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WOMEN IN UPPER VOLTA

(preliminary)

Working Paper #2

Prepared by

Helen Kreider Henderson

Judith Ann Warner

Nancy Ferguson

Women in Development Program

Office of the Council for International Programs

University of Arizona

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PREFACE

Women in Upper Volta is a preliminary draft report that synthesizes information on women in Upper Volta and makes this information readily available, region by region, to development planners. Working Paper #2 will be up-dated periodically, and will be followed by working papers on other developing countries.

The Working Paper series at the University of Arizona was designed by Helen Kreider Henderson, Coordinator of Women in Development Program at the University of Arizona in consultation with W. Gerald Matlock, Director of the Office of the Council for International Programs, and researchers Nancy Ferguson and Eric Arnould. The first draft was prepared by Judith Ann Warner, Helen K. Henderson and Nancy Ferguson.

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1.0 Introduction

1.1 Goals of the Report

This study of Women in Upper Volta aims to integrate the relevant data on economic and social conditions of women in developmental contexts and to provide information for development planners and technical specialists. When completed, Women in Upper Volta may be used both as a reference guide to existing information and as a guide to interventions intended to improve women's living conditions. The material will be organized so as to be readily accessible to people interested in working in each of the major regions of Upper Volta.

The present report is not a finished product but rather an initial draft which deals entirely with rural women rather than both rural and urban women, and relies on material already available in the United States (particularly at the University of Arizona). In order to complete the study, we wish now to involve Voltaic women in a critique of the draft report and to undertake a collaborative approach with them aimed at filling in gaps and defining the key issues for future development planning relevant to women. The goals we hope to meet in the final report are:

1. to bring together pertinent information on women's work in Upper Volta, and
2. to represent the views of leading Voltaic women and indicate areas of concern and future opportunity from the perspectives of both Voltaic and United States researchers.

1.2 Organization of the Report

After an overview of the national context, the present text is divided into five major sections. The first four correspond to four major regions of Upper Volta: 1) the lightly-populated, semi-arid Sahel region, known for its livestock raising; 2) the crop producing Eastern region, also with low rural population densities; 3) the Central region with its densely populated Mossi plateau, characterized by a range of crop and livestock productive activities and 4) the fertile but moderately populated Western region. Since most published research has concerned the Central region, the section on that region is considerably longer than those for the others.

Within each region, eight major topics are discussed: agricultural production, household production, local manufacturing, commerce and marketing, domestic life, health, education and religion.

The two remaining sections are number seven on women in urban centers, which is still under preparation and not included in this draft, and number eight, which highlights certain key women's development projects in each of the four geographical regions.

Upper Volta has a culturally complex population with over 60 ethnic groups. Major ethnic groups are discussed under appropriate regional sections.

2.0 Women of Upper Volta in National Context

2.1 International Setting

The landlocked nation of Upper Volta lies at the crossroads of Sahelian West Africa, bounded by Niger to the north and east, Mali to the west and north, and Benin, Ghana, the Ivory Coast and Togo in the South. Historically, Upper Volta was an important caravan route linking these nations (Skinner 1965: 375-377). Now, Upper Volta serves as a regional source of agricultural exports (cotton, grain, livestock) and labor migrants (Skinner 1962: 239). Yet, an unmodernized rural economy, a drought-prone climate and a limited organizational infrastructure have prevented Voltaics from achieving maximal use of their resources and regional prominence (U.S.A.I.D. 1980: i-iii).

Since the Sahelian famine, Upper Volta's plight has been brought to the attention of the world. International development programs have sought to improve living conditions and increase agricultural output, although the backbone of Upper Volta's agricultural labor force, women often have been unaware that they could participate in such programs or unable to participate because of their family workload (U.S.A.I.D. 1976: 1-2).

2.2 Rural Poverty and Migration

Upper Volta ranks as the ninth most impoverished nation in the world (U.S.A.I.D. 1980: 9). Per capita income was \$159 in 1979 (U.S.A.I.D. 1980: 1). The amount of personal income available to women is minimal, as males control cash crops while women receive only local marketing proceeds (S.A.E.D. 1980: 21-22). Women of the Central Plateau and the Sahel region face the most severe poverty. Eastern and Western region females, who benefit from higher agricultural yields and profits, are slightly better off. Western region field output in the Bobo-Dioulasso and Dedougou areas is 50-100% higher than that of the Central Plateau (U.S.A.I.D. 1980: 1-2). In the Eastern region, lower population density permits more balanced utilization of land. Longer fallow periods increase Eastern yields (U.S.A.I.D. 1980: 2). Upper Volta's poorest women include farm wives of the western and northern plateau, low-paid urban workers and nomadic women of families with few cattle (Swift 1975: U.S.A.I.D. 1980: 3).

Labor migration represents an adaptive response of the poor to land pressure and other local problems (Finnegan 1976: 153-154, 187-225). Young men have a hard time obtaining farms. Youth must work in the collective fields to obtain land parcels from household heads. U.S.A.I.D. data shows that 20.5% of males in their twenties and 14.3% of males in their thirties choose to migrate. Females, whose agricultural labor is in great demand because of departing males, tend to stay behind. Low percentages of women

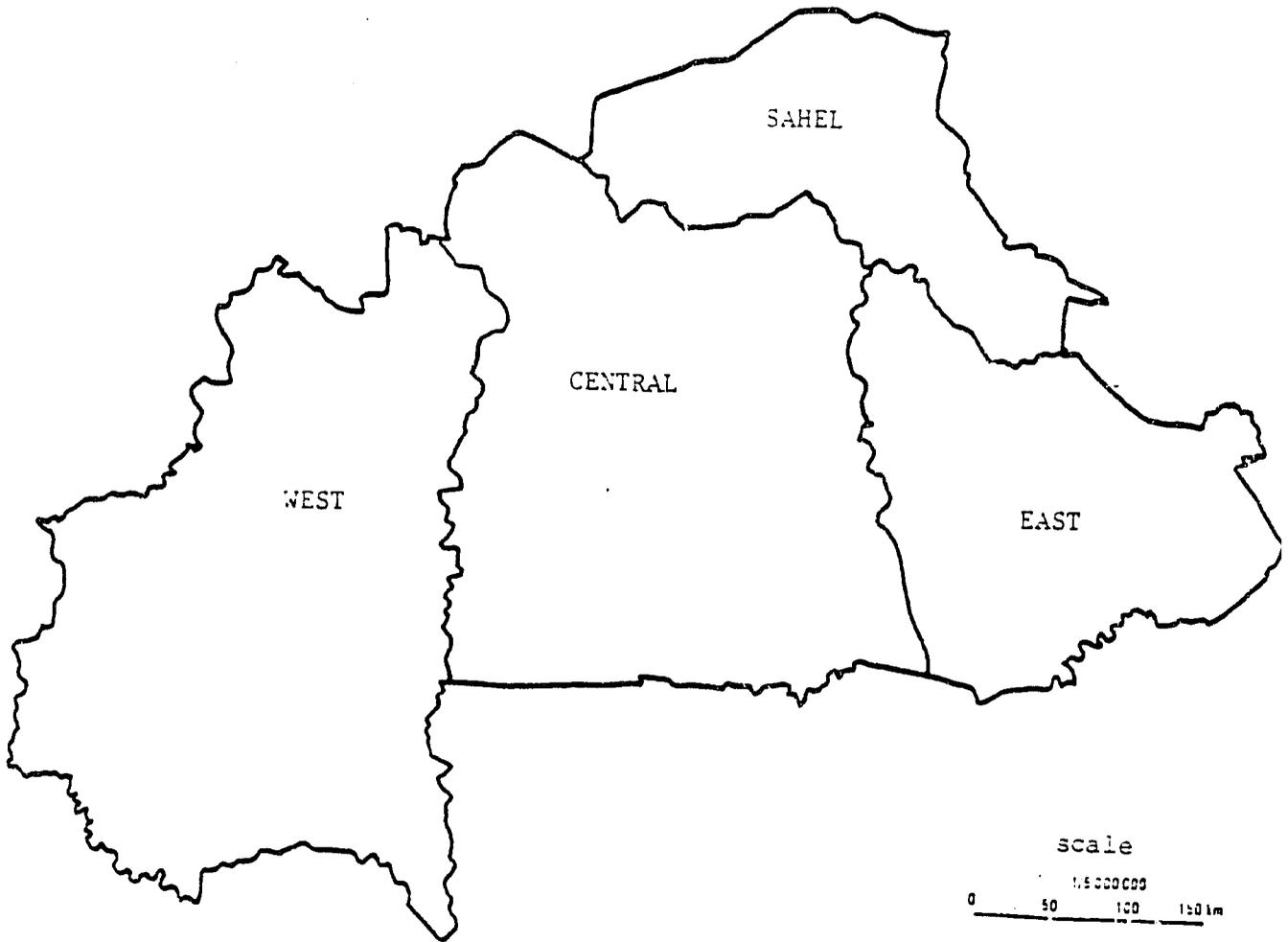


Figure 1. Upper Volta

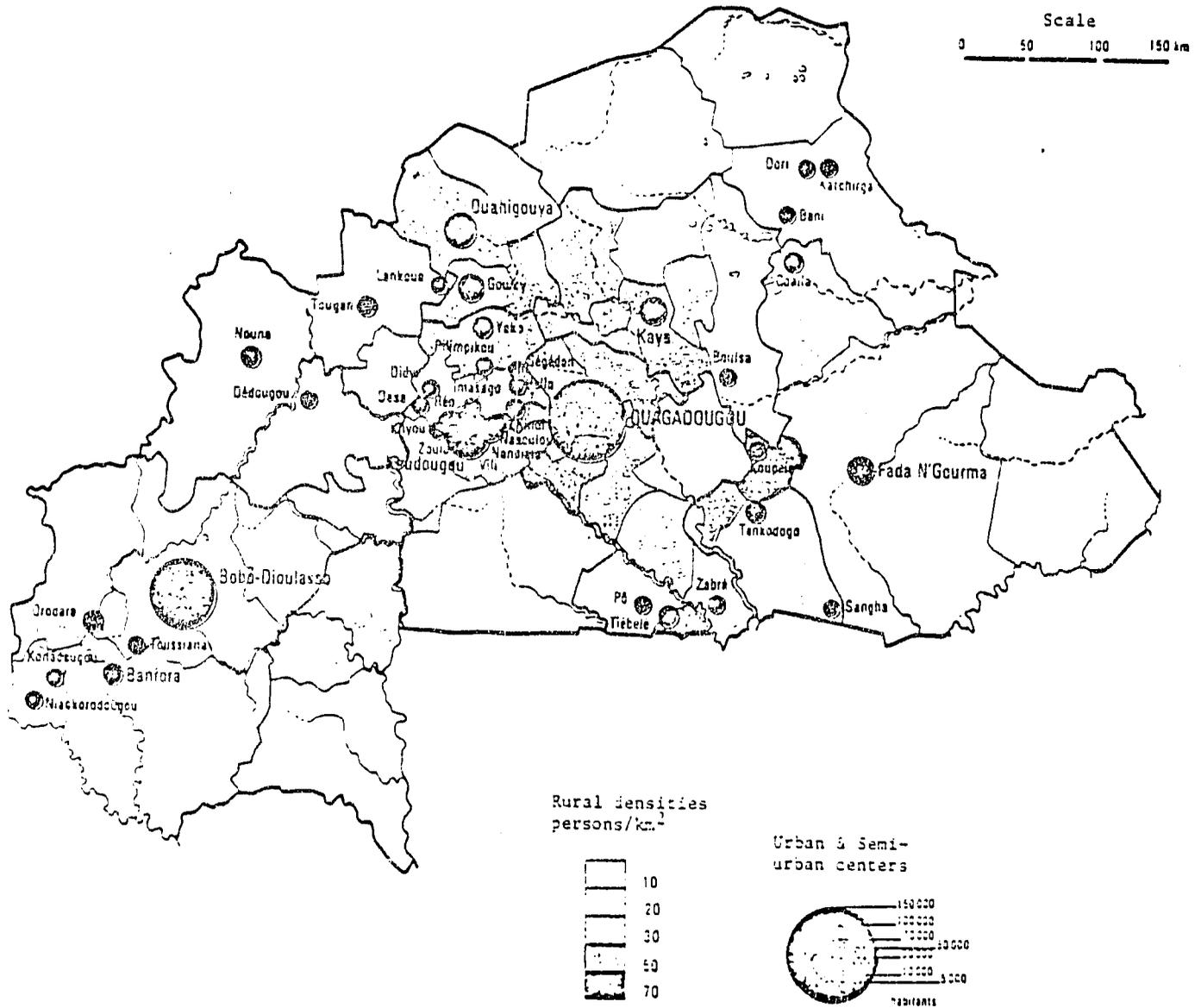


Figure 2. Rural Population Densities (by sous-prefecture after the 1970 census)

Source: Peron and Zalacain 1975:23

in their twenties (6.9%) and even fewer older women, aged 30-39 (2.9%) depart. Presumably, in areas of the Central Plateau where up to one-half of all prime age males have migrated, female migration may be even further reduced (U.S.A.I.D. 1980: 3-4).

Migrant workers are a critical part of the Upper Volta economy. A tax on returning workers provides national revenues which are substantial (Skinner 1965: 387). A large amount of goods of various types and small amounts of cash enter the rural economy (Skinner 1965: 387-388). Migrants bring back such items as bicycles, mosquito nets, clothing and non-prescription medical products (Skinner 1965: 387). Dufour (1956: 3) has suggested that migrant importation of goods results in a significant cash loss for the Upper Volta economy.

2.3 Education

Voltaic girls are losing the opportunity to attend schools. The enrollment of Voltaic girls at the first level decreased from 36% to 20% between 1970 and 1978 (UNESCO Statistical Yearbook 1977, 1979). The causes of this decline include lack of money, family obligations and lack of opportunity (S.A.E.D. 1978: 7). In the same time span, second level pupil enrollment increased from 28% to 33%, while the percentage of females at the third level rose from 15% to 22% (UNESCO Statistical Yearbook 1977, 1979). This progress differential may reflect changing cultural attitudes toward female learning among educated and well-traveled males, who may take a long-term, positive attitude towards their daughters' schooling (S.A.E.D. 1978: 8).

Currently, an educational emphasis is placed on the training of girls for domestic tasks. Voltaic women criticize this orientation and stress that the entire school system is geared towards a consumption culture rather than the rural milieu in which most women work. The private school system is seen as inadequate. Graduates of secretarial schools may emerge looking at the keys, typing fifteen words a minute and making mistakes (S.A.E.D. 1978: 6-9).

2.4 Health

2.4.1 Women's Health Responsibilities

Voltaic women are traditionally responsible for family health needs. Women's personal income is used to purchase medicine and pay for health care (S.A.E.D. 1978: 22). Because of social and health infrastructure deficiencies, women often try to cope on their own (S.A.E.D. 1978: 5,11). There is one doctor per 53,264 people (WHO Norm: 19), one hospital per 1.40 million and one health center per 146,134 (WHO Norm: 27) (S.A.E.D. 1978: 11).

Women's ability to react to health problems is hindered by a lack of knowledge of symptomatology and how to use drugs (S.A.E.D. 1978: 10). In the absence of pharmaceutical outlets, traditional

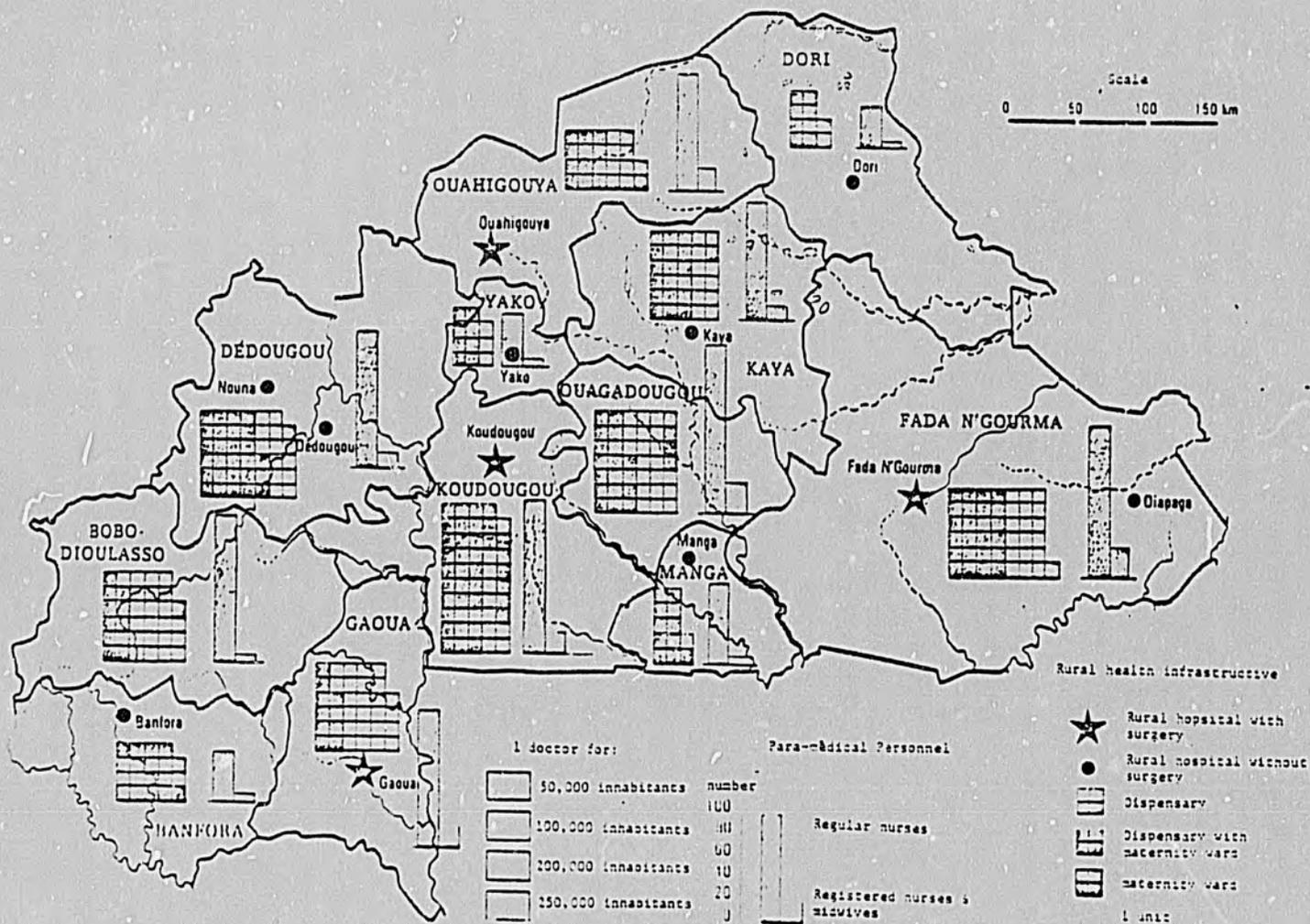


Figure 3. Health (rural sector)

Source: Peron and Zalacain 1975:31

healers and women's local recipes sometimes provide useful medication (S.A.E.D. 1988: 11). At present, there are 63 private pharmacies in the provinces (WHO: 1980). However, many village women cannot afford to buy drugs.

2.4.2 Children's Health Problems

Childhood diseases infect or kill tens of thousands each year. The infant mortality rate is 182 per thousand (WHO 1980: 48). Poor weaning practices and other nutritional problems complicate childhood illness (U.S.A.I.D. 1980: 6).

The children of Voltaic women are exposed to the following vector-borne or communicable diseases: malaria (the leading cause of infant mortality and morbidity), measles (continuing second cause of infant mortality despite vaccinations begun in 1969); onchocerciasis, bilharzia, seasonal meningitis outbreaks, tuberculosis, poliomyelitis and tetanus (U.S.A.I.D. 1980: 4-5) (WHO 1980: 45). Children contracting gastroenteritis can suffer severe diarrhea and dehydration. This ailment is considered to be a leading cause of death among children under five (U.S.A.E.D. 1980: 5).

2.4.3 Nutrition Problems

Voltaic women experience seasonal food shortages, employ nutrition-reducing cereal-processing methods and may purchase deceptively named food products which have lowered nutrition content (Cloud 1978; McMillan 1980; U.S.A.I.D. 1980: 4-5). Even under normal circumstances, the Voltaic diet of cereal grains (millet, sorghum, corn, rice) supplemented by roots and tubers only provides 1958 calories out of a WHO recommended 2,400 calories. Voltaics regularly consume 45 grams of protein (4-5 grams animal protein), in contrast to a standard of 84 grams, including 40 grams of animal protein (U.S.A.I.D. 1980: 6). In a study of 100,000 children examined in M.C.H. Centers, it was found that over one-half were underweight for their age (Ibid. 1980: 6).

2.4.4 Water Parasites

Upper Voltan women involuntarily expose their families to parasites from water and food contaminated by feces (Ibid 1980: 5). Natural water sources harbor hepatitis, amoebiasis and intestinal worms. In addition, guinea worm infection is spread by wading in standing water or large shallow step wells (U.S.A.I.D. 1980: 5).

2.4.5 Women's Health and Pregnancy

Pregnancy entails many health risks. Women rarely give birth at a health center. Currently, one trained mid-wife exists per 3,000 women (U.S.A.I.D. 1980: 6) reports that almost one-half of all pregnant women receive prenatal advice, but less than one-quarter are assisted by a health professional at birth. High-risk pregnancies often are undetected. Eighteen percent of infants are examined by M.C.H. (Ibid 1980: 6).

2.4.6 Life Expectancy and Disease Prevalence

Adult life expectancy is 38 years, reflecting a high level of infant child mortality (WHO 1980: 45). Major causes of adult death include accidents and malaria (S.A.E.D. 1978: 14); WHO 1980: 45). Progress has been made in reducing the incidence of adult vector-borne and communicable disease. Leprosy prevalence per thousand has been lowered from 36.67 in 1965 to 14.8 in 1976. Yellow fever and small pox have been eradicated (WHO 1980: 49).

Medical information on specific female health problems and needs need to be gathered.

2.5 Wood and Water Supply

Throughout Upper Volta, women spend large amounts of time collecting wood for their cooking fires (McSweeney 1980 : 127); Henderson 1980: 134). The use of wood for fuel accounts for 94% of all Upper Volta energy use. As a result, forests are being depleted and women living in areas of high population density must search farther and farther for fuel, spending even more time on this task. The long-term critical impact of this situation will be deforestation, as Upper Volta fuel use now exceeds the capacity of the forest to regenerate itself (U.S.A.I.D. 1980: 8).

Water portage is the traditional responsibility of females. The World Health Organization (1980: 46) estimates that from twelve to 28% of the population has sufficient access to water. Only 2.85% of the population has running water or use of standing pipes (WHO 1980: 46). Rural women must obtain water from masonry and/or traditional wells and nearby ponds (WHO 1980: 46). U.S.A.I.D. (1980: 6) reports that women may have to walk ten to fifteen kilometers to obtain water which is often polluted. Because of the vast amount of work involved in obtaining water, rural consumption may be as little as 5 liters of water per day, which is low in comparison to urban per capita water usage of 75 liters (CILSS figures reported in U.S.A.I.D. 1980: i, 6-7).

2.6 Population

Upper Volta had a population of 6.3 million in 1978 and an annual rate of growth which increased to 2.06% by 1975. This population growth is attributed to a 20% decline in mortality rates. The fertility rate remains unchanged. It is estimated that the Upper Volta population could grow to over 11 million by the year 2000. (U.S.A.I.D. 1980: 7).

Family planning has been limited to Upper Volta. In a country where the rural population is short-handed due to considerable short-term and long-term migration it can be expected that children will be considered to be valuable. The rural population has virtually no access to contraception and there is no evidence of extensive efforts to educate women on the matter. The urban

dwellers use a limited amount of contraceptives, yet doctors may refuse to treat women who use them. Attitudes of Upper Volta medical professionals and the GOUV may preclude much activity in this area (U.S.A.I.D. 1980: 7).

2.7 Women's Work

The division of labor in West African hoe agriculture involves cooperative but separate tasks for men and women. Men raise and control staple and cash crops, while women work on communal fields and may have private plots and gardens of their own, for family consumption and local trade (Cloud 1978: 48-53). Women's individual vegetable plots, wild plant gathering, small animal production, milking and dairy processing are vital to Upper Voltan nutrition. Males are solely responsible for the provision of cereal grains (Ibid: 51-52) although females supplement this.

Women contribute the major portion of all African subsistence labor (Boserup 1970; Pala 1976). As can be seen in Table 1, UNECA and initial Upper Volta data establish that women's work load is as time-consuming as in other areas of Africa. However, women do spend more time providing for domestic food storage, caring for livestock and marketing. Slightly less time is spent on food production and processing (McSweeney 1980 : 108-110). (See Sections 5.2.1 and 5.3 for more information on women's time allocation.)

It should be noted that herder women differ from this pattern. They are responsible for milk and dairy products, which are used for family consumption and trade. Herder women control sales income, but they must consult with their husbands on the use of income from small individual produce sales, which are infrequent, and large and small livestock sales (Cloud 1978: 54-56; Henderson 1980: 121-114).

Women's income from personal crops and dairy products is critical to the well-being of Upper Volta families. It is used to purchase salt and other sauce ingredients, additional grain, and domestic items. Women also pay school, clothing and medical expenses (S.A.E.D. 1978: 22). Those women who are able to strive to save in cash or in kind for emergencies or ceremonies (S.A.E.D. 1978: 22).

TABLE 1
ESTIMATES OF THE PARTICIPATION OF WOMEN IN TRADITIONAL
RURAL AND EARLY MODERNIZING AFRICA

AREA OF WORK	PERCENTAGE OF HOURS OF LABOR WHICH ARE FEMALE	
	Africa as a Whole ¹	Upper Volta Sample ²
<u>PRODUCTION, SUPPLY, AND DISTRIBUTION</u>		
1. Food production	70	61
2. Domestic food storage	50	85
3. Food processing	100	93
4. Animal husbandry	50	60
5. Marketing	60	95
6. Brewing	90	100
7. Water supply	90	100
8. Fuel supply	80	76
<u>HOUSEHOLD/COMMUNITY</u>		
1. Rearing and initial education of children	100	100
2. Cooking, cleaning, washing	100	99
3. House building	30	₃
4. House repair	50	100
5. Community self-help projects	70	100

1. Rough estimates made by the UNECA appearing in *Data Base*, p. 9.
2. Figures based on advance processing for illustrative purposes of a mini sample of five women and their husbands (three cross-seasonal time budgets per person) chosen from a larger random sample for one village.
3. Activity which did not occur during mini sample observations.

3.0 The Sahel Region

3.1 Geographical Setting

The semi-arid Sahel Region, within the Administrative district of Dori, is Upper Volta's major livestock raising region. Cattle distribution is approximately ten head per km² and small ruminants average more than 20 head per km². In the North, herds of nomadic pastoralist forage on step vegetation, which is dominated by small trees and bushes that are often spiny and stunted due to the severe climate and overgrazing. Grasses do not form a ground cover, with the exception of depressions with clay soils, where *Panicum Laetum* dominates. Agricultural land usage is minimal outside of Gorom-Gorom and Deou, where crops cover from six to twenty-five percent of total area. Nomads are economically linked to small farm villages.

In the southern Sahel, farm plots occupy from 6% to 25% of Dori and Sebba area land. Extensive areas of halomorphic (salty) soils occur around Gorom-Gorom and east and south of Dori. Around Dori, a mineral, vegetable matter and oxygen-rich brown tropical soil is found and here herders are semi-sedentary. The principal Sahelian crop is millet (petit mil), grown in village and bush fields, alone or in association with white sorghum. Sesame and peanuts may be grown (Peron and Zalacain 1975: 11,32,33)

The sparsely settled Sahel region averages less than ten people per km². Fulfulde speakers, Fulani and freed Rimalbe, are fifty-eight percent of the population. Another fourteen percent is Tuareg and Bella, who speak Tamacheq. The remaining twenty-eight percent consists of scattered Songhay, Gourmantche in the southeast, Mossi in the south-central and west, Djerma and Kurumba in the south (Peron and Zalacain 1975: 28-29, U.S.A.I.D.:1979).

3.2 Agricultural Production

3.2.1 Crop Production

Sahelian women have minimal crop production work demands, sometimes weeding and harvesting. It is unusual (but not unprecedented) for Sahelian women to own their own fields, make all farming decisions, work on fields and accrue personal income from crop sale. (U.S.A. I.D.;1979: 111-5)

Many Bella cultivators remain under the economic control of the Tuareg, distributing a portion of their crops to them. As a result, a minority of "freed" Bella women cultivate their own millet fields for nuclear family use. Many Bella women grow and gather sauce ingredients (U.S.A.I.D.; 1979:III-3, III-5).

Semi-sedentary male Fulani carry out farm labor, although increasing reliance on grain reduces the number of individuals who go on transhumance, as both males and females remain in the rainy season villages to tend fields (Reisman 1978: 12). Jelgobe Fulani women tend flax patches for straw mat fibers (Reisman 1978). Sahelian women grow small vegetable plots near compounds (U.S.A.I.D. 1979:21).

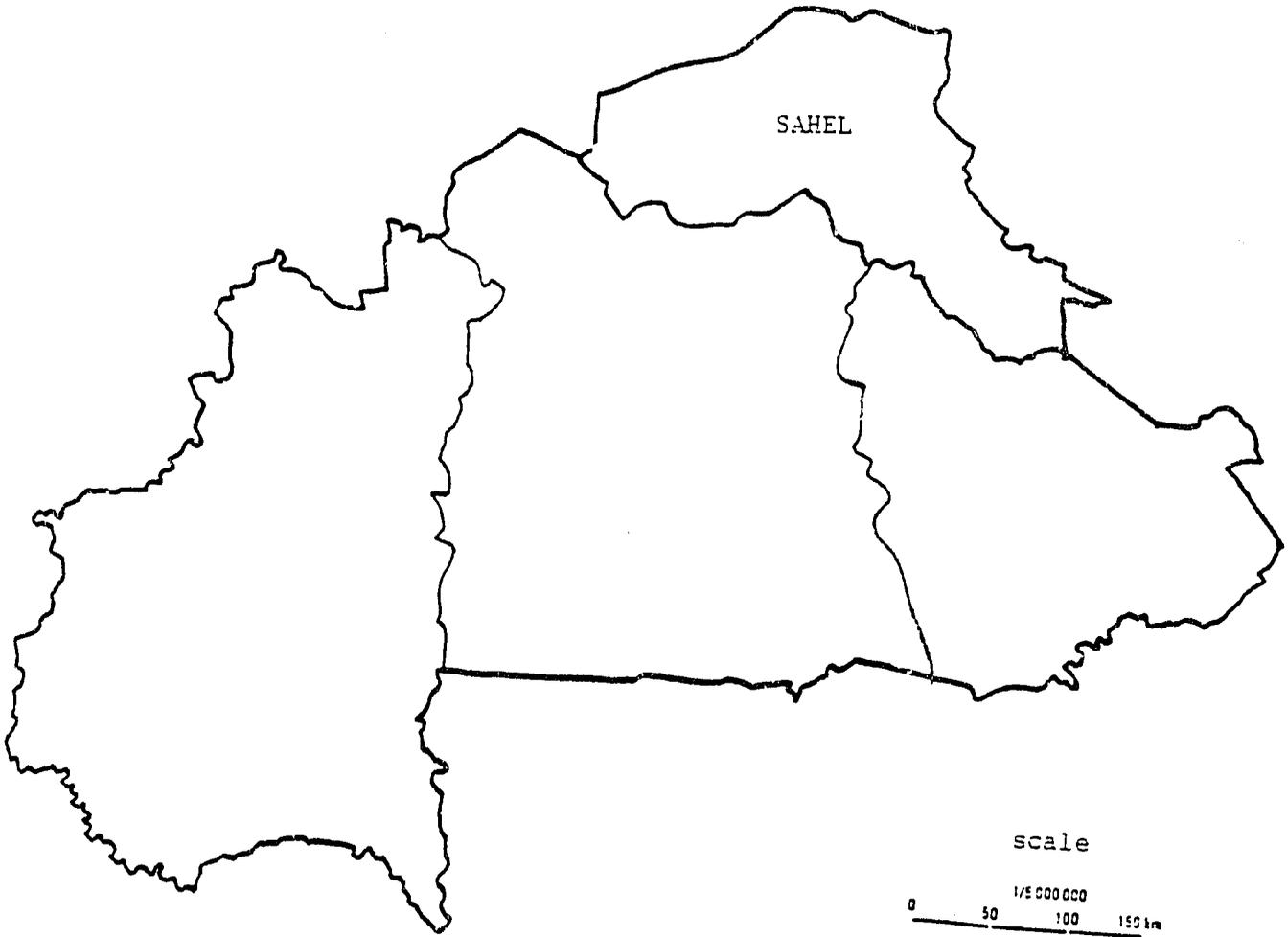


Figure 4. Sahel Region

3.2.2 Livestock Production

Sahelian women own rights in cattle and small ruminants. It has been estimated that women may own up to one-half of all livestock in the region (U.S.A.I.D.:1979: 21). Nevertheless, control of these rights is monitored by fathers and/or brothers before the marriage and by the husband after marriage. A Fulani woman may receive Koowrudi (a variable number of cattle as a gift) at marriage. However, the wife's father cares for the cattle until it is certain that the marriage has endured and the birth of one or two children separates a woman from the village (wuro) of her father. A woman can utilize dairy products of her koowrudi after the husband receives the cattle. Divorced childless Fulani women lose their cattle. Repudiated divorcees retain koowrudi, although animals are cared for by the woman's father (Reisman 1978a: 81-82, 90-91)

Cattle owned by women can be sold for medical and ceremonial expenses, taxes, clothing, cooking utensils and manufactured items. Nomadic Fulani women cannot prevent a husband's sale of her cattle in an emergency (Reisman 1978b: 22-23). Exceptional Fulani women may control their own herds (Reisman: 1978a: 90). Among populations where only men go on transhumance, dairy milk is not refined and is utilized by calves, since only women process dairy products (Reisman: 1978b: 34). Reisman speculates that such semi-sedentary groups may suffer an economic loss from this practice since women's dairy sales are their only economic link to horticulturalists. (Ibid:1978b: 34).

Some Sahelian women have access to donkey use, although there is a lack of carts (U.S.A.I.D. 1979: 23). Sahelian women's livestock work includes watering calves, care of small ruminants and poultry, fattening sheep, milking and dairy processing and animal health (U.S.A.I.D. 1976).

3.3 Household Production

Sahelian women own domestic implements and houses. Millet-grinding, their most time-consuming task, takes up to 4-8 hours in large families, dropping to 2 hours in a family with 6-8 members, which typically uses eight liters of grain per day. Eight liters of grain can be mill-processed in ten minutes for 50 CFA. Although unprocessed millet has a high nutrition content, it is only eaten when an exhausted woman prepares it as a hot meal substitute. A meal is usually shared by about ten people (Reisman 1978a: U.S.A.I.D. 1979: 23, III-5).

In the Oudalon Tuareg encampment, Bella men and women cook and perform other tasks for herders (U.S.A.I.D. 1979: 111-3).

No material was available on regional wood and water supply.

3.4 Local Manufacturing

Sahelian women's crafts include basket-weaving, leatherwork, mat and hat-making and pottery and gourd preparation. Women have expressed a

Livestock Production

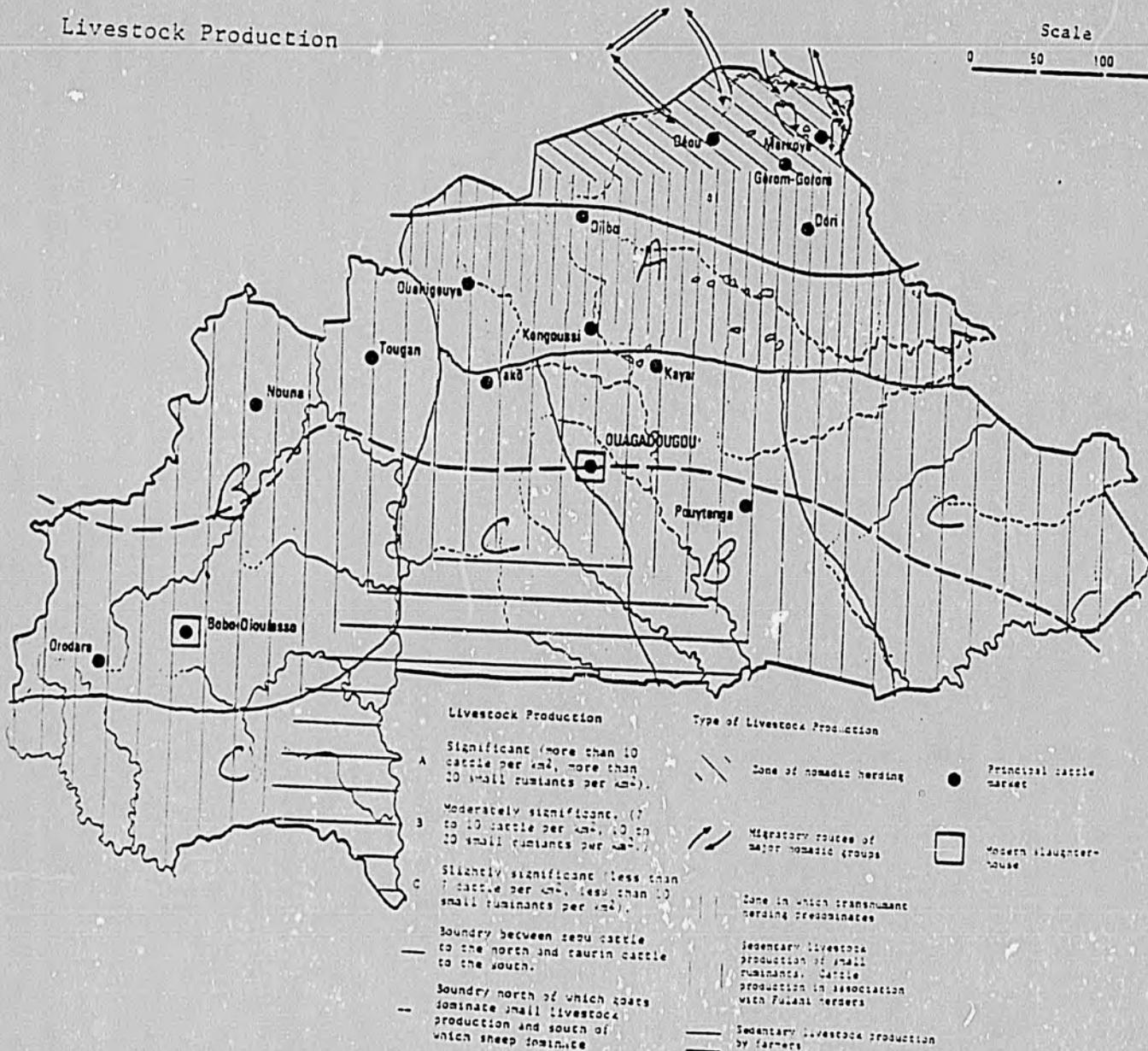
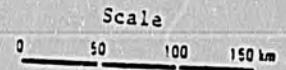


Figure 5. Livestock Raising in Upper Volta

desire for sewing machines, but are not often able to afford them (U.S.A.I.D. 1979: 22) Bella women are paid to build thatched huts for Tuareg families.

Women do not always find it "economically or socially profitable" to do craft work due to the great deal of 'caste' craft specialization in the region (U.S.A.I.D. 1979: III-5).

Fulani women may spin cotton (Reisman 1978a: 15).

3.5 Marketing and Commerce

Sahelian women process bee products from honey obtained by men from wild or tended hives. Honey beer, removed wax and honey are sold by women (U.S.A.I.D. 1979: 22).

Peul women sell black balls of soap made from milk-fat and "Fulani" cheese, a dry flat dairy product in village markets (U.S.A.I.D. 1979: 21).

Marketing distribution problems center on a lack of sales outlets in this region. Fulani women in the Djibo area are relieved of the necessity of providing millet and their market participation declines. They may still sell soap made from butter, and mats, but their realized income is used for alms, clothing, gifts and jewelry (Reisman 1979: 64) (Reisman 1978b: 25,40).

3.6 Domestic Life (under preparation)

3.7 Health

Older Sahelian women often provide medical information for villagers. Many communities lack traditional midwives (matrones). A girl's mother or female relative helps at delivery. Infrequently, poor delivery problems such as endo-natal tetanus require treatment. Death from unrecognized high-risk pregnancy is common. (U.S.A.I.D. 1979: 24).

An insufficient child diet, especially at weaning is associated with poor health. (U.S.A.I.D. 1979: 25).

3.8 Education

Only two percent of Sahelian girls attend primary school, in comparison to seven percent nationally (U.S.A.I.D. 1976: 1).

3.9 Religion (under preparation)

4.0 The Eastern Region

4.1 Geographical Setting

The Eastern region is located within the eastern ORD, including the administrative districts of Bogande, Fada N'Gourma and Diapaga. The climate is basically North Sudanian. Savannas contain stands of trees and shrubs which are considered to have resulted from man-made changes in the environment, especially the practice of burning vegetation to practice shifting cultivation (Peron and Zalacain 1975: 17). This region receives 400 mm of rainfall on the average in vast areas around Fada N'Gourma and little pockets near Kantchari and Diapaga. The major portion has average precipitation of 300 mm, with rainfall as low as 200 mm along the southern border (Peron and Zalacain 1975: 6-7). An area of South Sudanian climate occurs in the southernmost part. Vegetation is bush savanna with some forest (Peron and Zalacain 1975: 19).

Rural population density is quite low in comparison to the Mossi plateau, averaging less than 10/km² (Peron and Zalacain 1975: 23). Density rises in the area of Fada N'Gourma (population: 10,000), Kantchari (population: 5,000), Diapaga (several towns of a few hundred to 5,000 inhabitants) and Bogande (5,000 inhabitants) (Peron and Zalacain 1975: 24-25).

Agriculture is undertaken in the area of these semi-urban centers, although it is only to the south of Diapaga that from 6% to 25% of land is planted. In the areas north and east of Fada N'Gourma, east of Kantchari surrounding Bogande, up to 6% of land use for agriculture occurs. The principal crop is sorghum. While sorghum is grown in bush fields, alone or in association with cowpeas. Secondary crops include petit millet, grown alone or in association with sorghum or peanuts. Red sorghum, maize, peanuts and groundnuts are grown in nearby village fields or household plots. Small plots of cotton are grown around Bogande, while rice is grown south of Dagara. In the remainder of the region, plantings are minimal or non-existent (Peron and Zalacain 1975: 32-33).

This region is used for sedentary small-livestock raising, such stock averaging more than 10 per km². Fulani, located near Bogande and Kantchari, raise cattle which average less than 7 head per km² (Peron and Zalacain: 1975: 31). The principal ethnic group represented in this area is Gourmantche, with scattered pockets of Fulani and Rimalbe to the north (Peron and Zalacain 1975: 28-29).

4.2 Agricultural Production

4.2.1 Crop Production

Women of the Eastern region perform all types of farm labor, with the exception of the clearing of fields. As in the Central region (see Section 5.2), women remove ears from stalks which men have cut at harvest time. Acceptance of this traditional sex role is so

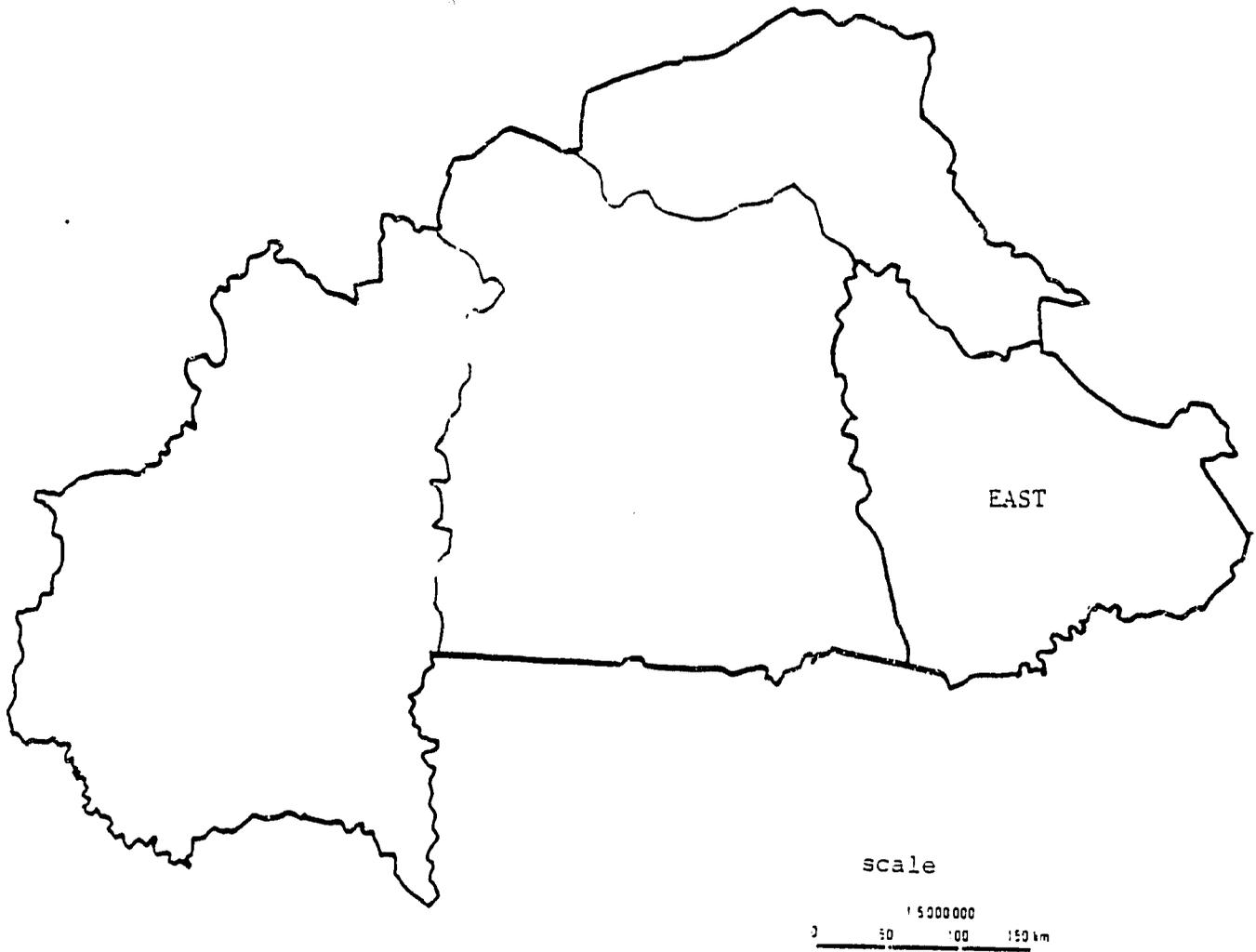


Figure 6. Eastern Region

deeply ingrained that a man is unable to sell millet until a woman has retrieved the ears and removed the seeds (Hemmings 1979: 6).

Women farm two types of plots, typically spending 75% of farm work time on communal fields and 25% of their time on individual plots. A shift from an extended family to a nuclear family unit has increased women's communal plot work at the same time that there is a greater demand for surplus crops. In this situation of increased time pressure, a woman's ability to farm her own fields is affected by 1) the extent of time spent on her husband's fields, 2) distances from her husband's fields to hers and 3) available labor assistance. Women often cannot spend as much time as they would like on their own fields, which leaves their plots vulnerable to pest damage. They may also farm depleted land to reduce time spent in traveling between fields and to compensate for the fact that they are unable to do extensive field preparation, including the clearing of trees (Hemmings 1979: 26-28). These problems have been increased by development projects insofar as construction and sexually-segregated farming cooperatives draw away men's labor from communal fields (Hemmings 1979: 28).

Data indicates that Gourmantche wives and daughters cultivate over 16% of all land (Swanson 1979: 65). Swanson estimates that women control 1.2 hectares of the average 7.1 hectares farmed by a household. Table 2 displays the percentages of all cultivated land which are devoted to particular crops grown by women. A substantial percentage of total women's cultivated acreage is devoted to peanuts (5.3%), which is a cash crop, and millet (4.7%). Soybeans, which were planted on 2% of women's cultivated acreage, probably represent an unusually high proportion of total crops because soybeans were high priced at the time of the survey (Swanson 1979: 65).

Table 3 shows the ten most important crops grown by women and notes whether they are intended for sale or personal consumption. The major grains planted are sorghum and millet (20% of women's field usage), grown alone or in association. The most important personal income crops were peanuts (17% of total field number and soybeans, 3% of total number of fields) (Swanson 1979: 88). It should be noted that women's soybean plots are smaller than men's. 78% of the land used to cultivate soybeans is owned by men while 22% is owned by women. Insofar as 52% of soybean plots are owned by women, one can deduce that field size is considerably smaller. In a 1978 survey carried out under the auspices of the Bureau of Economic Analysis and Planning (A Ministry of Rural Development Department), women owned 43% of the 4,600 fields possessed by 370 Gourmantche households. This indicates that women's fields are usually substantially smaller than men's, because women only cultivate 16% of total surface area.

Table 4 shows the proportions of crops grown by men and women as well as the division of labor that occurs when they are grown. Crops which are grown by men in large proportion include the valuable rice (72%), soybeans (78%), cotton (98%), corn (93%), and tobacco (100%).

Table 2 . Percentage of total Cultivated Acreage Devoted to Women's Fields by crop.

<u>Crop</u>	<u>Percentage of Total Cultivated Area</u>	<u>Crop</u>	<u>Percentage of Total Cultivated Area</u>
Sorghum	2.7%	Soybeans	2.0
Millet	4.7	Peanuts	5.3
Sorghum/Millet Mix	1.2	Cotton	.1
Corn	.15	Earth Peas	.2
Grain Total	8.7	Rice	.1
		Okra	.3
		Personal Crop Total	8.0

Source: Swanson: 1979

Table 3

Ten most important types of fields for women.

<u>Rank</u>	<u>Type of Field</u>	<u>Total % of Women's Fields</u>	<u>Disposition of crop</u>
1	Okra	21	Domestic consumption
2	Personal sorghum/millet	20	Sale
3	Compound plot	19	Domestic consumption
4	Peanut	17	Sale
5	Earth peas	6	Sale/Domestic consumption
6	Local sauce herb	4	Domestic consumption
7	Rice	4	Sale
8	Soybean	3	Sale
9	Roselle	2	Domestic consumption
10	Village sorghum/millet	2	Sale

Source: Swanson: 1979

Table 4 . The proportion of Eastern Region crops grown by Male and Female and the division of labor for their cultivation.

<u>Crop</u>	<u>Total Male Acreage</u>	<u>Total Female Acreage</u>	<u>Who works on Fields</u>
Corn	72%	28%	Male* - Female*
Cotton	98	2	Male* - Female
Cowpeas	100	--	Male* - Female
Early Millet	100	--	Male* - Female
Earth Peas	44	56	Female* - Male*
Eggplant	--	--	Male* - Female*
Fish Poison Plant	100	--	Male*
Garden Vegetables	--	--	Male* - Female
Kenaf	100	--	Male*
Okra	--	--	Female* - Male*
Peanuts	41	59	Female* - Male*
Red Peppers	72	28	Male* - Female
Rice	72	28	Male* - Female*
Roselle	--	100	Female* - Male*
Sauce Herbs	--	100	Female*
Sesame	--	--	Male* - Female*
Soybeans	78	28	Male* - Female*
Squash	--	100	Female*
Sweet Potatoes	97	3	Male* - Female*
Tobacco	100	--	Male*

*Controler of crop

Source: Swanson: 1979

Women control the greater proportion of the following crops: okra (97%), peanuts (59%) and earth peas (56%). Swanson (1979:55) compared household consumption rates and amount of produce sales and estimated that 44% "(about 3.1 ha. of the 7.09 ha. for the average household)" of the land cultivated can deliver a yield resulting in disposable income for family members.

There is considerable variation in the types of crops grown by Eastern region women. Plants grown by women in one area will often be grown by men in another. For example, in some regions women do not cultivate sorghum, only millet (Swanson 1979:111).

Women of this region often plant rainy season okra as a first crop. Older women tend to grow sesame. Only men cultivate fish poison plants. It is said that a man cannot have intercourse with his wife the night before planting fish weed.

Males and females are cowpea cultivators. Male communal field cowpea production is for domestic use. Farmers state that they do not grow more cowpeas because production is arduous and time-consuming. Men have their wives and children pick the pods, not wanting to do it themselves. (Swanson 1979: 179).

Males control the early millet crop, although females also labor on the communal fields. In some areas, late season millet is the only grain that women cultivate. Both women and children plant sweet sorghum and drink the stalk juice. Men and women cultivate sorghum, except in areas of heavy soil where farmers believe that women are not capable of its cultivation.

The control of cash crops varies from area to area. In the Gobinangu area, women have rice plots. In the Northeastern part of the eastern region, peanuts are traditionally cultivated by women. Earth peas are grown by all women except those of the Bogande area. They are often planted by older women who have children to help them. Small families do not cultivate this crop because of the belief that it will impede their growth. In contrast to other regions, men grow garden vegetables, although women also grow onions, tomatoes and lettuce.

When a particular crop which is cultivated by women grows in economic value, ownership may shift to males. Corn, which has been cultivated by both sexes, is now being purchased in markets. Because the male head of the household purchases fertilizer and other crop inputs, women will probably lose control of the proportion of this crop that they now grow (Swanson 1979: 142).

Eastern region women tend to use short-handed hoes, although Gourma females to the South use long-handed hoes. Women have chosen this type of hoe because top soil in their region is thinner than soil to the south. The leverage of a long-handed hoe would be inappropriate for their work (Hemmings 1979: 11).

Attempts to introduce the plough into this region have not benefited women. Because women work smaller plots on their own or with the help of their children, the plough, which requires surplus labor, will not solve female's needs (Hemmings 1979:23).

4.2.2 Livestock Production

Eastern region women purchase goats and sheep with their cash earnings from selling crops, particularly grains (Swanson 1979:). Farmers in this area are usually not familiar with animal husbandry and do not know how to raise and train animals. (Hemmings 1979: 23).

4.3 Household Production

At present, no research measuring time spent on domestic tasks has been carried out in the Eastern region.

Hemmings(1979: 34) specifies that women have to obtain and process all foods themselves. The time spent gathering shea nuts may take up part of two days, before the nuts can be processed into shea butter, which is used to fry foods. Women also make sesame and peanut oils for frying cakes and for sauces. Millet and sorghum flour has to be ground and they must concoct seasonings. In addition, women spend a great deal of time searching for wood and water. Women's work is increased by these lengthy processing activities. (Hemmings 1979: 34). (For more information on Voltaic women's household production, see the Central region, Section 5.3).

Eastern region women use roselle, okra, eggplant, the leaves of baobab and herbs in the preparation of sauce for the daily meal (Swanson 1979: 150,164).

4.4 Local Manufacturing

Women make pots and spin cotton into thread (Hemmings 1979: 33).

4.5 Commerce and Marketing

Women market much of the crops produced in their own fields. Most of the sorghum and millet grown by women is sold during and immediately after the harvest (November and December). These cereal grains comprise most of this type of produce sold at this time. If women waited until grain prices rose, they might be obliged to sell their produce at a reduced price to the head of the household (Swanson 1979: 67-68) since the family might be in a state of economic hardship.

The most important cash crops sold by Eastern women are, in descending order, millet and sorghum, peanuts, earth peas (bambara ground nuts), rice and soybean (Swanson 1979: 39). Okra is a major commercial crop for some women of the Eastern region. One enterprising Fada woman sold 40,000 CFA (approximately \$200.00) worth of dried okra from her own plot in the market (Swanson 1979: 150).

Women harvest, dry and sell sauce herbs, including roselle (Swanson 1979: 156, 164). Women are also responsible for selling the garden vegetables produced by their husbands, including onions, tomatoes, lettuce and cabbage (Swanson 1979: 172). With the money they earn in the market, women buy cloth, kitchen items, a goat or sheep (Swanson 1979: 67-68).

Food processing is an important source of income for women. They market beer (brewed from red sorghum or millet), peanut oil, shea butter (buerre du karite), millet cakes, flour cakes, etc. (Hemmings 1979: 33). In addition, kola nuts, tobacco and other produce is sold unprocessed or stored to sell later (Hemmings 1979: 33).

The peanut cash crop is a particularly critical asset for further marketing income. A woman begins her marketing season by investing money earned from the peanut crop in other produce, such as rice. She will then process the rice by dehulling it and sell it for a higher price. Next, she will take her profit and reinvest it in more food for processing, such as flour for millet cakes. This income is then invested in storable items, such as tobacco and kola nuts, to sell during the rainy season (Hemmings 1979: 34).

Hemmings (1979: 30-32) cautions that inflation and declining production of village crafts is eroding women's income. Urban goods are increasing in price at the same time that the value of agricultural products is declining. These increasing costs hit women particularly hard because they work at domestic production and do not usually perform wage labor (Hemmings 1979: 30).

Women are also at a disadvantage when they cannot sell crops themselves (Hemming 1979: 31). Women in the village of Kouri produced 80% of all peanuts sold (60 tons) during 1977, yet they had to rely on middlemen to sell such a large amount, losing a part of their profit. Eastern region women have expressed a desire to eliminate middlemen from local marketing and to increase sales of peanut by-products they would produce themselves. A tin of peanuts which sells for 500 CFA is worth as much as 1,500 CFA when converted to oil and other processed products (Hemmings 1979: 31).

Competition from manufactured goods is reducing female's marketing income. Textiles and beer are replacing the goods that women once invested in and sold (Hemmings 1979: 35).

Women of the East would like to expand their markets beyond the local village level. Men tend to own means of transportation that women do not have access to (Hemmings 1979: 35-36).

4.6 Domestic Life

In discussing soybeans as a relatively new crop in the Eastern Region, Swanson states that "Too high cash income for women in comparison to men's cash income would cause tension in household relationships." (1979: 158), which points out a potential problem for women's involvement with this crop (Swanson 1979: 158).

4.7 Health

The rainy season in the Eastern region introduces the risk of malaria. At any time of the year, women use the most convenient water sites, which tend to harbor guinea worm and other parasites (Hemmings 1979: 8).

4.8 Education

As in other regions, women pay for the needs of children (Hemmings 1979: 9)
No other information found for the Eastern region.

4.9 Religion

No information found for the Eastern region.

4.10 Professions

Some Eastern women work as hairdressers, caretakers, seamstresses, healers of children, etc. (Hemmings 1979: 33).

5.0 Central Region

5.1 Geographical Setting

The Central region includes five administrative districts: Yatenga, the North Mossi Plateau, the Central, Center-East and Center-West. The Plateau is the headwaters for both the White and Red Volta Rivers seasonal streams which flow south into Ghana. The White Volta River Basin was totally occupied by Mossi kingdoms during the 19th century. Major sub-divisions were Yatenga, Wogodogo, and Tenkudogo. Between the Red Volta River and the Black Volta, the Samo in the north maintained their independence from surrounding neighbors. To the south, the "Gurunsi" during the 19th century were first under the influence of the Mossi and later conquered by Zerma mercenaries serving the Dagomba chiefs.

Today most of the Central Region is characterized by very high population densities. As much as half the area has rural population densities of over 30 inhabitants per square kilometer. Only in the south west corner of the region, from the town of Po and west, do densities drop to less than 10 people per square kilometer. The Mossi are still the dominant ethnic group in the Region with Gourounsi found in the less densely settled southwestern area. Sub-populations of Bissa and Yanse are found in the southeastern parts of the Region. Scattered throughout the Region are settlements of Fulani and Yarse.

The northern part of the Region is part of the livestock economy characteristic of the Sahel Region. Densities of animals decrease to the south east and decrease again to the south west. In areas of high human population density, 25% of the land is typically planted in crops. The major grain crop is sorghum grown either alone or in combination with millet or cowpeas. Low lying areas, especially around Koupela and west of Tenkodogo, are centers for production of market vegetables. In the south, the land adjacent of the Red and White Volta Rivers and their tributaries are not used for crop production due to the presence of a fly which harbors the filarial parasite which causes river blindness - onchocerciasis. Yams are grown extensively in the southwestern part of the Region. (Peron and Zalacain 1975).

5.2 Agricultural Production

5.2.1 Crop Production

Women's role in Central Plateau farm work has increased to primary importance as a result of out-migration of prime age males, overpopulation of the Mossi Plateau, land depletion and seasonal food shortages (Delgado 1978a: 79 ; Finnegan 1976: 189-201 ; McMiller 1980: 17-20, 28-31 ; Skinner 1965: 67). Females do a wide variety of tasks ordinarily considered to be male work besides their regular duties during the rainy season, reducing time spent on household tasks and crafts as much as possible. Tables 5 and 6 illustrates the division of labor among Mossi and Bissa of one southwestern



Figure 7. Central Region

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TABLE 5 THE MOSSI DIVISION OF LABOR DURING THE WET SEASON AND THE DRY SEASON
(Percentage of total hours spent on a given task attributable to each labor category)

	WET SEASON						DRY SEASON					
	MALES			FEMALES			MALES			FEMALES		
	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+
I. AGRICULTURAL PRODUCTION												
A. Predominately male activities												
Water crops	3	86	0	0	18	0	5	90	2	0	0	0
Construct fences	3	86	3	0	10	0	2	88	8	0	0	0
Guard fields	15	65	0	0	20	0	5	94	0	0	0	0
Go to agricultural work invitation	2	77	3	0	16	0	3	81	3	0	11	0
B. Activities undertaken by both men and women												
Prepare fields	5	47	2	1	40	3	3	68	6	0	21	0
Sow seeds	3	39	0	1	52	3	-	-	-	-	-	-
Travel between fields	6	43	0	2	47	0	-	-	-	-	-	-
Harvest crops	4	45	0	1	47	0	3	49	3	1	41	0
C. Activities undertaken by both men and women in different proportion by season												
Weed	4	51	1	1	39	1	2	94	2	0	0	0
Spread fertilizer	5	64	7	9	18	0	6	34	0	0	57	0
Transport of harvest	0	50	0	0	50	0	8	21	0	2	61	0
Gathering wild crops	2	9	0	0	87	0	27	27	0	1	44	0
II. LIVESTOCK PRODUCTION												
A. Predominately male activities												
Small stock work	57	15	0	11	12	0	76	12	0	10	0	0
Large stock work	14	71	0	0	14	0	31	68	0	0	0	0
B. Activities undertaken by both men and women in different proportion by season												
Poultry work	0	100	0	0	0	0	0	0	0	0	100	0

II. LIVESTOCK PRODUCTION

A. Predominately male activities

Poultry work	5	44	39	10	0	0	5	50	44	0	0	0
Small stock work	31	40	6	16	3	0	15	69	11	1	2	0
Large stock work	21	59	5	5	8	0	6	87	0	0	5	0

III. HOUSEHOLD PRODUCTION

A. Predominately female activities

Fetch water	1	17	2	6	67	4	0	3	0	11	77	6
Meal preparation	0	1	0	4	87	5	0	1	0	10	80	7

B. Activities undertaken by men and women in different proportion by season

Fetch wood	0	24	3	12	58	0	0	26	0	5	65	2
"Other" domestic work	11	2	1	13	67	3	7	55	7	0	24	6

IV. LOCAL MANUFACTURING

A. Predominately male activities

Pottery	-	-	-	-	-	-	4	3	0	8	72	10
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B. Predominately female activities

Metal work	-	-	-	-	-	-	0	100	0	0	0	0
Construction	-	-	-	-	-	-	0	100	0	0	0	0
Non-agricultural work invitations	-	-	-	-	-	-	0	100	0	0	0	0

C. Mixed male and female activities													
Weave straw													
	0	23	9	0	56	10		9	42	1	2	36	5
D. Seasonally variable male and female activities													
Spin cotton													
	0	0	0	55	26	18		1	61	0	2	33	2
V. COMMERCE													
A. Seasonally variable male and female activities													
Commerce													
	2	54	11	2	25	2		1	63	3	2	26	2
VI. DOMESTIC LIFE													
A. Mixed male and female activities													
Go visiting													
	15	31	7	12	29	4		15	34	5	11	29	3
B. Seasonally variable male and female activities													
Attend meetings													
	23	45	10	5	14	0		30	39	6	6	14	2

Source: Delgado 1978a

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TABLE 6 THE BISSA DIVISION OF LABOR DURING THE WET SEASON AND THE DRY SEASON
(Percentage of total hours spent on a given task attributable to each labor category)

	WET SEASON						DRY SEASON					
	MALES			FEMALES			MALES			FEMALES		
	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+
I. AGRICULTURAL PRODUCTION												
A. Predominately male activities												
Water crops	1	68	29	0	0	0	14	61	21	0	1	0
Guard fields	12	62	18	1	4	0	0	100	0	0	0	0
Go to agricultural work invitation	0	90	7	0	1	0	7	65	26	0	1	0
B. Activities undertaken by men and women												
Sow seeds	4	37	9	1	44	3	-	-	-	-	-	-
Spread fertilizer	8	31	8	5	45	0	-	-	-	-	-	-
Weed	6	41	7	4	37	3	-	-	-	-	-	-
Travel between fields	4	42	4	2	33	5	-	-	-	-	-	-
Harvest crops	4	36	2	4	48	2	5	40	3	5	41	4
Transport harvest	4	49	4	2	33	5	3	36	7	5	42	4
Gathering wild crops	3	28	0	0	25	42	-	-	-	-	-	-
C. Activities undertaken by men and women in different proportion by season												
Construct fences	4	78	16	0	0	0	0	39	0	3	56	0
Prepare fields	7	32	3	4	46	6	9	57	3	3	25	0

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III. HOUSEHOLD PRODUCTION

A. Predominately female activities

Fetch water

Fetch wood

Meal production

Other domestic work

	WET SEASON						DRY SEASON					
	MALES			FEMALES			MALES			FEMALES		
	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+
Fetch water												
Fetch wood	6	4	0	0	89	0	4	9	0	4	80	0
Meal production	1	18	0	0	79	0	4	14	0	0	30	0
Other domestic work	0	0	0	0	98	0	0	0	0	1	98	0
	8	0	0	1	73	14	1	0	0	7	87	1

IV. LOCAL MANUFACTURING

A. Activities Under taken by Men and Women in different proportion by season

Spin cotton

B. Predominately male activities

Weave straw

Construction

Metal work

Pottery

Go to non-agricultural work - industrial

Spin cotton	0	60	0	0	39	0	0	7	0	0	90	0
Weave straw	10	84	2	0	2	0	16	77	1	0	2	0
Construction	7	68	2	0	19	2	5	66	2	0	26	0
Metal work	0	100	0	0	0	0	-	-	-	-	-	-
Pottery	0	100	0	0	0	0	37	55	10	0	0	0
Go to non-agricultural work - industrial	5	94	0	0	0	0	1	89	2	0	6	0

WET SEASON						DRY SEASON					
MALES			FEMALES			MALES			FEMALES		
8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+	8-14	15-60	61+

V. COMMERCE

A. Predominately female activities

Commerce

2	20	0	0	76	0	7	21	0	1	70	0
---	----	---	---	----	---	---	----	---	---	----	---

VI. DOMESTIC LIFE

Mixed male and female activities

Go Visiting

8	39	0	1	0	11	39	1	6	52	0
---	----	---	---	---	----	----	---	---	----	---

Attend meetings

7	66	0	1	0	26	27	0	10	35	0
---	----	---	---	---	----	----	---	----	----	---

Source: Delgado 1978a

village in the rainy and dry seasons. Women's traditional rainy season labor includes approximately forty to forty-five percent of all field preparation, seed sowing, weeding, harvesting and crop transport. Sex role flexibility is induced by rainy season labor demand. As can be seen in Table 5 Mossi female's rainy season tasks include from ten to twenty percent of the following traditionally male activities: watering crops, constructing fences, guarding fences or fields and joining invitational labor groups. In contrast, Bissa women have lower rates of participation in these tasks, but take over fence construction during the rainy season (58% of total labor allocation). (See Table 6). In both groups season agricultural workload drops off, although women continue to harvest and transport crops (Delgado 1978 :86-98).

Women's time allocation for farm work fluctuates in length during the demanding rainy season. (See Table 7). In Fortnight 1, women in a southeastern village worked ten hours a day, while men toiled for nine. In contrast, at the groundnut harvest date, Fortnight 13, women's time expenditure drops to seven hours, in comparison to five for males. Women's higher average time totals result from continued household labor, although time-consuming methods of meal preparation may be foregone (Ibid 1978b: 105). In this village, a labor shortage of adult males (15-40) caused by work migration has increased female task load to these levels. (Ibid 1978b: 79). Delgado (1978b: 81) points out that, in Fortnights 5-6, women aged 15-60 account for 39% of total labor hours verses 34% for males of this age category. During Fortnights 14-15, harvest time, females (15-60) provide 50% of total labor hours as opposed to 32% worked by males. This particular workload increase reflects a dual female task: the gathering of stalks and cutting of grain heads with a sickle. Male work consists of cutting grain stalks with a machete (Ibid. 1978b: 81).

In a comparable Kongoussi zone women's time allocation study, McSweeney (1980) found farm work to be women's most time consuming activity (see Table 8). Women spent an average of 367 minutes per day on food production, supply and distribution, (64% of total minutes allocated by both sexes) in contrast to 202 minutes expended by male. (Ibid 1980:SI27). Findings of Delgado (1978b) and McSweeney (1980) indicate a preliminary pattern in which women, through the performance of traditional and flexible sex role farm tasks, spend the most time and do a majority of all agricultural work. The amount of time expended appears to be consistent, despite ethnic variations in sex role flexibility (see section 2.7 for further women's labor statistics).

Men and women react to Central plateau conditions by increased tillage of communal and private fields. It is considered a woman's duty to help her husband with the communal fields allotted to him. These are the major source of subsistence grains and the site of men's cash crops. All income and food stores from communal fields are controlled by the husband. Female income is gained from private fields and gardens (Hammond 1966; Henderson 1980:130-135; McMillan 1960: 32-34).

FORTNIGHT ACTIVITIES BY Principle activity of sample by Fortnight	Number of average hours worked in a day by a worker					
	MALE			FEMALE		
	3-14	15-60	61+	3-14	15-60	61+
1. sorghum planting, field preparation for rice and planted	6	9	7	5	10	15
2. first weeding of sorghum, then millet planted	6	9	9	6	10	7
3. groundnuts planted	6	9	8	5	10	5
4.5. second weeding of sorghum and millet cowpeas planted, rice weeded and transplanted	6 6	9 10	7 7	4 5	9 9	4 5
6.7. third weeding and ridging of cereals	7	9	7	5	8	4
8. Weeding of root crops, cotton, tobacco and vegetables	4	6	5	3	6	3
9. maize harvest	3	5	3	2	6	2
10. sorghum harvest	2	5	3	2	5	3
11. relative slack	3	4	2	2	4	1
12. cowpeas harvest	4	5	5	2	6	2
13. groundnut harvest	4	5	5	3	7	3
14.15. millet harvest, rice harvest	4/5	6/6	3/2	2/3	7/8	3/4
16. fence construction around gardens	4	5	2	3	7	3
17.18. drying, transport, threshing, storage of cereals and legumes,	3	5	1	3	6	2
19.20. period of ceremonial duties begins (sacrifices to ancestors and celebrations for the dead)	3 4	4 5	2 3	3 3	6 7	3 3
21.22. non-agricultural work and ceremonial duties	4 5 5	4 5 5	3 3 3	3 3 3	7 7 7	3 3 2
24.25. manure spread on fields, other fields preparation, house repairs, peak period ceremonial duties	5 5 4	5 5 4	3 3 2	3 4 4	7 7 6	3 3 3

Derived Delgado 1979: pp. 74,84

Table 8

RURAL ACTIVITIES NONAGRICULTURE COMPARISON OF TIME ALLOCATIONS BY SEX		Average time allocated to each category activity in minutes		WOMEN'S participation expressed as a percentage of total time allocated by both men and women to each category
		Women	Men	
A	PRODUCTION SUPPLY DISTRIBUTION	127	116	
	1 Food and cash crop production	173	156	
	2a Sowing	089		
	2b Weeding, tilling	035		
	3 Harvesting	038		
	4 Travel between fields	030		
	5 Gathering wild crops	004		
	6 Other crop production activities	001		
	7 Domestic food storage	004		
	8 Food processing	100		
	9a Grinding, pounding grain	100		
	9b Winnowing	000		
	9c Tossing	004		
	9d Other processing activities	000		
	10 Animal husbandry	004		
	11 Processing	004		
	12 Breeding	001		
	13 Water supply	038		
	14 Fuel supply	005		
B	TRADE AND OTHER PROFESSIONS	141	125	
	1 Brick work	000		
	2 Building cotton	000		
	3 Tailoring	000		
	4 Millinery	041		
	5 Other crafts professions e.g., metal work, pottery, weaving cloth, bee-keeping	000	038	
C	COMMUNITY	000	000	
	1 Community projects	027	000	
	2 Other community obligations	000	000	
D	HOUSEHOLD	171	124	
	1 Feeding, initial care of children	019	000	
	2 Cooking, cleaning, washing	130	000	
	3 House building	000	000	
	4 House repair	000	000	
E	PERSONAL NEEDS	149	100	
	1 Rest, relaxing	111	000	
	2 Meals	021	000	
	3 Personal hygiene and other personal needs including medical	000	000	
F	FREE TIME	111	110	
	1 Religion	002	006	
	2 Educational activities: learning to read, attending a CHESCO meeting or class	017	014	
	3 Media: radio, reading a book	000	014	
	4 Conversation	011	068	
	5 Going visiting, including such social obligations as funerals	043	019	
	6 Errands including going to purchase personal consumption goods such as kola, next door	001	006	
G	TOTAL SPECIFIED	015	000	
	TOTAL WORK (A, B, C, D)	471	411	
	TOTAL PERSONAL NEEDS AND FREE TIME (E, F)	260	220	
	per observation day for last the full 12 hours			24

Source: McSweeney 1979: 115-116

Private grain fields are tended by most women and some teenage children of both sexes (McMillan 1980: 29). Generally, women's private cereal production serves a dual purpose: cash and dry season grain reserves. In Yatenga, grain reserved for household consumption originating in these plots is considered a payment for use of the land. (Hammond: 1966). Table 9 shows the percentage of women in one Kongoussi zone village growing millet, red sorghum and white sorghum (Henderson 1980: 130-135).

Women do not inherit rights to land use. Husbands are expected to provide sufficient land. In the Kongoussi zone and the Yatenga area, women have private plots and gardens allotted by their husbands. A Yatenga Mossi woman may ask a husband's brothers or her father for land. In addition, land may be lent to friendly co-wives or a son's wife. As the Mossi family group moves toward a nuclear family pattern, reliance on the husband for land will probably increase (Hammond 1966: 75-76; Henderson 1980: 133; McMillan 1980: 11, 28-29).

In the area of Kaya, McMillan (1980: 30-31) has found that lower household grain production is associated with an increasing percentage of total land area devoted to women's private fields. Women's fields in Damesna and Zorkoum comprise 15% and 17% of total farm acreage, respectively. In Bangasse, higher grain yields are associated with a slightly lower percentage (12%) of private fields. Women of Damesna and Zorkoum use the greater part of their grain to provide themselves and their children with one meal a day during the dry season, due to shortfalls in the husband's communal grain production (McMillan 1980: 28-29).

Kaya area women borrow land to extend private fields. Loaned land is usually depleted, which results in lowered yields. These parcels are truly loaned, as women cannot inherit land rights. In some cases, however, a son can inherit land his mother has utilized. This is more probable if she borrowed it from her clan or households that women of her clan have married into (McMillan 1980: 14-20). The extent to which Kaya women have acquired and rely on these lands depends upon their age and status. Older wives and elderly mothers whose children cultivate communal fields rely on their own fields and those of their married children. Senior wives retain rights to private plots until death. Many middle-aged women provide for most of their food consumption from private fields (McMillan 1980: 28-29).

Women's private garden produce is a major source of nutrition and a source of personal income. Table 9 displays women's garden crops in a Kongoussi zone village. The most common crop is okra (*mano*), which Mossi (91.2% n=34), Fulani (16.7% n=24) and Rimalbe (72.7% n=11) women cultivate. The peanut, a cash crop, is popular among Mossi (91.2% n=34) and Rimalbe (54.5% n=11) women (Henderson 1980: 130-135). Women's Kaya area crops are displayed in Table 10. Women of Damesna cultivate 100% of the sesame and oseille produced there. Women's peanut crop

Table 9

Crops Grown on Your Own Land (Fields/Gardens) (Percent)

	Mossi N=34	Fulani N=24	Rimalbe N=11	Other N=2	Total N=71	N	p<	Cramer's V
Miller	5.9	0.0	0.0	0.0	2.8		N.S.	
Sorghum (red)	5.9	0.0	0.0	0.0	2.8		N.S.	
Sorghum (white)	64.7	0.0	36.4	0.0	36.6	26.57	.000	.611
Corn garden	0.0	0.0	9.1	0.0	4.1		N.S.	
Okra garden	91.2	16.7	72.7	50.0	62.0	33.86	.000	.690
Bean garden	47.1	0.0	27.3	0.0	26.8	16.64	.0008	.484
Peanut garden	91.2	0.0	54.5	50.0	53.5	17.03	.000	.813
Sesame garden	64.7	0.0	27.3	50.0	36.3	25.00	.000	.605
Small peas garden	26.5	0.0	9.1	50.0	15.5	9.69	.0214	.369
Oseilles	5.9	0.0	9.1	0.0	4.2		N.S.	

Source: Henderson 1980:127

Table 10

PERCENT OF AREA OF DIFFERENT CROPS CULTIVATED BY DIFFERENT SEXES

Village	Sorghum, Millet, Corn		Cotton		Haricot		Peanuts and Groundnuts		Sesame and Oseille		Rice		Other Crop ¹	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Damesma	75	25	100	--	--	--	23	77	--	100	84	16	41	59
Bangasse	90	10	100	--	100	--	38	62	96	4	78	22	78	22
Zorkoun	86	14	--	--	--	--	13	87	--	--	100	--	--	--
Total Kaya	84	16	100	--	100	--	40	60	83	17	85	15	45	55
Mogtedo AVV	97	3	100	--	83	17	2	98	17	83	92	8	2	98
Mogtedo AVV 1st Year	100	--	100	--	--	--	3	97	100	--	99.4	6	38	62

Source: McMillan 1980: 33

averages from 60% to 98% of total peanut production in the Kaya area villages (McMillan 1980). In other areas, women may grow sorrel (bito), indigenous tomatoes (kumba), tomatoes, onions, chili peppers and squash varieties (Sahl 1979: 25-26). Garden crops and wild plants gathered by women help to compensate for low grain yields and the loss of nutrition created by extended processing. Research is needed to establish the ratio of private field and garden time to communal field time. McMillan (1979), suggests that women's time constraints on weeding, pest control, etc. affects field productivity. Studies might also establish the relationship between income and the amount of time allocated to private fields while controlling for land fertility.

Women are able to gain assistance in private fields by issuing labor assistance invitations. Husbands, children (pre- and post-marriage), daughters-in-law, younger married sisters and friendly co-wives can be asked (Hammond 1966). In one Kongoussi zone village sample, two-thirds of Mossi women helped other household women, while one-half helped neighbors. A few women worked with the village chief or village relatives. Women seldom hire labor. This village study found only two Mossi Moslem women and one Rimalbe woman who paid workers to help with private fields (Henderson 1980: 130-133).

Herding women are only secondarily involved in agricultural production. Indeed, the time-length and extent of semi-sedentary adaptation may be associated with the degree of women's gardening involvement. In a Kongoussi zone village, Fulani women grew small amounts of sorghum, maize, cotton, okra, beans, cseilles and peppers for local consumption (see Table 9 (Henderson 1980: 130-135)).

Fulani male heads of household have all rights to crops, with the possible exception of small women's plots. Fulani women of a southeastern village had rights to cotton crops, but not maize. Delgado 1978a: 27).

In a Kongoussi zone village, most Fulani women helped in the harvest (79.2% n=24) (Henderson 1980: 130). Since the harvest occurs at a time of peak dairy herd care-taking and dairy production, it is not surprising that the Fulani devote far less time per hectare than their Mossi and Bissa counterparts (Delgado 1978b: 38). Fulani women's harvest work consists of cutting ears of grains off stalks cut down by male family members (Delgado 1978a: 38).

In an exception to Central region patterns, Tiganiya Moslem Mossi do not allow their wives to own fields. Wives do not help with light tasks like sowing and rarely dig, till or weed. Labor pressures result in female harvest participation. In addition, Tiganiya Moslem Mossi females do gather wild foods. It is considered that withdrawing female agricultural labor is prestigious (Sahl 1979: 39).

5.2.2 Livestock Production

Semi-sedentary Fulani women can be understandably reluctant to talk about livestock ownership, especially in the presence of other village women. In one study, several Kongoussi zone Fulani women (29.2% N=24) have reported cattle ownership (see Table 11). Three-quarters of these women indicated that they had received cattle from their relatives, while one-quarter were given cows by their husbands. These cows are kept in the herds of husbands or male relatives. There was no association between marriage to a large herder and female cattle ownership in this sample. A Fulani woman of the Kongoussi area is considered to be rich if she owns six cows. No woman reported a cattle purchase, although one-half of the women sampled expressed an interest in buying cattle, given sufficient income (Henderson 1980:111-115).

In the Kongoussi zone village researched, gifts of cattle appeared to be less frequent than in other Fulani areas. Henderson (1980: 112) notes that such gifts are not mandatory. Islamic law specifies that both sexes should receive cattle at baptism. However, cattle given to a baptized girl may later be re-given to a son at his baptism. Reduced herd size may limit such redistribution of cattle to females (Ibid. 1980: 112)

In the Central region, semi-sedentary herder women may bring bride-wealth cattle with them when they are first married, a practice which is different from that of Sahel nomadic Fulani (Delgado 1978a: 30-31). Disposition of cattle upon divorce is similar to the Sahel Fulani (see Section 3.2.2). When a childless woman dies, any cattle that she owned are divided among her father, brothers and possibly her sisters. If children survive her, they inherit their mother's cattle, with the greater number going to the sons. Theoretically, women may also inherit cattle from their fathers. Women's inheritance rights are governed by Islamic law to some extent, but from a Fulani woman's point of view, it often seems that only sons inherit cattle. Childless widows may be given cattle from their deceased husband's herd (Henderson 1980: 114).

Central Plateau Fulani women have full rights to all milk and dairy products of family controlled herds and control personal income received from sales of these products (Delgado 1978a: 38; Henderson 1980: 121, 123). Women serve as the major economic link between herders and horticulturalists because milk provides income for the purchase of grain and also serves as a partial payment for caretaking of female cattle for farmers or relatives (Delgado 1978b: 27; Henderson 1980: 123). In a sample from one southwestern village, herd inventories indicated that peasants owned two-thirds of all cattle in the average herd of forty cows (Delgado 1978b: 27). Farmers occasionally give Fulani males small gifts of cash (500 CFA) and kola nuts for taking care of male cattle (Delgado 1978b: 27). Fulani also expect rights to use the manure, although some Mossi farmers now send children with collection baskets to request use of it. (Delgado 1978b: 28).

Table 11

The Ownership and Sale of Livestock by Women - Percent

	Mossi N=34	Fulani N=21	Rimalbe N=11	Other N=2	Total N=71	N	p<	Cramer's V
Have livestock yourself	58.8	66.7	90.9	100.0	67.6		N.S.	
Own goats	35.3	29.8	45.5	50.0	32.1		N.S.	
Sold goats last year	23.5	12	9.1	50.0	15.5		N.S.	
Own cattle	0.0	29.2	9.1	0.0	11.3	12.31	0.064	116
Sold cattle last year	0.0	8.3	0.0	0.0	2.8		N.S.	
Own sheep	5.9	12	18.2	0.0	7.0		N.S.	
Sold sheep last year	2.9	0.0	9.1	0.0	2.8		N.S.	
Own poultry	58.8	11.0	81.8	100.0	57.7	9.63	0.045	305
Sold poultry last 2 years	38.2	33.3	15.5	50.0	38.0		N.S.	

Source: Henderson 1980: 113

In a Kongoussi sample taken in 1979, 67.6% of women claimed livestock ownership. Village women of Mossi or Rimalbe ethnicity may own goats or sheep (see Table 11), which they tend to leave in the care of their sons. Animals tended near concessions are fed millet stalks, millet, and bean and peanut hay that the women have grown (Henderson 1980: 119). This is similar to the southwestern area custom of feeding cows millet bran and salt, when they are in milk (Delgado 1978a: 39).

Due to necessity (lack of sons), young girls can be used to herd sheep, goats and cattle (Vengroff 1980: 57-59). This is usually done during the rainy season, when crops must be protected (Vengroff 1980: 58).

Data taken from the southwestern village studied by Delgado (1978a) indicates that both Mossi and Bissa permit sex role flexibility in livestock care during the rainy season (see Tables 5 and 6). Mossi men care for small and large stock throughout the year, yet females aged 8-14 (11% of total livestock labor) and aged 15-60 (12% of total livestock labor) care for some small stock during the wet season. Young girls 8-14 (10% of total small livestock labor) and continue to care for them during the dry season. In addition, 14% of all labor hours devoted to large stock was performed by Mossi women aged 15-60 during the wet season (Delgado 1978a: 86-95).

As can be seen in Table 6, Bissa males carry out a majority of all livestock work during the year. Yet, in the labor intensive wet season, females aged 8-14 carry out 16% of all small stock work and 5% of all large stock work. Adult females aged 15-60 carry out an additional 5% of small ruminant tasks and 8% of all large stock work (Delgado 1978a: 86-95). The data suggests that both Mossi and Bissa are open to the idea of women's livestock care, a factor which can be taken into account when planning labor carrying capacity for additional poultry and small ruminants. Women of the Kongoussi zone have expressed a great deal of interest in acquiring additional livestock as well as poultry. Small ruminants are considered to be a good investment against a time of famine, especially as a resource to sell to acquire cash to purchase millet. Women's animal sales permit purchase of clothing and condiments also (Henderson 1980: 115, 117).

In the Kongoussi area village sample survey, poultry was the most commonly owned 'livestock' (57% owned chickens N=71). A majority of women poultry owners keep their chickens themselves, although many (41.5% N=41) said that their husbands kept them. Somewhat higher percentages of Rimalbe and Fulani women entrusted chickens to husbands than Mossi (Henderson 1980:120). In the southeastern village studied by Delgado (1978a: 86-95), Mossi women exclusively cared for chickens in the rainy season, then men took over in the dry season. Bissa females aged 8-14 did 10% of all poultry work in the wet season (see Table 6.)

This southeastern village labor data can also be compared with Delgado's (1978b: Appendix A) Fulani women's labor data (see Table 12). Fulani women clocked 2,792.17 hours working on agricultural tasks, 28% of their time. Fulani women's work patterns, which demonstrate low rates of involvement in agriculture, indicate that the major portion of this time was probably spent on livestock activities. As such, Fulani women probably spent somewhat more time on livestock care than horticulturalist women, but not as much as might be expected.

5.3 Household Production

Female time allocation for household activities takes up a major part of the day. Women of one Kongoussi zone village clocked an average of 148 minutes a day on family tasks, in comparison to four minutes spent by men (see Table 8). Cooking, cleaning and washing took up 130 minutes of this time. When all types of time use are grouped together, it becomes apparent that food related activities (6.1 hours, including pounding grain) and household tasks (2.5 hours) use up a woman's day. Not surprisingly, it is male household members who have substantial time for personal needs (4.5 hours vs. 2.6 hours) and more free time (1.9 hours vs. 1.3 hours) (McSweeney and Friedman 1980a: S127).

It should be noted that women's work in food preparation is close to the hearth, where they can supervise and care for children and young livestock (Delgado 1978b: 118).

Fulani women devote 28% of their time to household activities, doing such tasks as carrying water, fetching firewood, and cooking (see Table 12) (Delgado 1978b: Appendix A). Women perform 93 to 100% of all household activities (See Table 13).

All women are willing to share the responsibility of cooking with friendly co-wives, often preparing meals every other day (Henderson 1980: 128, 131, 134; McSweeney 1979: 125). Fulani co-wives taking turns may have several days free each week (Henderson 1980: 128).

In the Kongoussi zone village studied by Henderson (1980: 134), almost two-thirds of Mossi women (64.7% N=34) carried water themselves, while a third had their children do it. Most women made two or three trips a day for water. In McSweeney's sample (1980: S127), women spent an average of 38 minutes a day on this task. The amount of time a woman spends on this task is probably dependent on the nature of the local water supply (wells vs. ponds) and the time of year (rainy season vs. dry season).

Women in the Kongoussi zone village McSweeney studied spent only six minutes per day gathering wood because they use donkey carts. (McSweeney 1980a: S127). Women of another Kongoussi zone village collected wood from two to four times a week (Henderson 1980: 123). Ernst (1977) studied women's fuel collection in another

Table 12

Comparison of time spent in various activities by Fulani Men and Women*.

	WOMEN		MEN	
	Hours Reported	% of time spent by	Hours Reported	% of time spent by
Agricultural production	2792.7	28%	4160.0	50%
Household production	2796.1	28%	40.8	1%
Local manufacturing	530.9	5%	99.8	1%
Commerce	205.7	2%	813.7	10%
Visiting & Traveling	3334.5	33%	2920.7	35%
Illness	367.8	4%	268.7	3%
Total	10,027.7	100%	8303.7	100%

Source: Derived from Delgado 1978b

Table 13

Southern Fulani Activities, % of time spent on each activity*.

<u>Activities</u>	<u>Men</u>	<u>Women</u>
I. Agricultural Production		
A. Crop production	78%	22%
B. Animal production	56%	44%
II. Household Production		
A. Providing water	2%	98%
B. Fetching wood	7%	93%
C. Food preparation	0%	100%
D. Domestic chores	1%	99%
III. Local Manufacturing		
	16%	84%
IV. Commerce		
	80%	20%
V. Domestic Life		
Visiting relatives, neighbors and traveling.	47%	53%
VI. Time lost due to illness	42%	58%

Source: Derived from Delgado 1978b

Kongoussi zone village. Millet stalks were the major source of fuel from November to May. Beginning in late April or May, women began using wood as fuel. Trips are made daily or twice daily to gather fire wood for daily use and to build up a stock for the rainy season. The weight of a bundle varied from 10 to 50 kilograms averaging 27 kg. The bundles contained 24 varieties of trees and shrubs.

Women preferred to use millet stalks instead of wood, since they did not have to be collected, broken or chopped. They are also easily bundled and can be gathered by children. Presumably, use of millet stalks for fuel deprives the environment of a more easily biodegradable fertilizer.

The women studied by Ernst (1977) had to walk for an hour before they reached the collection area. About 2.5 hours were spent cutting the wood, or collecting fallen wood and forming it into bundles. Green wood is easier to collect, but needs to be dried. Women did not share the wood they collected, nor the work of collecting it, not even with their co-wives. Presumably, women relieve each other of the task of collecting when they cook meals with their own gathered wood. In this village, only women gathered wood. This is in contrast to the southeastern village studied by Delgado (1978a: 85-96), where Bissa men help their wives with this task during the rainy season.

In addition, in a nearby village which was predominantly Christian, the men and boys of a household chop large branches and make them into bundles. Women collect fallen wood and men transport the bundled wood with a donkey. Occasionally men will buy wood (Ernst: 1977).

In the southeastern village studied by Delgado (1978a: 85-96), seasonal variation in household production occurs as a result of the demand for women's labor in agricultural production (see Table A lowered level of domestic activity is especially associated with the compression into a single time frame of the following activities: the weeding of the major crops -- sorghum and millet (second time), cowpea planting, the weeding and transplanting of rice, the third weeding and ridging of cereals, the weeding of root crops, cotton, tobacco and vegetables and, finally, the maize and sorghum harvest (see Table 7: Fortnights 4 - 10 for labor hours expended).

During this period of heavy demand, small children, left free to crawl in the compound at other times, are strapped to their mother's back as they weed (Delgado 1978a: 106). Water from in-village wells and stockpiled wood are used to save time (Delgado 1978a: 105). Mossi and Bissa women rapidly prepare meals using millet ground with a mill instead of pounded with mortar and pestle (Delgado 1978a: 106).

Bissa men respond to women's household work load problems during the wet season by helping out (see Table 6). Whereas household activities are almost exclusively female among the Mossi, Bissa males expend slightly over one-quarter of all labor hours (wet season = 27%; dry season = 26%) fetching wood and perform a significant amount of other domestic work during the dry season (69% of total labor hours). In contrast, Mossi males fetch wood 19% of all labor hours in the wet season and 18% in the dry season. Mossi boys (aged 8-14) perform 8% of 'other' domestic activities in the dry season.

The Bissa division of labor for household production challenges set ideas about the exclusive performance of household tasks by females and suggests areas in which changes in the allocation of labor can be attempted (Delgado 1978a: 85-96).

In the Kongoussi zone village studied by Henderson (1980: 128, 130), Fulani women gather wood two to four times each week, taking approximately one hour. 79.1% collected water two to three times per week. Often children, especially girls, perform this chore. Some women gather wild fruit and leaves at the same time. Girls under fifteen years help with cooking and cleaning and care for children over three years of age (Delgado 1979a).

5.4 Local Manufacturing

Women in horticultural, semi-sedentary and pastoralist groups spin cotton into thread. In a central area village, 83.8% of Fulani women spin, especially during times of low milk production. These women obtain cotton from their husband, by purchase, or through barter for milk (Henderson 1980:125). Tenkodogo women spin the cotton from their own fields. In all, Fulani women spend 5% of their time in local manufacturing (see Table 12).

In a Southeastern village, the spinning of cotton is the almost exclusive activity of Mossi females during the dry season (90% of total labor hours) and a minority activity (39% of total labor) during the wet season. Mossi women also perform 26% of construction labor during the dry season (see Table 5) (Delgado 1978a: 85-96). Bissa women spend 90% of all labor hours allocated to pottery. They also dominate cotton spinning in the wet season (100%). Bissa men spin 65% of all cotton in the dry season, perhaps compensating for other women's manufacturing labor (see Table 6) (Delgado 1978a: 85-96).

5.5 Marketing and Commerce

The sale of agricultural produce and processed foods is the major source of cash income for horticulturalist women. This cash is particularly critical as women are expected to pay for sauce ingredients, kitchen utensils and medicines (Barnes et al: 1979; Henderson 1980:132). Table 14 details uses of income from produce

Table 14

What Do You Usually Buy with the Money Earned from the Sale of Agricultural Products? Percent

	Mossi N=34	Fulani N=24	Rimaibe N=11	Other N=2	Total N=71	X ²	p<	Cramer's V
Condiments	17.1	0.0	9.1	0.0	23.9	19.49	.0002	.523
Clothing	14.1	0.0	27.3	50.0	26.8	14.54	.0022	.452
Cloth	5.9	0.0	0.0	0.0	2.8		N.S.	
Jewelry	11.8	0.0	26.4	0.0	11.3	10.23	.0166	.379
Milk	61.8	0.0	9.1	50.0	32.4	27.90	.000	.626
Given to husband	2.9	0.0	0.0	0.0	1.1		N.S.	
Tobacco	14.1	0.0	9.1	0.0	22.5	17.77	.0005	.500
Kola	52.9	0.0	18.2	50.0	29.6	20.07	.0002	.531
Animals	11.8	0.0	9.1	0.0	7.0		N.S.	
Other (pots, calabashes etc)	14.7	0.0	0.0	50.0	8.5	9.41	.0243	.364

Source: Henderson 1980: 132

sales by women of various ethnic groups. Significantly, 61.8% (n = 34) of Mossi women and 36.4% (n = 11) of Rimalbe women in Koukoundi purchase milk with such income (Henderson 1980: 132).

In a Southeastern village studied, Mossi women were highly involved in commerce throughout the year (wet season, 76% of all labor; dry season, 75% of all labor). In contrast, Bissa women are not as active in commerce (wet season, 29%; dry season, 30% (Delgado 1978a: 85-96).

Tenkodogo Fulani women contribute 20% of the time the household spends in commercial activities (Table 13); this accounts for 2% of total female work hours (Table 12) (Delgado 1978b). The preparation and sale of dairy products are exclusively female concerns. The season for these activities is between June and December when there is enough surplus production so that milk is available for consumption. The milk yield from December until May is often so low that the herders leave all the milk to the calves at this time. During the peak dairy season, Fulani women are fully occupied in milking, preparing cultured milk and butter, and selling produce in the local market (Delgado 1978b:27). Tenkodogo women realize 6% of average household cash income from livestock. This relatively low proportion is likely the result of an extremely low per animal yield of milk. (Surplus milk is significantly less than one liter per nursing cow per day in the best of times (Delgado 1979).

Koukoundi women may hope to milk 1½ liters per lactating cow per milking (morning and evening) during the rainy season. In December-January (early dry season) milk production drops to one liter from three cows together, milking only once in the morning (Henderson 1980). Typically, 6 liters of milk will be sold, with the remainder for use in a "small" family of six. (Henderson 1980: 123).

Women may milk a husband's and children's cows. A portion of earnings from a daughter's cow may be set aside for her. A liter of milk sells for 85 CFA (35-40c U.S.). Income from the sale of milk products may be used to purchase jewelry, condiments, cloth, millet. Thirty-three percent (n =24) of Fulani women use such income to finance animal purchases (Henderson 1980).

On the average, three hours (7-10a.m.) a day are spent traveling from concession to concession to sell milk. Sometimes it may take until late afternoon (Henderson 1980).

A small number of Fulani women sell millet cakes, fritters, shea butter and millet flour balls (fourah). Koukoundi women use craft income to buy jewelry, kola, tobacco, condiments, animals, millet, agricultural produce (Henderson 1980:129).

5.6 Domestic Life

Central plateau women participate in village communication networks which are associated with a pattern of economic linkage through trade of services, if not mutual labor sharing between ethnic groups. The strength of these essentially social and economic bonds varies by ethnic group (Henderson 1980: 111).

Mossi animist women form tightly knit patrilineally related groups, especially within compounds and between neighboring concessions. The "Paquiema," head of the lineage wives, can organize collective activities. The Paquiema does not act without the authorization of patrilineage males, yet her influence is considerable (Henderson 1980: 111; Skinner: 1964).

Mossi Muslim women force an inter-patrilineage network united by common religious activities. In Koukoundi, these women present a model of how women of different kin groups can be united by a common focus (Henderson 1980: 111).

Rimalbe women freely cooperate with each other and have ties with both Mossi and Fulani women. They interact daily on a friendly basis with Fulani women, pounding millet together for example. The neighborhood network of the Rimalbe women overlaps with that of the Fulani patrilineage segments, but also includes somewhat more interaction with Mossi women (Henderson 1980: 111).

Semi-sedentary Fulani women of the Central Plateau spend many non-working hours visiting with neighbors and relatives and in traveling. Visiting is the major mode of information exchange and traveling an important means of education. Southeastern village women reported spending thirty-five percent of their time visiting and traveling (Delgado 1978a). In Delgado's (1978a) community time study, 49 hours were spent meeting with neighbors, 2,573 hours visiting relatives and 279 hours traveling (see Table 12). Kongoussi zone Fulani women of one village engage in much kin-based interaction, with frequent visiting, especially to the compounds of parents (Henderson 1980: 110-111).

5.7 Health - Under preparation

5.8 Education - Under preparation

5.9 Religion - Under preparation

6.0 The Western Region

6.1 Geographic Setting

The Western region contains the Black Volta, Sud-Ouest and Haut Bassine O.R.D.'s, whose corresponding administrative districts are Dedougou, Gaoua and Bobo-Dioulasso, respectively. These O.R.D.'s are crossed by both the North Sudanian zone, with well-timbered forests and the south Sudanian zone, characterized by both clear and dense woodlands. Soils of this region are very fertile. Black Volta River valleys and vast areas of the Haut-Bassine contain hydro-morphic soils with mineral deposits. The Sud-Ouest has eutrophic tropical soil deposited by rivers. Crops grown upon these lands receive upper Volta's most substantial levels of rainfall, including from 500mm to 700 mm annually in the area of Bobo-Dioulasso and Tenakourou (Peron and Zalacain 1975).

Settlement of Western region river lands was impeded until the establishment of international onchocerciasis control programs. In comparison to the Mossi plateau, this region is sparsely populated. Black Volta O.R.D. population density is 20/km², the Sud-Ouest ranges from 30 km² in the North to 20 km² in the South, and the Haut-Bassine, site of Bobo-Dioulasso has a rural density of 20 km² (Peron and Zalacain 1975).

Traditional river valley agriculture uses approximately 25% of land area for the following crops: white sorghum, petit millet, yams, sesame, fonio, peanuts, voandzu and tobacco. Commercial agriculture accounts for fifty percent of all Voltaic cash crops, despite the low population levels. A majority of the cotton crops, a principal plant export, is grown in the west. Irrigation is used to grow rice south of Bobo-Dioulasso and NW of Dedougou: sugar cane is grown near Tiefore. Livestock raising is at reduced levels in this region due to disease problems. Cattle density is 7/km² and small ruminants number 10/km². Small fisherman's camps are located along the Black Volta (Peron and Zalacain 1975) (Goody 1966: 4) (U.S.A.I.D. 1980: 2).

Major ethnic groups are as follows:

Black Volta O.R.D.: Marka-Dafine, Fulani, Rimalbe, Bobo-Oule, Bwa

Sud-Ouest: Lobi, Dagara, Burifor, Dorosya, Vigue

Haut-Bassine: Bobo, Bobo-Oule, Dioula (5%), Gouin (26%) Gourounsi, Karaboro (18%), Sambla, Samoghe, Sinoufo (20%), Syemora, Turka (17%), Tussian, Tyefo. (Peron & Zalacain 1975) (Gissou 1976: 7).

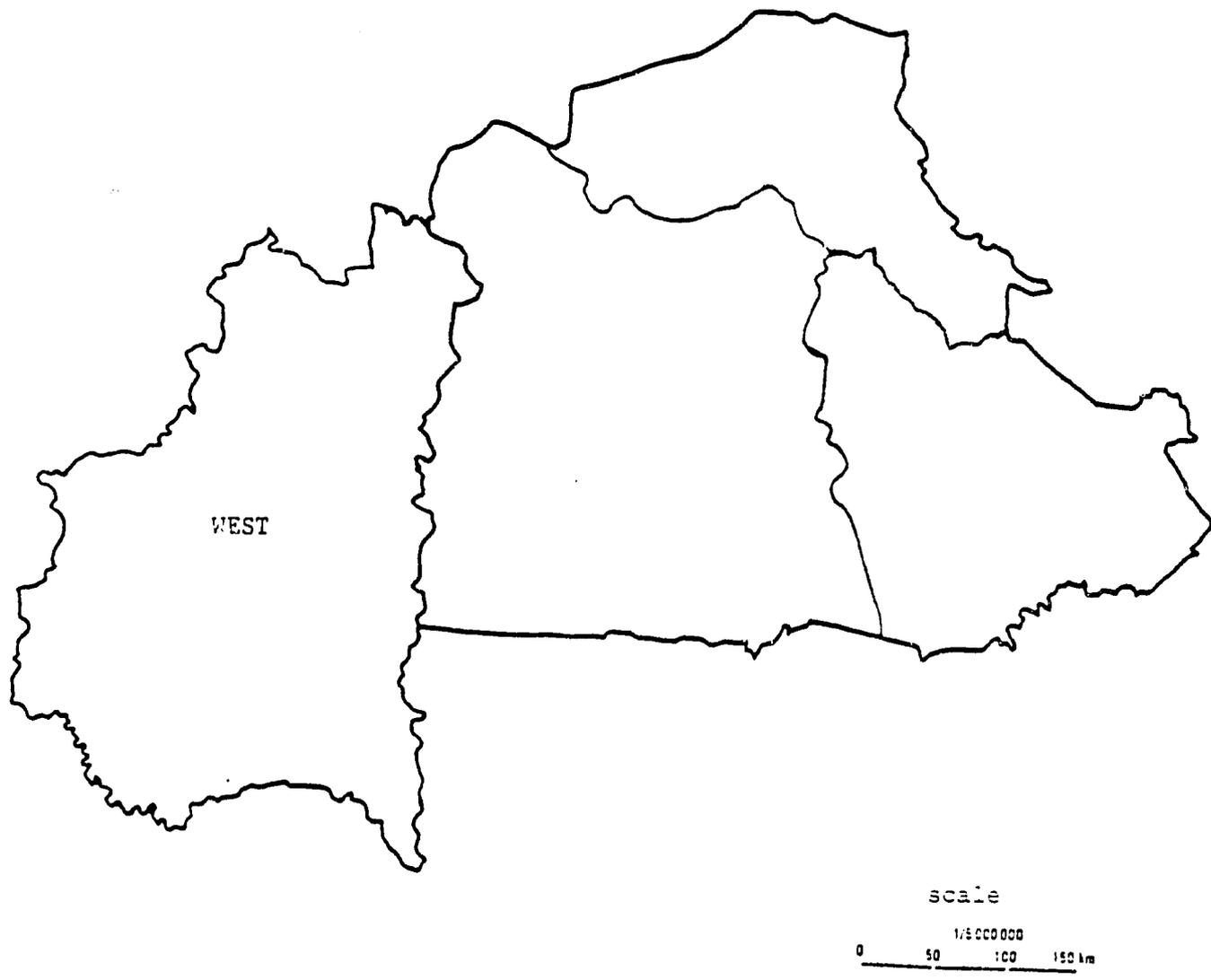


Figure 8. Western Region

6.2 Agricultural Production

6.2.1 Crop Production

The range of women's agricultural participation varies in Western region matrilineal groups. Women in the Banfora region sow and weed, while only Bobo and Sénoufou females harvest. Gouin and Turka women do all rice tasks. Lowilli women sow seeds and, in smaller families, may weed. They have the right to plant gardens among maize and guinea corn in plots close to the household, the most fertile land type. Typical Lowilli crops include late millet, groundnuts, yams, fanfara potatoes, bambara beans, sweet potatoes, rice and bean types. Lowilli women fertilize crops with guinea corn beer waste, heads left over after removal of millet or maize and room sweepings (Gissou 1976:16) (Goody 1966: 23,33).

Dagara women take part in groundnut clearing, sowing, weeding and harvesting, with the assistance of their female children. They must consult with their husbands on farming decisions, such as choice of a new crop. Typically, Dagara women own two granaries for storage of peanuts, beans and millet (Barnes et. al. 1979: 61-62) (Goody 1966:) (Gissou 1976: 6).

The Lobi only involve women in the sowing of crops. Among the Bobo-Oule, female sowing of crops is considered to have a supernatural benefit for land fertility. Bobo-Oule women can directly request land without the intervention of her husband. However, these women need permission from their husbands to sell cereal crops and give personal income from the sale of peanuts, beans, rice, sesame and groundnuts to their husbands (Barnes et. al. 1979: 61) (Gissou 1976: 14).

Marka-Dafine women solely grow okra, for sauce (Barnes et. al. 1979: 62).

Gissou provisionally estimates that women's personal fields range from one quarter to one and one-half hectares, while income attained is from 1,000 CFA to 13,500 CFA (Gissou 1976: 15).

6.2.2 Livestock Production

Marka-Dafine women of the Sud-Ouest O.R.D. realize significant income from the ownership of small ruminants (sheep and goats) as well as poultry. This income enables them to purchase food for the household sauce and compensates for a lack of agricultural produce income. Dagara women care for their husband's sheep, goats, pigs and poultry (Barnes et. al. 1979:63).

6.3 Household Production

All Western region women prepare family meals (Gissou 1976:22).

The time demands and content of women's household activities have not been extensively studied. Available information on the Lowilli indicates that basic meals prepared by women consist of guinea corn porridge (saab) with sauce. Provision of vegetables and condiments are the responsibility of the women, except when she provides food for invitational worker groups organized by a son-in-law (Goody 1966:33).

The senior wife of a Lowilli household controls the granary. Young boys or girls are sent to the granary to fetch an appropriate number of baskets with millet or guinea corn. Then the senior wife arranges for this grain to be threshed. After this distribution, a woman is expected to use grain from her own resources, including pabotfi (woman's guinea corn) and the heads of millet which are not expected to keep, provided by the husband at the harvest. Women rarely have a personal granary) (Goody 1966:33,46).

6.4 Local Manufacturing

Western region women and males are involved in the production of pottery, mats and blankets. Male work is usually valued more highly than that of women (Gissou 1976:20). A few Lowilli women become part-time pottery specialists. Shrines may be dedicated to women who make exceptional wares (Goody 1966:28).

Women spin thread and men weave and dye it (Gissou 1976:20). Dieboucou O.R.D. women are noted for their sewing (U.S.A.I.D. 1976: 19).

6.5 Marketing and Commerce

In 1976, Western region women typically required 5.25 CFA for a small measure of produce or cooked items offered by the gourdsful, scoop or in bowls or bottles. Produce sold in weights of 50-500 grams averaged 25-50 CFA in price. Gissou (1976:21,22) estimates women's annual marketing income at 14,250 CFA.

Lowilli wives earn income by brewing beer, selling processed foods, trading agricultural products and making pots. They begin by borrowing money from their husband for the purchase of grain to resell or make beer. Profits realized can be used to acquire a grinding stone, pots, gourds and baskets. A woman is liable to her husband for the original debt in the event of divorce (Goody 1966: 9, 28).

6.6 Domestic Life

Information under preparation.

6.7 Health

No information was found

6.8 Education

Marka-Dafine women must pay their daughters' school fees (Barnes et. al. 1979:64).

6.9 Religion

Information under preparation.

7.0 Urban Centers

(In Preparation)

8.0 Upper Volta Women's Development Projects

8.1 The logic of Women's Technological Interventions

The major on-going project in Upper Volta is the UNESCO "Project for Equal Access to Education for Women and Girls" (also see Sections 8.2 and 8.4). This project is based in the Central and South-Central areas of Kongoussi and Po as well as Banfora in the Western section. Its basic principle is that labor-saving technologies will provide more time for women to engage in educational and health-related activities (Barnes et al 1979:9).

The logic of specific women's technological interventions is as follows: in 'level one' villages women have to spend considerable time porting water and lack the ability to support activities utilizing water (collective poultry raising, etc.) as well as time for income producing activities. Wells are the intervention.

In 'level two' villages, there is a year-round water supply, but local marketing problems and/or cultural orientations limit women's activities. Interventions will focus on production of goods and services to generate women's income. Finally, in 'level three' villages women have cash incomes, but still spend vast amounts of time on food processing. Mills will be introduced to grind grain (for estimates of time spent grinding grain see Sections 2.3 and 5.3). This is considered to be the only village level capable of supporting a mill through personal income (Barnes et al 1979:29).

Other project interventions include: introduction of stores and pharmacies to level 2 (basic necessities only) and level 3 villages, donkey carts for villages with sufficient water supplies (levels 2 and 3), collective poultry-raising projects, gardening projects (levels 2 and 3), collective peanut and soy fields (in areas of sufficient rainfall), peanut decorticators (any village, if appropriate), and sewing machines (Barnes et al 1979: 29-30). Table 15 details women's reactions to some of these interventions.

These project interventions are uniquely adaptable to fit the time constraints women face in specific villages and offer a promising approach for developers in many Sahelian countries.

- The rest of this section is in preparation.

8.2 Sahel Region

Until the Sahelian famine, the impoverished women of the Sahel were unnoticed (U.S.A.I.D.: 1979). Then, in 1976, the Ministry of Social Welfare's Project for Equal Access for Women and Girls to Education was introduced and funded by multiple international donors (see U.S.A.I.D. 1979:2). Concentrating on Dori and Sebba, this program seeks to introduce village extension agents, female village paraprofessionals and appropriate interventions.

Table 15

EXPRESSION OF INTEREST BY WOMEN OF THE KONGOUSSI ZONE
IN TECHNOLOGIES NOT CURRENTLY AT THEIR DISPOSAL

Technology	Number of Women Expressing Interest in the Technology	
	Project Village: Zimtenza	Control Village: Bayend-Foulgo
Cart	21	22
Mill	11	14
Well	14	6
Plow	12	9
Irrigation Pump	8	
Large Enamel Basins		2
Aluminum cooking pots		1

Source: McSweeney 1979b:199)

The ultimate purpose of establishing these village liaisons is education. After two years, villages which express an interest will be eligible for literacy training. Midwife training for two women will also be started if women express an interest. Finally, radio listening groups will be established (see Section 8.4 for more information on radio listening groups) (U.S.A.I.D. 1979:12).

Technological interventions suited to specific village needs will be introduced to free time for education and improve life-style. Extension services and credit for inputs will be extended to women who tend collective fields. In one case, Gourmantché women were offered a GOUV subsidized price for soybeans one year, then when prices changed, peanuts were subsidized (U.S.A.I.D. 1979:21).

A CIDR onion-growing and marketing project was successfully introduced in Gorom-Gorom (U.S.A.I.D. 1979:21). New plans call for introduction of small-animal raising projects for women, where each woman would contribute a sheep or goat and share the work of raising them with improved management. No research on how females care for their own small livestock in the Sahel is presently available. Information is needed on how cooperation in a voluntary project would be affected by women's time constraints and domestic duties. It is possible that women are better able to care for small numbers of such animals rather than a collective herd of some size, as women typically work close to the household, where containment of animals may be necessary. Cooperative chicken projects being introduced would not be subject to this problem.

One major craft intervention is the establishment of stores to provide for wider marketing distribution (U.S.A.I.D. 1979:22). Many Sahel women find it difficult to purchase such items as aspirin and flashlight batteries (U.S.A.I.D. 1979:22). It is anticipated that problems could arise with group-managed stores, as women are not familiar with accounting and bulk orders (U.S.A.I.D. 1979:23). Plans call for starting women off with purchase of one bulk commodity with retail sales, rather than a full-fledged store (Ibid:1979:23) Insofar as this resembles local marketing behavior on a larger scale, this activity will probably not require great additional adjustment on the part of women.

Standard national project interventions (donkey carts, mills, wells) will be introduced to this area (see Section 8.1 for a description of the logic of these interventions). Loans will be arranged for donkey carts and donkey owners will be paid rental costs, since one individual will be able to care for it (Ibid. 1979:23). Research needs to be done on local water, fuel and crop transportation needs to establish ne for this intervention.

Mills will save women time. Women in villages around Dori are willing to walk up to eight miles to grind grain (see Section 2.3 for more information on hand processing) (U.S.A.I.D. 1979: 23). Donkey-powered mills and/or hand-powered mills may be a possibility in this area. (U.S.A.I.D. 1979:24).

Male and female extension agents are being trained to focus on village needs through the expansion of female crafts and a focus on household needs (millet-pounding, fuel, water, etc.) Extension agents are expected to introduce new concepts and technology, such as village health kits or stores and will receive training in the motivation and organization of villagers.

It is specified that a majority of agents should be female and that all should be Sahelian, or environmentally integrated non-Sahelians (U.S.A.I.D. 1979: 9-10). No information is available on how Sahel population constraints have affected achievement of this recruitment goal. Moderately educated females are scarce in the Sahel.

It is possible that primarily males have been recruited. The project description emphasizes that male extension agents can contribute benefits for husbands and village elders, thereby ensuring their consent to a Women in Development program (U.S.A.I.D. 1979:10). It also states that men can work directly with women to improve gardening methods and other skills (U.S.A.I.D. 1979:10). It is possible that such a high evaluation of the potential of male extension agents is in conflict with the goal of hiring women, who are apparently not considered to have any special assets. Two female village paraprofessionals are to be trained in each of the target communities.

Initially, extension agents are scheduled to form village decision-making committees composed of traditional and natural leaders of both sexes (U.S.A.I.D. 1979:11). Then, two women from this committee will be chosen to serve as paraprofessionals and sent on two-three week training sessions per year. GOUV policy specifies that these women should be paid in status rather than income. Their duties are to motivate women's participation in farming and educational projects as well as to facilitate repayment of loans. It is considered to be alright to recompense a female village paraprofessional with resources such as goat or sheep gifts or to help her with her private garden (U.S.A.I.D. 1979:12).

An initial problem with the female paraprofessional project stems from sexually integrated village committees. There is no evidence that any of the groups in this region practice joint male-female village-level decision-making. It may be difficult to persuade village males to accept this structure or it may be put together in name only rather than as a functioning unit. It is also possible that female paraprofessionals will be undercompensated for critical time lost from their own personal needs and income. This could cause some females to leave the program or work less.

CIDR dropped one Tuareg-Bella village from its pharmacy program because the Tuareg chief, rather than the village committee, ran things (U.S.A.I.D. 1979: III-8). In Save the Children Project villages, it was not clear as to whether committees continued to take an active role after a project is started. It appears that little gets done when animatrices are not at the village (U.S.A.I.D. 1979:III-8).

Currently, there are only 41 villages out of 166 with adequate wells in the Dori area (U.S.A.I.D. 1979:25).

Village health kits and childhood nutrition education will be introduced. A PP team visit to a children's nutrition rehabilitation center in Gorom-Gorom was receiving few visits from mothers and their children. Women with children at home left early and the same clientele tended to return. Low numbers seen raised case costs (U.S.A.I.D. 1979:25).

8.3 Eastern Region

Case studies of Eastern villages have indicated a need to redesign programs (Hemmings 1979:29). Sex-segregated farming cooperatives which have excluded women often excluded most village men as well because of incompatibility with their life-style (Hemmings 1979:2). In one Catholic Relief Service irrigation project, a limited number of irrigation parcels were exclusively made available to those who worked on the site. Insofar as project directors felt that heavy construction work was only suitable for young men, both older males and females were excluded (Hemmings 1979: 28). Parcel owners now sell rice, onions and seasonal vegetables on the international and local market circuits, areas of trade that women have been unable to penetrate (Hemmings 1979:28).

Additional problems with sexually segregated cooperatives are socio-cultural. Among the Gourmantché, men and women collaborate in all aspects of agricultural work, despite a division of labor based on sex and age. Men and women of each household unit perform separate tasks in a coordinated manner. Male only cooperatives are inefficient because men are not aided by their wives (Hemmings 1979: 12, 16). In addition, Hemmings (1979:17) states that all male cooperatives tend to suppress the formation of women's cooperatives.

The organization of Eastern region cooperatives emphasizes volunteerism. Work schedules and time input of members may vary, although profits are distributed to all. This approach bypasses traditional norms of cooperation and villagers consider voluntary participation too risky, as they are not sure that other members will cooperate. As a result, projects appeal mainly to the young or marginal (Hemmings 1979:18). In addition, the programs that focus on producing cash crops and millet reserves attract those seeking quick cash or credit rather than individuals willing to make a long-term commitment.

Agricultural technology introduced through this program has not benefited women. Imported tools are often unsuited to local conditions and hard to repair (Hemmings 1979:23). Research is needed to establish what farm and domestic tools would benefit Eastern women. Hemmings (1979:24) suggests that technology requiring less specialized training would be the most accessible for women.

Current development programs for women are partially financed through revolving credit. Small cash-flow village economics can be easily disturbed by the introduction of large amounts of credit. Fluctuation in the price of livestock or tools as well as credit can place farmers more in debt than they bargained for. Would-be borrowers are unable to secure loans (Hemmings 1979:24). This is especially unfortunate for women, as they have to provide for themselves and their children on their limited personal income. This policy has the effect of making men and women dependent on outsiders who may inadvertently take money out of the community through inflation (see Section 4.5 for more information on rural inflation) (Hemmings 1979:13).

U.S.A.I.D. (1979:III-9) reports that Eastern region women who farm collective fields usually divide the profits individually. This presents a problem for further group investment.

Extension aids working with Eastern ORD women report that, in most successful projects, older women with savvy and clout facilitated the effort because they have the respect of other women.

One promising solution to this dilemma is reconstructive villager technology. Local raw materials from village lands carry no price tag and are readily available and accessible (Hemmings 1979:14). Instructional and medical buildings of local materials, training of local craftsmen or women in tool manufacture and credit based on local resources could brighten the Eastern region outlook (Hemmings 1979: 14).

Women of this region consider the development of personal resources and income crucial (Hemmings 1979:9). Accessible technology to filter local water and reduce time spent on domestic tasks, by improving women and children's health and freeing time for income activities could assist Eastern women in their development effort.

8.4 Central Region

The program for the Equal Access of Women and Girls to Education project seeks to reduce women's work loads raise standards of living and alleviate health problems so that women will have time for literacy, agricultural, health and civic education (McSweeney and Freeman 1980: S124-S125). The introduction of labor-saving technologies such as mills, wells and donkey carts is underway to reduce women's work in household production (for a description of the logic of these technologies see Section 8.1. Also see Section 5.3 for a description of women's household work load in this region). (McSweeney and Freeman 1980: S124). Income from women's collective fields is expected to at least partly repay credit extended to women (McSweeney and Freeman 1980:S125.)

In an evaluation of this project, women's time use was monitored to establish how project technologies were affecting female work loads (see Sections 5.2.2 through 5.3 for descriptions and data on how women of the Central area spend their time). For example, millet-pounding is the most time-consuming food processing activity undertaken by women, averaging 1 3/4 hours per day (McSweeney and Freeman 1980: S129). Introduction of a mechanical mill did not result in a reduction of time spent for all women. A majority of 'mini-sample' women (n = 5) whose time budgets were taken, used the mill regularly, for reasons of convenience, time gain, and to reduce suffering. However, lack of money prevented these women's regular mill usage and kept some women permanently away (McSweeney and Freeman 1980: S129).

In the Kongoussi zone village where this sample was taken, women had to walk up to 4 miles to retrieve jugs of swamp water. Rainy season runoff was collected in compound pits. June-December water portage took an average of 40 minutes and would take more time as the dry season progressed and the village cement well dried up from over-usage. Village wells were to introduce more potable water and reduce time, and actually yielded water 1 to 7 or 8 months a year. Data is not available on how this affected time spent and would have to be compared to control villages without wells. However, one Voltaic village woman pointed out the importance of this technology by stating, "Water has its priority, especially in our surroundings. Lack of money and food come after the need for water. Water is the first element of life." (McSweeney and Freeman 1980: S129-130).

Fuel portage takes an average of six minutes of a woman's time each day. Data from comparable Kongoussi zone villages indicates that without the donkey carts brought to this village women take at least a half hour to hours to gather wood (see Section 5.3 for more information). The reduction of time spent on fuel portage in this village is a phenomenal success. One-half of the women used the time they saved for other household activities, such as water portage. One quarter spun cotton for extra income. Two women rested (McSweeney and Freeman 1980: S130).

Labor-saving technologies do not necessarily reduce women's work load. There is a tendency for women to compensate for time gained by increasing their household services. One Voltaic woman states, "The women of Magniassin have understood that Unity is Strength. They now have their collective field. And they now have their millet mill so that when we come late from the fields, we can now eat. And even the bachelors no longer have to beg the women to grind their flour." (McSweeney and Freeman 1980: S130-S131). The mills enable women to provide meals that would otherwise not be prepared due to time constraints. As a result, a woman may actually spend 1-2 hours longer cooking! (McSweeney and Freeman 1980: S131).

Wells are also used to extend services. Increased water proximity extends time spent on personal hygiene or laundry (McSweeney and Freeman 1980: S131). It also permits water filtering. Nineteen

women in the project village sample filter water in the dry season while sixteen do so in the wet season. Older women did not filter water (McSweeney 1980: 131). Training level and listening to Project radio programs was positively associated with water filtering (McSweeney 1980:131).

Project technologies increased the quality and level of services offered by women. So far, they have not resulted in a decrease in household work time (McSweeney 1980:131).

However, the quality of life and health of villagers have been favorably affected and social change is still occurring. The introduction of donkey carts may shift some female tasks, such as wood portage to men (McSweeney and Freeman: S131).

Project interventions have been successful in ways that were not completely intended. As villages develop income resources, additional interventions may finally compress women's time spent on agricultural and household activities to reasonable amounts.

- Information on Educational Programs and other projects under preparation.

8.5 Western Region

At present, insufficient information is available to describe Western region projects in any detail. U.S.A.I.D. (n.d.) reports that a UNDP crafts expert was sent to evaluate women's production of pottery and textiles. Specific clay mixtures or adapted waist looms may be introduced via micro-projects.

The 'Equal Access to Education' program (see Sections 8.1 and 8.4) is established in the Banfora area.

Because of the higher rates of rainfall and better soil fertility of this area, women's agricultural technology will have to be specifically designed for this area. No information is available on local plants, types of gardening tools, or domestic items.

8.6 AVV Projects

The AVV resettlement program has had mixed benefits for women which may vary from village to village. The policy of distributing land solely to the male head of the household has variably affected women's personal income. In the Central region projects studied by McMillan (1980), women successfully countered project design. First year AVV participants raised small plots of peanuts, ground peas and okra in household fields (4% of total area cultivated) (McMillan 1980: 32). In the second year, fields given to male household heads, which AVV policy specified for usage in growing cowpeas, peanuts and cotton, tended to be subdivided into plots for women and children. As a result 98% of the cowpea and groundnut yield came from women's fields. By the fourth and fifth years, many

women had started illegal plots of sorghum in bush close to the village. These fields did not receive the mechanized preparation given to regular AVV fields and attained a much lower yield. At this time, some wives received rights to farm specific household field portions (McMillan 1980: 32). However, despite women's efforts to gain land, a decline in the importance of women's private fields has occurred (women raised 50% of all AVV cereal crops vs. 16% in Kaya area villages). (McMillan 1980:32).

Women in Western region AVV projects have not fared as well. Many women entering these projects had had private fields ranging from 0.25 to 1.50 hectares in their traditional villages, with the exception of Dagbara women. Women lost this income by becoming AVV members (Gissou cited in Conti 1979: 37). In one study, SAED (cited in Conti 1979: 87-88) established that only one group of AVV women had gained personal plots and that their grain was being used as a reserve.

Central region AVV women can substitute cash and inter-household gifts they receive for income lost from traditional private fields. Each AVV wife makes 5,000-7,000 CFA on the average. Some make up to 20,000-30,000 CFA. All wives tend to be given a small portion of the cotton crop. In addition, interhousehold gift exchanges can result in women's receipt of such items as 10-20 ears of corn. Such gifts enable wives to acquire an amount of grain comparable to women's reserve stores in traditional villages (McMillan 1980: 32-34). McMillan's (1980:34) data indicate that AVV agricultural produce and animal sales result in higher revenues than those of traditional villages, yet it is not clear as to who benefits from this. It is possible that gifts made and responsibilities taken over by household heads redistribute some of these profits back to women.

In contrast, women in AVV settlements studied by Gissou (cited in Conti 1979: 87-89) indicate that they have lost economic independence and work even harder. AVV women's work days average 15 hours, from 5:00 am to 3:00 pm. In the dry season, AVV women have to fetch water four times a day for family and livestock. In the dry season this drops to twice a day and time constraints cause use of pond water. At two AVV settlements, distances to water are 16 to 32 kilometers in the dry season and 8 to 16 kilometers in the rainy season.

Forty-two percent (n = 86) of the AVV women interviewed by Gissou (cited in Conti 1979: 89) tried to remain economically active, yet their marketing activity only occurred once a month as compared to once a week in the traditional village setting. Twenty-nine percent still spun cotton, others responded that they lacked time. Gissou (cited in Conti 1979: 89) estimates that marketing activities of AVV women have been reduced 50%.

AVV women did receive some gifts bought with money from communal cash crops, such as dresses and jewelry and underwear on feast days. In addition, male heads of households like to endow second and third wives with sacrifices (S.A.E.D. cited in Conti 1979: 90).

Settlement women interviewed by Gissou (cited in Conti 1979: 88) are usually excluded from credit projects except in cases where a 'nice' husband obtains credit for them to initiate traditionally female commercial activities.

Women of the AVV settlements studied by Gissou (cited in Conti 1979: 89-90) have become increasingly economically dependent on their husbands. This has resulted in poorer childhood nutrition as women are expected to provide food. Some women also have to give up participating in group ceremonies as they can no longer afford to exchange gifts and have lost ties with their extended families.

How do women maintain their economic independence in AVV settlement projects? Certainly, the policy of only allotting land to males has placed women at a disadvantage, yet there appears to be clear differences between specific AVV settlements in the amount of time allotted to women's economic activities. Perhaps it is the cultural orientation towards women's work in the villages from which women originated. Many Western region women play a secondary role in agriculture (see Section 6.2.2). Or could it be the specific work load awaiting women in the AVV settlement at which they arrive? AVV women studied by Gissou (cited in Conti 1979: 88) said that they had no available time and lacked interest. McMillan (1980) does not present information on the labor load in the AVV settlements she studied.

Research is needed to establish how cultural and work load differences affect AVV women's ability to participate in independent economic activities. The personal income critical to fulfilling women's responsibilities to self and children is at stake.

8.7 Conclusions

Conclusions will be presented in the Second Draft.

<u>FOOD GATHERED BY MOSSI WOMEN</u>		
<u>PORTION</u>	<u>PLANT</u>	<u>USE</u>
seeds	grass - kalaniango (<i>Elinnorus elegans</i>)	famine food
fruits	mobogo fruit (<i>Poupartia birrea</i>)	inner fruit - boiled for flavoring - stored
	scrub acacia	bulk in sauce preparation
	SHEA NUT (June-December)	meat eaten immediately fermented for cooking oil and vegetable sauces
	tamarid (February-May)	fruit pulp from long brown pods rolled into balls and sold, stored or eaten
	jujubier (February) (<i>Zizyphus jujuba</i>)	pounded, dried and eaten
	fig	eaten raw
	liana	sour juice added to water in drinking/cooking
	*other fruits	fresh or dry use in sauce (twega ziedo)
leaves	baoba (June-October)	famine food
	nyadiga (<i>Vitex cueata</i>) small tree	famine food
	uda (<i>Dactylonum egyptum</i>) wild grass	famine food
	Koussouga (<i>Seteria pallidifusca</i>) stalky weed	famine food
bark	Baoba	fibers (roots) to make cord
roots	Kidba plant (<i>Stylochitron hydrogaeus</i>)	famine food
bulb	Senga shrub (<i>Cureuligo pilosa</i>)	

Source: Hammond 1966

Table 17

MOSSI PHARMACOPOEIA - DRIED FRUITSSilingore (Capparis corymbosa)Mapagoba zoukongo (Grewia flavescens)Cansalaga (Bridelia tenuifolia)Byeghella (Balinitis aegyptiaca)Dabaça (Ampelocissus grantii)Souçada (Cassia tora)Dito (Hibiscus sabdarifa)Gunga (Bombax patandrum)

TABLE 17a

FOOD PLANTS WITH MEDICINAL USES

1. Tamarind - boiled pulverized bark for yaws
2. Liana fruit - protects eyes from measles
3. Jujubrer roots - cures colic

Source: Hammond 1966

Source: Hammond: 1966

Table 18

MOSSI AGRICULTURAL TOOLS - YATENGA

TOOL	USER	DESCRIPTION	SEASONAL USES IN YATENGA FARMING; FIELD PREPARATION:
Mattock	male	A double-ended tool, one part hammer, one part hoe (p. 30)	Used to clear and clean fields; chop out large roots; break up large clots of earth (p. 30)
Hoe	male/female	"...Made by Mossi smiths from a long, thin metal blade haffed to a strong two-foot long stick. The blade is attached to a side branch; the main branch serves as the handle..." (p. 30)	Field preparation, planting and cultivation (p. 30) chops out grass and low under-brush of previous rainy season and turns over soil to prepare for planting after first rains (p. 35-36) A. "...the Mossi cultivator works bent over, chopping at the earth with a hoe in the right hand and other debris in his left." (p. 36) B. uses hoe to break up large clots (p. 36). "In planting, the farmer bends forward, with the hoe in his right hand, making a scattering of light depressions about eighteen inches apart." (p. 36). covered with hoe cultivate millet and sorghum by hand and with hoe. (p. 36)
Knife	male/female Foukoundi	"...an eighteen inch cutting edge attached to a wooden handle wrapped in leather is used at harvest time..."	Harvesting - cut millet heads/stalks "Bending down the stalk with his left hand, the harvester cuts a cluster of grain at the base of the head and then, with another slash lower down the stalk, fell the plant.
Gourd or Leather Pouch	male		Planting - while sowing, "Three or four seeds taken from a card carrier are dropped into each shallow pocket."
Small basket	female		Harvesting - To collect millet panicles left in large bunches (20") in circular piles (p. 30, p. 38)

Problems: "A hoe may break at the height of the planting season when a replacement can rarely be borrowed, and the smiths themselves are too busy to make quick repairs". (p.41)

Source: Hammond 1966

Table 19

Care of domestic animals in Yatenga (other than cattle)

Animal	Caretaker and food supply	Uses
Burro	Children carry fresh grass to them in rainy season forage in dry season hobbled to graze in dry months	<ol style="list-style-type: none"> 1. pack animals for personal transportation 2. means of storing wealth 3. killed for food if sick or old 4. skins are crudely tanned and used as covers for sleeping mats
Horse	Children tethered on display outside residence fed on forage in dry season given millet carry fresh grass to them in rainy season	<ol style="list-style-type: none"> 1. means of status display 2. means of storing wealth 3. sickened or dead (old age) eaten 4. hide not utilized 5. tail utilized for fly switches
Goats	Children find own feed in dry season. Released in care of herder children. Evening-penned in small corrals corraled in rainy season or taken into bush on occasion	<ol style="list-style-type: none"> 1. meat 2. milk 3. means of storing wealth 4. marriage presents 5. portion of killed carcass sold in market 6. skins are used for water bags, thongs or sandals and floor coverings
Sheep	Children same as goats	<ol style="list-style-type: none"> 1. meat 2. skin 3. wool too scant to be of value
Pigs	possibly cared by children root for themselves in dry season closed into residence at night feed on forage and penned in rainy season	

Table 20

Care and use of small domestic animals in Yatenga.

Animals	Caretaking and Food Supply	Uses
Chickens	roost at night in crudely constructed coops made of sticks, but run freely about the settlement during the day supplemented by corn and millet	<ol style="list-style-type: none"> 1. meat dish for important occasions 2. sacrifice
Guinea fowls	roost in trees or coops	<ol style="list-style-type: none"> 1. meat 2. gifts 3. payment for work
Ducks	kept on bodies of water	<ol style="list-style-type: none"> 1. luxury food
Pigeons	special roost built in roofs at granaries fattened on millet and corn	<ol style="list-style-type: none"> 1. meat
Dogs		<ol style="list-style-type: none"> 1. household guard 2. scavengers 3. killed and eaten when they begin to get old 4. sold to traders who take them to market in Goroussi
Cats		<ol style="list-style-type: none"> 1. scavengers 2. protect granaries from mice
Bees	Children use torch to extract honey Elongated, cylindrical hives kept in trees	<ol style="list-style-type: none"> 1. honey - as is or with milk or millet grist 2. beeswax sold to smiths who use it in jewelry making 3. used by leather workers for softening hides

Source: Hammond 1966:

Appendix B. Laws Establishing the Ministère des Affaires Sociales
et de la Conduite Féminine

- not included in this draft.

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