Council of Ministers held in Yaounde March 2-3, 1978 voted to accept the recommendations of the report and establish the Sub-Regional Machinery. (Annotation from Bryson, 1979)

Eguchi, Miriam Joy. "Aspects of the Life Style and Culture of Women in the Fulbe districts of Maroua." Kyoto University African Studies, Vol. 8 (1973): 17-92.

Eguchi lived in the Dougoi section of Maroua, a Fulbe neighborhood, from November 1971 to March 1972 during which period she collected the material for this paper. It is based on participant/observation of the life of the women and as such provides a detailed description of their daily life, social customs, cooking practices and income earning activities. (Annotation from Bryson, 1979)

Essang, S. M. and D. H. E. Oben. "Labor Absorption in Large-Scale Agriculture--Case-Study of Cameroon Development Corporation Plantations." Malayan Econ. Rev., Vol. 20 (1975).

The paper analyzes data on the growth rate of labor use in relation to the growth rate of farm size and net output, on the intensity of labor use, on

the factors which influence the intensity of labor use, and on the contributions of the C. D. C. plantations to the employment of educated labor. Also examined is the mobility of labor from the densely populated to the sparsely populated but land abundant part of the Cameroon Republic. Labor power is not disaggregated by sex.

Fikry, Mona and Francois Tchala-Abina. "People and Water, Social Soundness Analysis for the Mandara Mountains Water Resources Project for USAID/Yaounde." March 3, 1978. Mimeographed.

Study made in November 1977-February 1978 to determine the social feasibility of constructing 47 dams in the Mandara Mountains. Study concerned with social aspects of water use, sanitation, community involvement in construction and maintenance of dams, control of dam site, etc. Fetching water is entirely the responsibility of women and the burdens of collection increase dramatically as the dry season progresses (sources of water become increasingly distant and may involve a roundtrip of 12-18 km; the number of daily trips a woman has to make increases if the family keeps animals). The women become very tired during this period and the whole family suffers from irregular meals. When asked of their expectations of the dam, many women planned to improve their financial position by using the extra time which would be available for income earning activities. They also thought of further reducing their burdens by using the extra income to have their sorghum ground at a mill. (Annotation from Bryson, 1979)

Floyd, B. and L. Tandap. "Intensification of Agriculture in the Republique unie du Cameroun." Geography, Vol. 65 (1980).

A brief overview of development projects and programs as they relate to specific crops (rice and sugar are described) followed by an outline of activities of FOMADER (The National Fund for Rural Development), those of MIDEVIV (The Food Development Authority) and those of the Cameroon Development Corporation. Since this is a comment on institutional activities to increase production, no specific data is presented on women.

Frazier, Russell D. and Dawit Deguefu. "Agronomic Factors Limiting Crop Production in the Mandara Mountains of Northern Cameroon. Mandara Mountains Research Report, No. 9. East Lansing: Michigan State University, Department of Agricultural Economics, 1980.

This is a general overview of the Margui-Wandala Department of Northern Cameroon prepared by two crop and soil scientists from MSU during a two week TDY to identify potential interventions to arrest soil fertility decline and increase food and livestock production for small farmers. Major constraints to crop and livestock production were: low soil fertility, excess soil erosion, weeds, insects and diseases and poor cultural practices. These authors felt that the system of terracing practiced by farmers in the mountains was ineffectual in preventing soil erosion. They point out that experimentation, extension services and mechanization in the region are geared to the production of cotton which is coordinated by

SODECOTON, a business-oriented organization. The crucial problems of the area are food shortages and malnutrition. They note that "It appears that returns from cotton are not cycled to densely populated areas in the mountains." Staple food crops are sorghum, millet with groundnuts and cowpeas found to a lesser extent. Problems with fusarium root rot were reported on cowpeas. There is no discussion of the division of labor by sex; farmers are assumed to be male.

Froelich, J. C. "Le commandement et l'organisation sociale chez les Foulbé de l'Adamaoua" and "Ngaoundéré: la vie économique d'une cité Peul." Etudes Camerounaises, No. 45-46 (1954): 3-91 and No. 43-44 (1954): 3-66.

These two articles concern the Foulbe of the Adamaoua, resident in and around Ngaoundéré, as well as the other tribes living in the area. They were apparently prepared by a French official who does not indicate how or when he collected his material. Information is provided on the political organization of the area, legal system and court cases, markets, household budgets, and the techniques used and incomes earned by artisans (women were earning incomes as potters and weavers of cloth and mats). Provides some information on legal and inheritance rights of females and style of life of Foulbe women. (Annotation from Bryson, 1979)

Genest, Serge. "Savoir traditionnel Chez les Forgerons Mafa." Canadian Journal of African Studies, Vol. 8 (1974): 495-516.

Study based on 18 months of field research among the Mafa blacksmiths in the early 1970s which included a sample survey of 201 blacksmiths and their 260 wives. Is primarily interested in how the special knowledge of the endogamous clan of Mafa blacksmiths is transmitted to their sons and daughters. Women of the clan are potters and midwives and Genest describes the techniques they use and the apprenticeship programs for the two vocations. (Annotation from Bryson, 1979)

Guillard, Joanny. Colonpui. Paris: Mouton, 1965.

This study of the social and economic life of the Toupouri was made in 1954-1957 to provide information for development projects planned for the area. Extensive information is provided on the agricultural production system including a description of the division of labor between men and women with respect to both food crops and cash crops and the annual cycle of work involved (shown on a month by month basis giving number of hours worked by husbands, wives and helpers respectively). The final section deals with the economy, the markets, the artisans and nutrition. (Annotation from Bryson, 1979)

Guyer, Jane. "Female Farming and the Evolution of Food-Production Patterns amongst the Bete of South-Central Cameroon." Africa, Vol. 50 (1980).

This study analyzes the impact of the cash crop cocoa economy on farming practices and argues that changes in farming practices are a function of adjustments in indigenous social organization. The first part of the paper

reconstructs the Bete food economy in pre-colonial times while the second part analyzes the changes which have taken place.

Pre-colonial cultivation practices are analyzed on the basis of three common themes: 1. Field types and crop rotations--reflecting a forest environment, farmers cultivated two fields, one in the forest for the dry season and one in the savannah where groundnuts were grown. Forest fields were those in which, once the forest was cleared, plantain, taro, melon seeds and sugar-cane were planted. Savannah crops included groundnuts, maize, cassava, yams and vegetables. 2. Labor mobilization--forest crops were the domain of men while savannah crops were the domain of women. Tools split in the same way with men using axes and digging sticks and women using hoes. A lineage or village group worked the forest plot together. Women were totally responsible for groundnut production. Yam fields require cooperation. 3. Control of products--primary rights were exercised over different crops. Forest crops belonged initially to the family head or village headman who organized the work. Melon seeds were divided into shares so that each wife had enough for cooking and retained the rest in storage. Women allocated their own groundnut crop and also put some in storage. A woman's production added to the visibility of her husband's wealth since all production was seen as contributing to the husband's wealth. Stored crops also allowed for village exchange. Many yams grown by men went for this purpose.

In the cocoa era, male labor was removed from food production. Cocoa production fit traditional male functions in agriculture production. It also fit the agricultural calendar of male production thus supplanting traditional crops for cocoa. Also, bridewealth became monetized. Male urban migration and cash crop production have left women to tend the food fields alone. The incidence of marriage has decreased, making absolute the end of certain types of shared labor. Evidence shows that groundnut production has been maintained at levels similar to pre-colonial days but that production of melon seeds and yams--either male or mixed-gender crops--has been reduced. Since greater dependence for food production is on women's fields, they have been expanded, are more intensely interplanted and are always worked twice a year. Also women work longer in their fields.

A final change occurring at the time of writing has been effected by the growing urban population in need of food products. As more markets are opened for food, more women are concentrating on growing particular food crops for market. This may indeed offer males an alternative to cocoa farming and bring them back to the women's fields and a more traditional division of labor based on needed food items.

. "Household Budgets and Women's Incomes." African Studies Center, Working Papers No. 28. Brookline, MA: Boston University, 1980

The paper focuses on household budget analysis among the Betu of Southern Cameroon, arguing that the classic assumption of the household as an undifferentiated decision-making unit is inappropriate in this and other African context. Here "households" usually contain more than one decision-maker. Men and women generally work in different spheres of the economy

and often manage their own personal incomes. In traditional Betu society the mother was responsible for feeding the children while the costs of their social maturation (education, initiation and marriage) was borne by the father. Guyer points out that this system of exchange is unlikely to evolve into the western-style income sharing household. She calls attention to the need to consider the impact of conditions in the national economy on domestic structures and within these the need to consider both male and female roles and interests.

_____. The Women's Farming System, The Lekie Southern Cameroon.
Yaounde: E.N.S.A., 1977.

Guyer studied the farming system of women in two Eton (a Pahouin tribe) villages over two farming years. The first village was studied from March-November, 1975 and the second in the same period in 1976. The villages are in contrasting positions, one (Nkometou III) has a ready access to the main road and the markets in Yaounde, while the other (Nkolfeb) is much less accessible. It is known that women in the villages (and in most of Southern Cameroon) produce the bulk of agricultural produce and that they are selling sufficient amounts to provision the growing urban areas. The central question Guyer was examining was whether women were merely opportunistically selling the normal surplus produced by all subsistence systems or whether they were systematically planning their production to allow for market sales. Although her conclusions could only be tentative in a changing situation, Guyer found that there was considerable evidence the latter situation was the case, particularly in Nkometou III. Her study includes detailed information on the agricultural calendar, land area cultivated, labor requirements, production techniques and yield of the farming systems as well as the cash incomes of the women. (Annotation from Bryson, 1979)

Hallaire, A. "Marchés et Commerce au Nord Des Monts Mandara (Nord du Cameroun)." Cah. ORSTOM series Sci. Hum., Vol. 9 (1972): 259-285.

Describes characteristics of markets in the area, including mapping the location of the 46 markets, indications of the ethnic groups who attend, types of products bought and sold, seasonal differences in markets, etc. Provides information on the sex ratio of sellers in the markets broken down by ethnic group as well as a description of the types of products handled by women. (Annotation from Bryson, 1979)

Harley, Reginald C. Crop Extension Report. (Prepared in conjunction with Michigan State University Mandara Mountain Study, N.D.). Mimeographed.

There are 11 agricultural posts in the Margui-Wandala Department. The paper reports findings of a survey undertaken with about 70% (25) of the department's monitors on the type of work they do. It was found that rotating monitors periodically was preferred as monitors perceived that after a few years their work was valued less by farmers. Also described are the varying amounts of training monitors receive--this ranged from none since initial training to more sophisticated training in rural animal husbandry, terrace farming, etc. Under Office Support it was reported that

almost all monitors rented or borrowed bicycles or mobettes. Housing is the responsibility of the monitors. Interaction with the farmer begins prior to the planting season when small groups are gathered for information dissemination. Information includes how to sow in rows, credit and repayment of loans, formation of work teams, distribution of tools and seeds given by some Catholic Missions, utilization of manure, etc. Follow-up visits are undertaken to individual farmers while they are in the fields. All travel to farmers is the responsibility of the monitors.

The Mora station which is supposed to be able to distribute insecticide has vehicles which are inoperable. Insecticide application machines are either out of order or have not been stocked with appropriate mixes by regional centers. Problems monitors themselves mentioned include lack of transportation, no housing allotment, no per diem, insufficient training, understaffed offices and a lack of materials to pass on to the farmer (eg., pesticides, fertilizers, cords to use in sowing, hand tools, etc.).

Henn, Jeanne K. "Peasants, Workers and Capital: The Political Economy of Labor and Incomes in Cameroon." Ph.D. Dissertation, Harvard University, 1978.

The author's main argument centers on the articulation of various modes of production. Certain chapters present information relevant to women in agriculture. Groups studied are primarily in Southern Cameroon.

Females have rights over food plots through their husbands and plots are not surrendered even if divorce ensues. Women stay in their husband's villages to protect inherited rights in land for their sons. They earn money through whiskey production and trading and through the sale of surplus vegetables. Food cropping patterns center on the cultivation of the peanut field. Planting a new peanut field begins in the rainy season-- February and March--and again in August. Maize is also planted in this field and separate sections are added for cassava, coco yam, green leafy vegetables, okra, peppers, sugar cane, etc. The field is surrounded with plantain. Clearing and planting a new 10-acre peanut field takes 5-6 weeks. Weeding takes another month. Harvesting of peanuts and maize takes place three months after planting and consumes 20 or more days. The cash crops harvested are the cassava and plantain. The production of these 10 acres can normally supply subsistence to a family of four and an average annual surplus of 10-15%--mainly of cassava, although it is not a planned surplus but merely a hedge against poor yields.

Males grow cocoa and coffee as cash crops and earn money selling baskets and housing stakes they make themselves. In cocoa production, many spray their crop with fungicide to prevent brown rot. The cost of this input reduced effective yields from 275 kilos per hectare to 241, or a reduction of 8.5% in total income. Henn notes that the population of young males in agriculture is decreasing due first to their attendance of school and then to their migration to urban areas for salaried employment.

There are cultural taboos against touching the means (tools) of production of the opposite sex. Thus a male does not use a female's hoe and female's do not touch male's axes, although this latter taboo has been relaxed.

Major constraints in increasing food production "are still the insufficient means of marketing food and the labor constraints deriving from the social relations of production between males and females."

A nutritional survey done in 1964 did not disaggregate beans or cowpeas from "other leafy vegetables" to indicate levels of consumption.

. "Feeding the Cities and Feeding the Peasants: What Role for Africa's Women Farmers?" World Development, Vol. 11 (1983).

Choices made within a family as to what to plant and how labor is divided are generally the domain of males. Women, due to custom and patriarchal power, are seldom allowed to choose in these matters even though they typically spend 4-5 hours per day in food farming while men spend 1-2. Women also do not have the choice to migrate elsewhere for work because such action has a higher opportunity cost. State and capitalist labor policies have precluded women from making choices. Do women who work 10-11 hours/day have the physical capacity to produce more food for urban markets?

Since "women's work" has remained outside the money economy, it has not benefited from labor-saving technologies. Women use very rudimentary tools and methods of producing, transporting, shelling, drying, grinding, storing and cooking food have remained the same for decades. Improved tools can be purchased with cash, but where are funds to come from? Purchase of improvements must come from savings women have been able to accumulate from food crop marketing--if they are able to keep such amounts for themselves.

The author proposes that the formation of cooperatives with women having equal access to all the rights and privileges of membership will help alleviate some of the traditional and more modern problems of women's powerlessness. In this way, more food will be produced and African countries may be more able to cope with the growing food needs of the cities.

Holtzman, John Stuart. "A Socio-Economic Analyses of Stall-Fed Cattle Production and Marketing in the Mandara Mountains Region of Northern Cameroon." Ph.D. Dissertation, Michigan State University, 1982.

The most pertinent chapter in this study is the third "Overview of the Geography, Farming Systems, Ethnic Composition and Livestock Production of the Mandara Mountains." The chapter provides a brief description of the region including climatic data, rainfall, education, livestock, population distribution, etc. Women are not specifically mentioned.

Holtzman, John, John Staatz and Michael T. Weber. "An Analyses of the Livestock Production and Marketing Subsystem in the Northwest Province of Cameroon." Michigan State University Rural Development Papers, No. 11, 1980.

This sector/project overview is a good summary of information on livestock in the Northwest Province.

No mention of women is made in this study. Useful information on livestock in Northwest Province is organized in the following manner: 1. An overview of livestock production--grazing patterns, geographic distribution, ownership, production systems. 2. Marketing--types and operation of markets, trade flow, cattle movement and prices, consumption. 3. Costs and returns in meat trade. 4. Marketing of small stock. 5. Development issues in expansion of cattle production--land tenure, grazing, who benefits. 6. Development issues in improving cattle and in beef marketing. 7. Development issues in improving small stock production and marketing. 8. National livestock development policy. 9. Potential involvement of cooperatives.

Kaberry, Phyllis M. Women of the Grassfields: A Study of the Position of Women in Bamenda, British Cameroons. London: H.M.S.O. Colonial Research Publications, 1952.

Kaberry's study is based on research carried out between January 1945 and April 1948 during which time she spent 33 months in the field. She had been invited by the British Government of Nigeria which also administered former West Cameroon to undertake a study of the economic and social conditions of women prior to planning programs to improve the conditions. Kaberry believed that this would entail a study of the economic, kinship, religious and political institutions of the society in order to establish women's position within them. As such, her study provides a detailed view of the tribes in the area, and especially the Nsaw which was the largest of the Tikar chiefdoms. After discussing the political and kinship structures, Kaberry provides information on food farming in the area which was the principal activity of the women. She compiled a detailed agricultural calendar showing the annual schedule for the various crops grown, estimates of sizes of holdings cultivated (the average woman with no assistants was cultivating between 1 and 1.5 acres) and she kept a diary of the days worked in the fields. Kaberry found that while men helped with the heavy work of land clearing, their total involvement in food crop farming did not exceed 10 days a year; women were working throughout the year, and on average spent 60% of their time in the fields. Kaberry's work is particularly useful for its clarification of land tenure and usage practices. She also provides considerable information on the activities of men which were influenced by the need to earn a cash income or produce items for barter in order to purchase palm oil from the forest tribes as none grew in the area. She provides detailed information on household budgets and the percentage which was provided by women's activities (on average women provided around 40% of the household budget for the typical family), as well as a description of consumption patterns. (Annotation from Bryson, 1979)

Kibuka, D. Evaluation of Community Development Women's Work in the South West and North West Provinces. Geneva: International Association Pan African Institute for Development, 1979.

Under the general heading of community development, the project aimed at offering rural women "useful knowledge and skills in agricultural production," "home economics subjects," and family welfare activities. The report considers staffing, staff training, material resources and characteristics of the female participants as trainees. The paper then evaluates the impact of the program in terms of the changes women who have participated in training have undergone. It also evaluates the need effectiveness of the program. A well-attended course was in needlecraft since such training allowed women to produce money-earning commodities. The author noted the expressed concern with activities which will assist women in raising their incomes since the women "do not feel inclined to expend valuable time on items which have no monetary value." (43) One section considers the role of Dutch volunteers in the women's education program. The final section makes recommendations, one of which is to create a demonstration farm for women so that they may obtain information about new ideas in agriculture, poultry schemes and new seeds and seedlings.

Koenig, Delores B. "Sex, Work, and Social Class in Cameroon." Ph.D. Thesis, Northwestern University, 1977.

This dissertation considers women's roles and social stratification in three occupational groups in Cameroon: workers on a large agro-industrial rubber and oil palm plantation, bank employees and women in administrative positions or independent liberal professions. Information on women in agriculture is limited to a consideration of the types of jobs they have and the salaries they receive on rubber plantations.

_____. "Why Women Migrate, Agricultural Workers in Africa." Paper presented at Annual Meeting American Anthropological Association, November 21, 1976, Washington, D. C.

In examining women as migrants, Koenig is studying a group who have largely been ignored. It is based on an investigation carried out on plantation workers in the rubber and oil palm plantation in Dizangue, Cameroon. She found that most of the 35 women were single with an average age of 37.5 years, and over half of them were widows. They indicated that their motive for moving was to find better means of financial support for themselves and their children. (Annotation from Bryson, 1979)

Lambezat, Bertrand. Les Populations Piennes du Nord-Cameroun. Paris: Presses Universitaires de France, 1961.

Lambezat's work is a general review of ethnographic information including his own field research on the pagan tribes of North Cameroon (known collectively as the Kirdi). It was prepared as part of the International African Institute's project to provide an ethnographic survey of Africa and provides a summary of all studies prepared up to 1959. (Annotation from Bryson, 1979)

Levin, Michael D. "Export Crops and Peasantization: The Bakosi of Cameroon" in Martin A. Klein (ed.) Peasants in Africa: Historical and Contemporary Perspectives. Beverly Hills: Sage, 1980.

A more historically-focused writing on the political economy of peasants--the Bakosi--beginning with pre-colonial production patterns and ending with how the Bakosi were "peasantized" through the introduction of coffee and cocoa as cash crops.

Martin, Jean-Yves. Les Matakam du Cameroun. New York: Cambridge University Press, 1972.

Martin's report is based on field research undertaken in two successive periods, December 1965 to June 1966 and August 1966 to September 1967 among the Mafa (the title of the work is taken from the other name for the Mafa). It is the companion to the study of J. Boulet which concentrated on spatial relationships, agriculture production techniques, outputs, income and nutrition. Martin is describing the social organization of the Mafa and also provides considerable information on the changes which occur in social arrangements when the Mafa move from the mountains down to the plains. After indicating the geographic and historic background of the Mafa, Martin proceeds to outline the details of all aspects of Mafa life, demography, political organization, lineage structures, the organization of subsistence production, practices surrounding engagement and marriage and religious practices. Inter alia he provides information on the special position of blacksmiths within the society. (Annotation from Bryson, 1979)

Mbouyom, Francois. "Le Statut Juridique, Politique et Social de la Femme au Cameroun." Bulletin de l'Institut International de Droit D'Expression Francaise, No. 23, (1974): 600-612.

Mbouyom's article provides a useful summary of the legal position of women in Cameroun. He begins by outlining their situation in traditional society, noting that there are differences of opinion concerning how hard women worked or whether they were mistreated. He proceeds to describe their duties and states that women always remained minors. However, they did have certain rights and the husband had to be careful not to overstep certain bounds which the wife could use as an excuse for returning to her family. He then outlines the steps that were taken in the colonial period to improve the position of women and concludes with the legal changes which have been instituted since independence. The equality of the sexes is established in the constitution of March 4, 1960 and subsequent laws have further extended women's rights. (Annotation from Bryson, 1979)

Ngwa, Emmanuel Nebasina. "Some Identified Paths to Agricultural Development in the United Republic of Cameroon."

Agricultural development for quantity and quality food production is becoming a problem for most governments in Africa. In some countries, production is being generated in various ways that involve small and large farmers. The generally favorable results should satisfy the basic food

needs of most rural populations, raise the revenue level of the rural small farmers concerned, and stabilize most young people in these rural areas. In the United Republic of Cameroon, such motivated agriculture is, however, encountering problems of adequate evacuation and distribution of food in needy urban areas and other internal subregions. Examined are the basic problems of operating in groups, a system which when well organized, could eventually solve other postharvest problems. Case studies are drawn from agricultural fieldwork, government records and private organizations to demonstrate ways in which the problem is being addressed. (Annotation from Sociological Abstracts)

Niang, Lamine. "Comparison of Methods for Collecting Input-Output Farm Data, A Case Study from the Mandara Mountain Integrated Rural Development Project of the Northern Cameroon." Mandara Mountain Research Report, Plan B Paper. East Lansing: Michigan State University, Department of Agricultural Economics, 1982.

Chapter III of this paper provides a very useful description of the Mandara Mountain area. It discusses the distribution of ethnic groups, the various ecological zones, the agricultural production system and the infrastructure and other facilities of the area. No specific data on women is presented.

Nordin, Christina. Les Marchés en Pays Sasa Au Cameroun, Description des Arrondissements si axek, Réflexion sur le Programme de Recherches. Douala: I.P.D., 1978.

Nordin studied the periodic markets in the rural areas of Bassa country to analyze the local and regional exchanges of food products against manufactured products. The hypothesis she is testing is that the Buy 'em Sell 'em (B.S.) are carrying out an irreplaceable professional activity which is perfectly adapted to current market conditions in Cameroon. Her write-up briefly reviews other research on the B.S. and then describes the areas in which she carried out her research and the types of information she collected. (Annotation from Bryson, 1979)

O'Kelly, Elizabeth. Rural Women: Their Integration into Development Programs and How Simple Intermediate Technology Can Help Them. London, 1978.

This article provides a brief review of the organization and functioning of the Corn Mill Societies in Cameroon in the 1950's. These organizations sought to both organize women and instill confidence in their ability to act collectively in the adoption of intermediate technologies. The initial focus of the associations was the collective purchase and use of hand powered corn grinding mills. As maize porridge was the staple these mills considerably lightened women's work loads. Individual group size was limited to 100 women. At their height over 300 societies were in operation. These became the focal point of many other development efforts: cooking and child welfare classes, joint farming ventures which permitted new practices and varieties to be tested and improvements in water supply for villages. Most of the organizers who traveled from village to village

and who collected the payments for the corn mills were men, but each society elected two head women who were responsible for the day-to-day decisions. The organizers were paid by the Division of Community Development.

Reeves, Wade Hampton. "Church-Related Programs in Agricultural Education in Cameroon and Uganda, Africa." Ph.D. Dissertation, Ohio State University, 1972.

The study describes projects that have been initiated by Christian churches and missions in Cameroon and Uganda to teach agricultural methods, stimulate development and generate employment in the agricultural sector. The descriptions are narrative in form and provide information on general background, goals, scope, financing, staffing, problems and effects and accomplishments.

The study was undertaken to establish the involvement of the Christian church in such areas as agricultural education, agricultural development and employment generation. Beyond this, it was hoped that the project descriptions would serve as a source of information for those who are actively involved in other such projects, as an instrument to facilitate evaluation and as a basis for the planning of new projects. For readers seeking further information concerning the projects described, a list of names and addresses of those directly involved is included. No attempts were made to evaluate churches' involvement.

Projects included those using an extension approach, farm-schools, resettlement schemes and those teaching agricultural subjects and methods at the secondary school level. Among projects, there are marked similarities in goals, emphasis of instruction, services provided and problems. All projects share the goals of working to make life in rural areas less tedious, more healthful and more productive. They also recognize the seriousness of the school-leaver problem and devote at least a part of their program devising solutions. Other factors held in common by projects include governmental approval and support, large audiences, success in attracting educated young people to vocations in agriculture and success in introducing new technology related to agriculture and rural life.

From the descriptions a set of principles that serve as guides for the establishment of these agricultural projects emerge. These include:

1. The services of an advisory committee composed of representatives of government, church and clientele should be used in the planning, development and operation.
2. Goals and objectives should be realistically attainable in light of available resources.
3. Evaluation procedures should be included as an integral part of planning, development and operation in order that progress towards goals and objectives may be measured.
4. The introduction of new technology (whether crops, materials or methods) should be preceded by a careful study of the conditions of production, marketing possibilities, nutritional and cultural considerations.
5. Training should be of the practical, on-the-job type.
6. Training should result in higher than average farming incomes.

7. Provision should be made for the capitalization of former trainees either by extending them credit or by some other means. 8. Follow-up procedures, designed to provide former trainees with technical assistance for marketing and the procurement of supplies, should be an integral part of any project. 9. Provision should be made for writing and dissemination of reports, articles and reviews as a means of sharing information. (Annotation from Dissertation Abstracts)

Riddell, James C. "Land Tenure and Access to Land in the Margui Wandala Project Area." Mandara Mountain Research Report, No. 3. East Lansing: Michigan State University, Department of Agricultural Economics, 1980.

This report surveys land tenure and inheritance patterns in one of the most densely populated arid regions in Africa. Thirty-six villages were surveyed by an M.S.U. team in 1980 and the major land tenure problems identified. An estimated twenty-three different ethnic groups inhabit the region, only two of which (the Mandara and Fulbe) developed state level political structures. The history of the area is one of ethnic conflict. More recently, first under the Germans, then the French and then the present-day Cameroon government, attempts have been made to induce mountain people to re-settle on the plains. In only one of the villages surveyed (Hina-speaking) were daughters said to have equal inheritance rights in land with their brothers. In Moslem areas women can inherit one half the amount of land of their brothers. In most communities surveyed women could not inherit land although they had use rights to fields and in some cases widows had management rights to fields. The authors also consider inter-vivo land transfers and point out that generally throughout the region land sales, rentals and loans represent only a partial transfer--usually only of use rights. Only land that has been given is inheritable. While women tend to be excluded from ownership to land, they nonetheless play an important role in the agricultural system. The authors conclude by drawing attention to the serious erosion problems developing in both the plains and mountains.

Rodlewski, Andre. "La Dynamique des Principales Populations du Nord-Cameroon (a) Part I. Entre Benoué et Lap Tchad. (b) Part II. Piemont et Plateau de l'Adamaoua." Cah. ORSTOM series Sci. Hum., Vol. 3 (1966). Cah. ORSTOM series Sci. Hum., Vol. 8 (1971).

The two volumes of this useful study provide a description of the demographic characteristics of north Cameroon based upon surveys carried out in the 1960s. Fifteen communities were surveyed in the area between the Benoue and Lake Chad and ten in the Adamaoua and the plains south of the Benoue. The most important communities were covered by the survey and the data is provided on a community by community basis making it possible to compare the characteristics of different groups. (Annotation from Bryson, 1979)

Santerre, Renaud, "Aspects Conflictuels de Deux Systèmes d'Enseignement au Nord-Cameroun." Canadian Journal of African Studies, Vol. 5 (1971): 157-169.

Santerre's article is based on studies he made of the Koranic schools and the modern French schools in North Cameroon during 12 months in 1965-66 and three months in 1970. He describes and contrasts the two school systems, the teachers and their students. There are few women teachers in either school system and there were also a very limited number of girls in attendance though there has been improvements in recent years. (Annotation from Bryson, 1979)

Santerre, Renaud and Genest, Serge. "L'école franco-arabe au Nord-Cameroun." Canadian Journal of African Studies, Vol. 6 (1974): 689-705.

This article is based on the 1965-66 field research of Santerre and a follow-up study made by Genest in 1973-74. It explains the policies of the French colonial government towards Koranic education and then describes the establishment of joint French Koranic schools following independence. At the time of Santerre's study the schools had a number of difficulties and the Koranic and French elements had not been merged very successfully. By the time Genest made his survey in 1973-74, many of the problems had been solved. (Annotation from Bryson, 1979)

Tissandier, Jean. Zengoaga (Cameroon). Paris: Mouton and Co., 1969.

Tissandier spent eight months from January to September 1964 in Zengoaga in the Haute-Sanaga department conducting the field research on which this study is based. It is a detailed survey of the agricultural production system in an area which is on the borders of the rain forest and the savannah. A crop by crop assessment of the time required for each stage of production is provided, broken down between the time worked by men and women. Therefore, it is possible to determine exactly the work inputs of the two sexes. An assessment is also provided of the amounts produced, and the value of the diet the inhabitants enjoy as a result as well as the amounts which are available for sale. Hours worked by females on household tasks are also diagrammed for the year as a whole. In the final section, the budgets of six households are analyzed, showing revenues separately for men and women. (Annotation from Bryson, 1979)

Trechter, David. "Nutrition and Health during the Hungry Season in the Mandara Mountains of Cameroon." Mandara Mountain Research, No. 12. East Lansing: Michigan State University, Department of Agricultural Economics, 1981.

This is a general examination of health and nutrition in the Margui-Wandala Department and Meri Arrondissement in the Mandara Mountains, Cameroon. Two major constraints are identified. Production constraints arise from variations in the amount and distribution of rainfall, and dense settlement in the mountains which combine to produce severe and localized food shortages. Educational constraints are lack of formal schooling and

information regarding proper nutrition, sanitation and health. Twenty families in three villages were interviewed. The villages were Madakonay (Mafa tribe), intermountain plateau, east of Mokolo; Ldama (Mafa tribe) foothills bordering the plateau, south of Mokolo; and Ouda (Bana tribe), south plateau. Emphasis was given to interviewing females. Questionnaires, anthropometric measures and a dietary survey were conducted during the "hungry season" (May-September).

General findings included: During this time of year there is a heavy reliance on millet and sorghum prepared with sauces of leaves or cowpeas. The major source of protein comes from legumes. Wild food is gathered. Most staple foods are home produced except in areas where storage is inadequate and recourse must be made to the market. Calorie shortages appear to be more important than protein shortages. (Kwashiorkor is rare, marasmus is more common.) The high dependence on sorghum which is deficient in lysine suggests possible protein deficiencies. More specific findings include: 1. Consumption of calories is highest on market days. 2. Home production is the most important source of calories but in the most commercialized village of Ouda purchases, especially among the Moslem population, were also important. 3. Drinking wine was relatively unimportant--the highest incidence was found among the non-Moslems of Ouda. 4. Wild foods remain an important source of vitamins and minerals. 5. Although food was more abundant in Ldama than in Madakonay, anthropometry revealed more delayed and stunted growth in Ldama. The authors suggest that this may be because supplemental feeding of infants does not occur in this village until on the average of 15.8 months. Also, while the incidence of diarrhea reported by the women for their children was lowest in this village, 48% of the women nonetheless reported incidences. 6. Infant mortality appears to be high. These authors report a rate of 225 per 1000; others have found up to 477 per 1000 for the under 5 age group. 7. Responses to food shortage--hierarchy of response (see Campbell, Trechter article). 8. An examination of women's cash incomes revealed that females in Ouda and Ldama (the more commercialized villages) earned more than those in Madakonay. Wine or sorghum beer is the most important cash income generating activity for non-Moslem women in the region. However, with the exception of Ouda, women's earning potential was greatest in times of plenty, so cash did not tend to be generated at the time of year that it was most necessary to purchase food. 9. Women were asked to identify the major problems confronting their areas. Overall for the region, these were the need for hospitals, schools, wells, famine relief and flour mills. The authors conclude by drawing attention to the heavy reliance of the population in the three villages on millet and sorghum and the frequent local food shortages experienced especially at the time of year when caloric requirements are greatest (planting season). They offer a variety of recommendations in the health field to deal with the problems (barefoot doctors, vaccination campaigns, midwife training, etc.). They also draw attention to the need to increase the productive capacity of agriculture.

UCLA Nutritional Assessment Unit. United Republic of Cameroon National Nutrition Survey. Los Angeles: UCLA School of Public Health, 1978.

This is the final report of a comprehensive survey designed to estimate the nutritional status of young children and their mothers, to compare nutritional status among selected areas and to provide information about certain factors associated with nutritional status such as diet, socio-economic factors, health and demographic variables. Findings include the following: 1) A mild degree of acute undernutrition (less than 85% of expected weight for a child) was recorded for children 3-59 months in the north. 2) Goiter (Grade II or III) was seen in 5.6% of mothers interviewed. 3) Anthropometric examination of mothers indicated a higher proportion of undernutrition in women in the North than elsewhere. 4) 70% of northern mothers breastfed their children up to the age of 21 months. 5) Fresh milk was consumed only in the North and was fed to 7% of children between the ages of 3-23 months. 6) More children in the North received special foods (eg. millet/sorghum pap) longer than children elsewhere and received family food less often. These comments are merely summaries of the conclusions; the data collected are very broad. A total of 109 tables are included. In most instances data is disaggregated by province so that a fairly accurate nutritional profile for the Northern Province can be ascertained. Appendix 21 sets forth dietary tables for each province including the percentage intake of food groups by child and adult.

United Nations Development Program/Food and Agriculture Organization. Recensement Mondial de l'Agriculture et Etablissement d'un Systeme Permanent de Statistiques Courantes-Résultats du Recensement Agricole 1972/73 pour le Cameroun. Rome: AG:FP/RAF/71/86, 1977.

This survey provides a variety of useful information including the land areas cultivated in various crops and their relative importance in different parts of the country; the number of farm households, the sex of the household heads and their marital status, numbers of persons living on the various exploitations, sex and their relationship to the household head; the relative importance of various age groups providing agricultural labor; the tools used by the farm households, etc. The information is based on a sample survey of 6,935 farms which represents approximately one farm in every 130 which existed in Cameroon at the time. (Annotation from Bryson, 1979)

U.S.A.I.D. "National Cereals Research and Extension-Cameroon." Project No. 631-0013, Project Paper. Washington, D.C.: U.S.A.I.D., May 11, 1979.

While this paper is a design of a project that will affect several areas in Cameroon, comments on the North are provided in Part III. About one half of the Plains dwellers are Fulani (Foulbe) who came into the area during the 17th and 18th Centuries. About 80% of the Plains Fulani are now sedentary and practice mixed farming. Many wealthy Fulani live in

towns and hire labor to work their farms. The Mossa and Toupouri people are found along the Chadean border. They live in dispersed settlements and practice mixed farming, adding fishing to the repertoire of subsistence strategies. The Mafa live largely in the Mandara Mountains but are also found in the Plains. Scattered dwellings are found on hillsides, although where agro-ecological factors permit, population densities reach 245 per km².

Millet and sorghum are the most common crops of the Northern Province, supplemented at times by maize or rice, the latter primarily being a cash crop. Peanuts can be either a subsistence or cash crop. Other crops include cassava, yam, and sweet potatoes. Plains agriculturalists practice shifting, extensive agriculture. The Mafa of the Mandara Mountains mulch and intercrop to grow sorghum and millet on terraces. Wealthy Fulani women hire labor to work on their farms. These women may grow their own kitchen gardens if religious practices permit. Non-Fulani agriculturalists participate in agricultural activities in accordance with who has rights over the land. Toupouri women receive two plots of land at marriage in addition to usufruct over plots allocated by husbands. Mafa women help their husbands in their fields, as well as work in their own fields where they grow peanuts.

Changes in production practices are dependent upon assurances for a maximization of the entire cropping operation. Subsistence crops take precedence over cash crops.

The report recommends training Fulfulde-speaking female extension agents who might be able to gain access to female cultivators among the Fulani. Without such effort, diffusion of innovation among the Fulani will be slow.

Vincent, Jeanne-Francois. "Données sur le mariage et la femme afu." Cah. ORSTOM Series Sci. Hum., Vol. 9 (1972): 309-323.

Vincent's study specifically concerns the situation of Mafu (Mafa) women who are members of a tribe living in the Mandara Mountains just to the east of the Mafa. Her study was made from April to June 1970. The principal interviewers were two Mafu men from the areas covered. Each interview covered personal details of women's life, especially their marriage history, divorce, separation or widowhood. The survey included 334 married women or approximately one-fifth of those living on the two mountains. Mafu marriages proved to be quite stable with 79 out of 100 women still being married to their first husbands (this was the highest rate for any of the Northern ethnic groups on whom Vincent presents data). Eleven percent of the women interviewed had remained single after a divorce or a widowhood and most did not expect to remarry. The size of this group of single women was surprising to the researchers.

Vollrath, Thomas Hachlan. "Credit Needs and Extension Possibilities among Traditional Rice Farmers in the Northwest Province of Cameroon." Ph.D. Dissertation, University of Tennessee, 1977.

Family farm labor is supplemented by landless wage labor, of which there is a great deal in the Northwest Province. When labor is hired on a regular basis, patron-client relationships often form, but rice farmers hire labor on an occasional basis for peak agricultural periods. Men are hired for clearing, cultivation, maintenance, harvesting and transporting, while women are hired for transplanting, weeding and harvesting. Older men and teenage children are hired as birdscarers. Communal labor is also organized as a strategy for accomplishing the tasks at peak production stages.

To gain access to more land, people negotiate with a chief to expand their holdings (this is necessary in light of inheritance practices). Tools include hoes and machetes, and improved seed from the agronomic research station at Dschang is sold widely at concessionary prices. Fertilizer availability varies by location and is accessible generally through local cooperatives or field extension workers.

The extension of credit for the purpose of hiring labor and purchasing seed and fertilizer inputs would enhance production. Problems in servicing credit schemes include the cumbersome application procedures which farmers who have received little or no schooling find impossible to complete. There are no facilities to assist in filling out FONADER forms.

Farmers rely heavily on rotating credit societies for their cash needs. Such societies mobilize traditional social relationships to fulfill non-traditional economic functions. The author suggests that making more credit available through these societies would allow farmers to hire more people and/or purchase more inputs. If extension agents could become members, they could also promote the adaptation of certain practices. A problem in this approach, however, is the structural incompatibility of the two organizations--the economic/external institution and the local credit society. The author suggests several ways to overcome this incompatibility--one of which is working through the local mission as an intermediate financial institution.

Walker, Sheila S. and Ellen Brazier. "Women, Education, and Rural Development in Cameroon: The Fulbe of the Garoua Region." African-American Scholar, Vol. 1 (1977).

The purpose of this research was to analyze the participation of Fulbe women in the formal educational system and in development projects. Research was conducted in Garoua, the administrative capital of Northern Province. The city was chosen for the likelihood of finding more development projects there and thus greater potential change in female roles (as opposed to Maroua as a site which is the most traditional northern city).

Comparatively speaking, 87% of the school-age population were enrolled in Southern Cameroon, whereas in the north as few as 19% of the relevant population were enrolled. Strong Islamic belief systems are seen to be the cause for low attendance levels in the North.

During the expansion out of the Futa Djallon in Guinea, the Fulani divided into two groups: the "Peul of the bush" who are primarily nomadic pastoralists, and a more sedentary group. In nomadic society, women are responsible for selling or trading milk with neighboring agriculturalists for millet. Milk, butter and yoghurt are carried over long distances (15-20 miles each way) by women to market; monies received go toward purchasing grains and vegetables for family consumption. Transhumant lifestyles require the division of the household in certain seasons and limit school attendance. Marriage generally takes place when women reach the age of 13-14. Never having attended French schools, women are not able to converse in French and thus are limited in their possible interactions. In more sedentary Fulbe groups, women grow peanuts, cotton and millet. It is more likely that both men and women attend Koranic schools. More urbanized Fulbe women have acquired French and some hold jobs outside the home. Small numbers of urban Fulbe women are educated and lead western-style lives.

The authors have isolated three variables which help explain changes in the lives of Fulbe women: 1. Education--Seen as being valuable in helping husbands to enhance their positions or to assist them economically by getting work outside the home, education is viewed by women as something they feel deficient in. Those who have attended school see the decision-making power of more traditional males as preventing women from having access to education. Mothers do not make the decision to send their daughters to school; fathers make that decision. 2. Economic role--Islamicized Fulbe women rarely go outside the home; men do the marketing and purchase clothing and other household items. Less traditional women process food which is sold by their daughters at the market. Proceeds go toward the purchase of toiletries and dowries of daughters. Those who have been educated and work outside the home occupy more traditional jobs for women. 3. Religion, tradition and marriage--Respect is accorded to anyone who has attended Koranic schools. Women, as culture bearers, are not allowed to attend French schools because of the new attitudes and ideas they would be exposed to. The authors conclude by noting that Fulbe women, as is the case with the entire society, are "attempting to adapt their traditional values and social structures to the extent necessary, while retaining as much as possible of their cultural identity."

Weekes-Vagliani, Winifred. Family Life and Structure in Southern Cameroon. Paris: Development Centre of the Organization for Economic Confecation and Development, 1976.

The study consists of a survey of 632 people in southern Cameroon and focuses on changes family life has undergone as a result of urbanization. Support for the assumption that fertility declines in areas where children

have less economic importance to the family was not found. The extended family has not declined and traditional modes of thought are still prevalent. Educational level and occupation were variables which influenced the reduction in fertility. The study found that some women had to drop out of school because of pregnancy, but that many of these wanted to return to school after giving birth. Legal age limits to school attendance as well as lack of financial resources prevented this. Polygamy seemed to be declining due to changing perceptions of marriage. Finally the author calls attention to women's economic dependence in urban areas. On farms, women have access to cash through the sale of their surplus production. In cities, however, this is not possible.

Zalla, Tom, David J. Campbell, John Holtzman, Larry Lev and David Trechter. "Agricultural Production Potential in the Mandara Mountains." Mandara Mountain Research Report, Working Paper No. 17. East Lansing: Michigan State University, 1981.

The authors propose a four year USAID pilot project for integrated rural development in the Margui-Wandala Department in the Northern Province of Cameroon. The Northern Province has one of the lowest per capita incomes, lowest school enrollments, literacy rates (9.5%) highest infant mortality rate (196 per 1000 live births) and mild-acute malnutrition (7.5%) in the country according to GOC, 1978 statistics. The Mandara Mountain area is one of the most densely populated in the country and 98% of the population are farm families that intensively cultivate sorghum, millet and groundnuts on the terraced slopes of the mountains and on the plateaus. This region is not self-sufficient in cereals and evidence suggests per capita production of these crops is declining, and out-migration, malnutrition and soil erosion are increasing. The focus of this report is to identify potential interventions that can increase agricultural and livestock production, income and rural welfare. Three regions are discussed: the mountains, the plateau and the plains. Possibilities for expanding crop production in the areas of cereals (sorghum, millet and maize), legumes (cowpeas, peanuts), tubers (seed potatoes, Irish potatoes), fruits and vegetables are explored. The role of SODECOTON in cotton production on the plains is examined, and its impact on the local extension service considered. Cotton fields are organized into blocks and farmers required to follow specific cultural practices. SODECOTON is reported to have a virtual monopoly over access to agricultural inputs and seems to be able to select the best-qualified extension agents for their staff. The authors note that this practice "strengthens SODECOTON at the expense of the Department Extension Programs." However, cotton generates considerable foreign exchange. Livestock production practices are reviewed (stall and range fed cattle and small ruminants) and attention is given to the role of manure in increasing crop yields. Attention is also paid to the need to up-grade the extension materials and develop a system of on-farm testing of new innovations. Credit and soil conservation needs are also addressed. A section is given over to nutrition. The point is made that increased food production will not in and of itself result in better nutritional status. This is a complex issue mediated by a wide range of cultural and social factors in addition to availability. Trechter, for example, found that in villages where people are generally better fed the incidence of child malnutrition is not necessarily lower.

With regard to women, it is reported that their cash income comes from the sale of cereals and the making of beer and wine. It is presumed that this money is translated into food purchases that provide diversity in the diet. Women may also play a role in peanut production. Very little is said regarding the division of labor by sex. With regard to cowpeas: 1. The authors found that 70% of all households grew at least some, usually intercropped with millet and sorghum (except among the Mafa). Yields were reported to be low but when intercropped with millet and sorghum, cowpeas tended to provide a crop in years when the cereal harvest failed. (Cowpeas' need for moisture is counter-cyclical with those of sorghum/millet.) 2. Only about 10% of the cowpea harvest was sold. Cowpeas are an important source of protein that complement millet and sorghum in the diet. 3. Cowpeas were often rotated with groundnuts, peanuts, tiger nuts and sweet potatoes. 4. High storage losses are reported, causing the price of these legumes to escalate over time on the local market.

The purpose of proposed project is to carry out applied farming systems research and to strengthen the agricultural and livestock extension services to help identify, field test and diffuse promising new cultural practices and technological packages.