PN-ABC-720
61474

THE IMPACTS OF ECONOMIC AND AGRICULTURAL POLICIES ON WOMEN IN AGRICULTURE:

FOUR CASE STUDIES

APAP Technical Document No. 506

February 1989

Prepared by Robert R. Nathan Associates, Inc.

for the Agricultural Policy Analysis Project

Contract Number: DAN-4084-C-00-3087-00
AID Project No. 936-4084

ENTER INFORMATION ONLY IF NOT INCLUDED ON COVER OR TITLE PAGE OF DOCUMENT

1 Project/Subproject Number: 936-4084

2. Contract/Grant Number: DAN-4084-C-00-3077-00

3. Publication Date: 02/89

4 Document Title/Translated Title:
The Impacts of Economic and Agricultural Policies on Women in Agriculture: Four Case Studies

5. Author(s)
1. Phillip F. Warnken
2. Mary Reintsma
3. Paola Lang
4. Charles F. Nicholson

6. Contributing Organization(s)
Robert R. Nathan Associates, Inc.

7. Pagination: 376 pgs.

8. Report Number: Tech. Doc. 506

9. Sponsoring A.I.D. Office: AID/S&T/AGR & AID/WID

10. Abstract (optional - 250 word limit)

These four case studies were written under the auspices of the Agricultural Policy Analysis Project (APAP), a five-year project funded by AID's Bureau of Science and Technology, and AID's Women in Development Office. The studies focus on policy impacts on women in the agricultural sector in Guatemala, Malawi, Thailand, and Yemen. The studies look particularly at policy impacts on women in the agricultural sector, using a rapid appraisal technique called the policy inventory. The studies indicate the value of disaggregating the impacts of policies in the agricultural sector, including analysis of gender-based differentials in impact, and in particular, they highlight the need for a better understanding of the role of women in the rural sector, their contribution to rural income and production, and the effect of government actions on their well-being.

11. Subject Keywords (optional)
1. Guatemala
2. Malawi
3. Thailand
4. Yemen
5. Women in Agriculture
6. Agricultural Policy Impacts

12. Supplementary Notes

13. Submitting Official: William Goodwin

14. Telephone Number: (703) 875-4015

15. Today's Date: June 14, 1989

DO NOT write below this line

16. DOCID

17. Document Disposition: DOCRD [ ] INV [ ] DUPLICATE [ ]

WORK SHEET

ABSTRACT

This collection of studies looks at the impacts of economic and agricultural policies on women in agriculture. Four countries, Guatemala, Malawai, Thailand, and Yemen, are examined in this collection. Each case study provides a country description including the recent economic performance, and identifies inputs, outputs, and institutions in the agricultural sector. The studies illustrate the value of disaggregating the impacts of policies in the agricultural sector, including analysis of gender-based differentials in impact. In particular, the studies highlight the need for a better understanding of the role of women in the rural sector, their contribution to rural income and production, and the effect of government actions on their well-being.

FOUR CASE STUDIES

The Impacts of Economic and Agricultural Policies on Women in Agriculture in the Guatemala, by Phillip F. Warnken

The Impacts of Economic and Agricultural Policies on Women in Agriculture in Malawi, by Mary Reintsma and Paola Lang

The Impacts of Economic and Agricultural Policies on Women in Agriculture in Thailand, by Mary Reintsma and Paola Lang

The Impacts of Economic and Agricultural Policies on Women in Agriculture in the Yemen Arab Republic, by Phillip F. Warnken and Charles F. Nicholson

PREFACE

These four case studies were written under the auspices of the Agricultural Policy Analysis Project (APAP), a five-year project funded by AID's Bureau of Science and Technology, and AID's Women in Development Office. The studies focus on policy impacts on women in the agricultural sector in Guatemala, Malawi, Thailand, and Yemen.

The studies look particularly at policy impacts on women in the agricultural sector, using a rapid appraisal technique called the policy inventory. This technique, developed by Robert R. Nathan Associates, Inc. (RRNA) under APAP, provides an analytic framework for examining policy interventions at the macroeconomic, sectoral, and subsectoral levels. Based on this analysis, a preliminary determination of such policy interventions' impact on socioeconomic variables of interest, including women's production and income can be made. An earlier test of the application of the policy inventory to gender issues was undertaken as part of an analysis of policy impacts on the agricultural sector in Senegal and Zaire carried out by RRNA in 1987.

The past few years have witnessed a dramatic increase in the level of attention paid to the involvement of women in development and the benefits they derive from it. This attention has focused almost exclusively on actions at the project and local level. Despite the widespread recognition that policies play a critical role in shaping development, the potential impact of policies on women in the economy has generally not been considered. While it is true that very few policies are designed to differentiate between men and women, gender-based differences in resources, roles, and responsibilities may translate into different impacts on men and women. As a result, policy analysis that does not go beyond analysis of impacts at the macro level to examine differentials in impacts within the society leaves a gap in the information available to decision makers.

The case studies focus on government policy interventions - direct actions affecting the market, such as taxes and subsidies - rather than on general policy statements such as those set forth in government planning documents, because we are more interested in what governments do than in what they say.

Several overall conclusions may be drawn from the four case studies.

- The policy inventory is a useful technique for carrying out a rapid appraisal of policy impacts affecting agriculture, but evaluation of specific impacts including those based on gender, is hampered by the serious shortage of data and analysis available, including the near total absence of gender-disaggregated data.

- Differentials in policy impacts by gender are most evident in situations where women's activities are highly differentiated from men's in terms of decision making and control over income. Where women derive separate income from their own plots and enterprises - as in many African countries - the argument

for differential impacts is strong, but where women primarily work jointly with men in family-managed activities - as in Guatemala and Thailand - differential impacts appear much less important.

- The policies with the greatest impact on women in the agricultural sector are generally not those affecting agriculture as such (price controls on agricultural products and inputs, for example), but instead those policies that affect small enterprise, including marketing activities in particular. Women increasingly derive an important share of their income from off-farm employment and from the marketing of semi-processed products produced in rural households and enterprises.

- In general, women have benefited from increased reliance on the private sector to deliver agricultural services such as credit and marketing. Not only have women been able to compete effectively in providing these services at the local level, but private firms have shown greater initiative than government services in their willingness to deal directly with women, to offer them credit, and to match their services to the needs of their women customers.

- The absence of clear title to land is a problem for all small land holders, particularly as it affects their access to formal credit, but women have generally not been helped by government titling programs. Instead, these programs have tended to increase male control over land, even where, as in Thailand, land ownership has traditionally been vested in women.

- It can be argued that women have been less affected by government intervention in the agricultural sector, because the most important interventions have concentrated on major cereals and export crops where women's involvement has been primarily in the role of family laborer. Activities where women take a more active role in management and may enjoy greater control over income, such as vegetable production, livestock, local food crops, and specialty products such as silk, have generally not been the targets of heavy government intervention.

These conclusions, must be regarded as tentative, as they are based on a rapid appraisal of conditions in a limited number of countries. They indicate the value of disaggregating the impacts of policies in the agricultural sector, including analysis of gender-based differentials in impact, and in particular, they highlight the need for a better understanding of the role of women in the rural sector, their contribution to rural income and production, and the effect of government actions on their well-being.

The four case studies in this series were completed between May and September 1988 by a team of five analysts. Following a review of secondary sources including donor documentation available in Washington, a two-person team visited each country for a period of two to three weeks to gather additional information. Analysis and report writing were completed in Washington. The team wishes to thank the personnel of the cooperating A.I.D. Missions, without whose assistance the work could not have been accomplished in such a short period.

The Impacts of Economic and Agricultural Policies on Women in Agriculture in Guatemala

February 28, 1989

Phillip F. Warnken
University of Missouri

Robert R. Nathan Associates, Inc.
Economic and Management Consultants
Washington, D.C.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

LIST OF ABBREVIATIONS

ANACAFE	National Coffee Association
AVIATECA	Guatemalan Aviation Company
APAESA	Essential Oil Producers Association
BANDEGUA	Guatemalan Banana Growers Association
BANDESA	National Bank for Agricultural Development
CABEI	Central American Bank for Economic Integration
DGE	General Statistics Directorate
DIGESA	General Directorate for Agricultural Services
DIGESEPE	General Directorate for Livestock Services
FLOAMERICA	Guatemalan Merchant Marine
GREPAGRO	National Association of Fertilizer Distributors
IDB	Inter-American Development Bank
ICTA	Institute for Agricultural Science and Technology
INTA	National Institute for Agricultural Transformation
INAFOR	National Forestry Institute
INDECA	National Agricultural Marketing Institute
SEGEPLAN	General Planning Office
USPA	Agricultural Sector Planning Office

EXECUTIVE SUMMARY

This study assesses the impacts of national economic and agricultural policies on women in Guatemala's agricultural sector. The analysis focuses on the effects of macroeconomic and sectoral policies on women's agricultural production, income and employment, trade and consumption within the context of women's roles in traditional export crop production, small-farm food crop production, and nontraditional horticultural production and processing.

Guatemala's agriculture is dualistic. The vast majority of farms are subsistence or near subsistence family operations coexisting with a small minority of large commercial farms that produce primarily for the export market. Most of the small farms are located in the highlands, and produce basic food grains -- corn, beans, and wheat -- using generally low levels of technology. Large commercial farms on the Pacific coastal plain use modern technology to produce cotton, sugarcane, and food grains. Large units also produce most of the bananas and beef exported, while both large and small farmers are involved in coffee and cardamom production. During the last decade or so, the small-farm production of non-traditional horticultural crops has grown rapidly. Much of this production is exported fresh or processed.

Since a high proportion of Guatemalan farms are small, family-operated units, most rural women are involved in unremunerated domestic production and marketing activities. Women's roles in direct production on small farms vary with ethnic tradition and other factors, but typically involve care of the household's livestock, food grains preservation and processing, and limited field work. Women market most of the livestock, livestock products, vegetables, and surplus food grains production.

On a seasonal basis, many women migrate from the highlands with their families to work as wage laborers in export crop production. Women cultivate, weed, and pick cotton, transplant coffee trees and pick coffee beans, and harvest cardamom.

Guatemala's agriculture has shifted away from food grain production to non-traditional, agro-industrial crops, and women have become increasingly involved in producing and processing these crops. Women contribute more than one-third of the total field labor required to produce these crops and virtually all labor used in processing these crops for export.

The Guatemalan economy and the agricultural sector are not beset with government interventions to the extent of many developing nations. The government plays a minor direct role in the agricultural economy, and the sector operates relatively freely and reasonably unencumbered by public policies, structures, and market interventions. Many of the policies that affect agriculture are relatively benign. Because of lack of implementation or insufficient resources, many potentially positive or negative policies have little or no effect.

Macroeconomic policies, especially monetary and international trade policies, have the greatest negative impact on agriculture. These policies have had an anti-export bias which has reduced employment in export-oriented agriculture and shifted the competitive advantage of domestic food grain production from small farms to commercial farms. However, most of Guatemala's agricultural resource and output market distortions resulting from macroeconomic policy measures are history; recent changes have reduced or eliminated most of the negative effects of previous policy measures.

In the aggregate, sector policies have had quite limited effects on agriculture and on rural women. The level of public resources directed to sector development programs is minuscule -- less than 3 percent of total government expenditures. Given the meager resources allocated to agriculture, the primary instrument that the government uses to influence agricultural development is the control and guidance of international assistance. This has

been a powerful tool; in this decade, the level of foreign assistance has exceeded all government support to all national agricultural development programs.

The government's general agricultural development strategy has emphasized rural employment creation by encouraging the production and processing of non-traditional horticultural products. Implemented through international assistance programs, this strategy has had a highly positive effect on rural employment, especially women's employment. Women employed in the production and processing of non-traditional crops have contributed significantly to increases in household income. With greater household income, expenditure patterns have changed positively, and caloric consumption and nutritional levels, especially for women and children, have improved.

Guatemala's economic and agricultural policies do not have effects uniquely specific to women. Clearly, some policies affect women more than other policies, but this is because proportionally more women are involved in some activities than they are in others. In Guatemala, women are disadvantaged or benefitted when policies affect any given subsector in which they are involved; they are proportionally more disadvantaged or benefitted if they make up a proportionally large share of that subsector.

INTRODUCTION

This study examines the impacts of national economic and agricultural policies on women in Guatemala's agricultural sector. Of central concern are the effects of macroeconomic, sector-oriented and subsector policies on rural women's agricultural production, income and employment, trade and consumption and, in turn, the significance of these effects on the agricultural and the general economies.

This is the first known inquiry into the impacts of a nation's government policies on rural women (three other studies for Thailand, Malawi, and Yemen will follow). The issue has been partially and indirectly addressed by other authors, but never in a national context.

The selection of Guatemala as the first case study has no particular regional significance or a priori implications for anticipated findings. As a case study, the findings apply only to Guatemala. Guatemala cannot be considered representative as a nation or in terms of its array of policies or the effects of those policies on rural women.

The study is organized into three main sections. The first section briefly reviews Guatemala's agricultural setting, the second examines the role of women in the agricultural sector, and the third -- the principal analysis section -- describes and assesses policy impacts. The last section is a summary of key findings and conclusions.

The Agricultural Sector

Sector Overview

The agricultural sector in Guatemala plays a fundamental and critical role in the economic development of the country. Although it is declining in relative terms, it still contributes about 25 percent of GDP and provides employment for almost 60 percent of the economically active population. In addition, this sector generates two-thirds of total foreign exchange earnings, most of which derives from coffee (Tables 1, 4, and 7).

One of the most notable aspects of the agricultural sector is its dualistic nature: the vast majority of farms are semi-subsistence family operations that coexist with a small minority of large commercial farms, producing primarily for the export market. Subsistence farmers are land poor and in the face of rapid population growth are being confined to smaller and smaller parcels with each passing generation. Access to capital and agricultural inputs is readily available to the commercial sector, whereas small farmers must rely primarily on informal sources of credit and farm-produced inputs. The modern technology employed in the commercial sector contrasts sharply with the low capital techniques employed in the subsistence sector.

The sector is composed of three subsectors: basic food crops (11 percent of agricultural GDP); traditional and non-traditional export crops (54 percent of agricultural GDP); and livestock (35 percent of GDP). The traditional exports are coffee, cotton, bananas, sugar, and beef. Cardamom is a fairly recent addition to traditional exports. During the last decade, the government has encouraged agricultural diversification, and there has been considerable growth in the export of fresh and processed fruits, vegetables, and flowers. These non-traditional exports now account for about 12 percent of total agricultural export earnings.

Storage, Marketing, and Processing

Efficient storage and marketing facilities have become increasingly important as the production of fruits and vegetables has expanded. An increasing number of vegetable and fruit packing and processing plants are located in the highland areas. Although it is linked primarily to export markets, this growing industry also produces for the local urban market. A high but declining proportion of grain production is consumed on producing farms. While direct per capita grain consumption is stagnant, and perhaps declining, the fast-growing poultry and swine industries are expanding commercial markets for domestic and imported grains.

Transport

The primary and secondary road system is fairly well developed but has deteriorated in recent years because of poor maintenance. Tertiary and farm-to-market roads, where they exist, are also poorly maintained. In remote rural areas, small farmers rely primarily on human and animal transport to market their produce. A regional transportation study undertaken by ROCAP in 1987 concluded that the lack of refrigerated transport and the inadequate storage and port facilities constituted a serious constraint on the increased export of fruits and vegetables.

Extension and Research

Research and extension for traditional export crops are generally undertaken by private sector entities involved in producing and marketing the crop. The national research service, ICTA, is internationally respected for its work with food grains; however, its fruit and vegetable crops research is limited. The agricultural extension service (DIGESA) and livestock extension service (DIGESEPE) are seriously underfunded and have very limited effectiveness in extension efforts.

Agricultural Credit

The primary source of formal credit for small farmers is the National Agricultural Development Bank (BANDESA), which has a portfolio of only about 30,000 loans. Because of loan losses and fixed interest ceilings, the institution is perpetually undercapitalized. The vast majority of credit in rural areas is provided through informal channels at rates far higher than the official maximum bank lending rate. The constraints of inadequate capital have been compounded by the development of the new non-traditional export crops, which require higher cost inputs such as improved seeds, pesticides, and fertilizers, and consequently entail higher credit requirements.

Land Tenure, Distribution, and Use

The distribution of land in Guatemala is the most highly skewed of any Central American country. In 1979, 80 percent of the farms averaged 1.1 hectares and occupied only 10 percent of the farmland, while 20 percent of the farms averaged 230 hectares and covered almost 70 percent of the land area (Table 2). The most densely populated area is the Western Highlands with about 60 percent of total rural population. The cultivated areas of the Pacific coastal plain are generally large plantations producing traditional (non-coffee) export crops. The Piedmont region, which has fertile volcanic soils and abundant rainfall, is the principal coffee-producing area. The low-lying and sparsely populated Peten region of the north and east is a livestock production region to which access is currently very limited.

The problem of inadequate land area in the highlands is compounded by increasing fragmentation. Insecurity of tenure and property rights based on tradition rather than title are deterrents to exchange and consolidation of plots, as well as to the use of land for financial collateral.

Recent Performance of the Agricultural Sector

In the 1960s and 1970s, the agricultural sector experienced rapid growth, primarily in export production, stimulated by strong world market prices and facilitated by low domestic inflation and real wage rates, and a favorable investment climate. The performance of the sector in the 1980s has been less satisfactory. As a result of the fall in world commodity prices, which was not offset by exchange rate adjustments, production of export crops in 1985 had declined to the level of a decade earlier.

The fall in world coffee prices led to profit reductions for both the large plantations and the 40,000 or so small farm producers. Low coffee yields fell further, because the replacement of existing trees with higher yielding and more disease-resistant varieties had been postponed.

Cotton production has been cut back drastically, with reductions in yields and area planted. Because cotton plantations have been a major employer of seasonal agricultural labor, this reduction has had a negative effect on employment. Some of the land formerly planted in cotton is now used for mechanized production of corn, soybeans, and grain sorghum.

Sugar production has also faced serious problems, because of low prices and continual reductions in the quota access to the U.S. market. Sugar plantations are also a major employer of seasonal labor; therefore, the decline in this industry further exacerbates the unemployment caused by contraction in the cotton industry. It has been estimated that reductions in these two sectors has affected the incomes of up to 600,000 rural households.

The situation for other major export crops varies. Although Guatemala has been one of the world's biggest exporters of cardamom, an oversupply on the world market has led to depressed prices and reduced income for producers including about 40,000 small farmers. The banana market has expanded during the past five years; yields are relatively high, and market prospects look good. Production of non-traditional exports has also been expanding, and this

subsector now accounts for approximately 20 percent of agricultural GDP and more than 12 percent of all exports. Market prospects appear good, and further growth is anticipated. The beef export sector has been generally stagnant, although exports increased significantly in 1985-86.

Production of staple food crops (maize, beans, wheat, rice, and grain sorghum), which had grown relatively slowly from 1975 to 1980, expanded more rapidly in the 1980s. Much of this growth is due to the development of mechanized production on plantations that previously produced cotton. Guatemala's agriculture, especially its highland agriculture, has shifted substantially from food production to agro-industrial crops. In 1950, food crops occupied nearly 60 percent of cultivated land area. By 1979, this area had declined to just over 37 percent (Table 3). Although current data are unavailable, it is now estimated that less than one-third of the nation's cultivated area is devoted to basic food production.

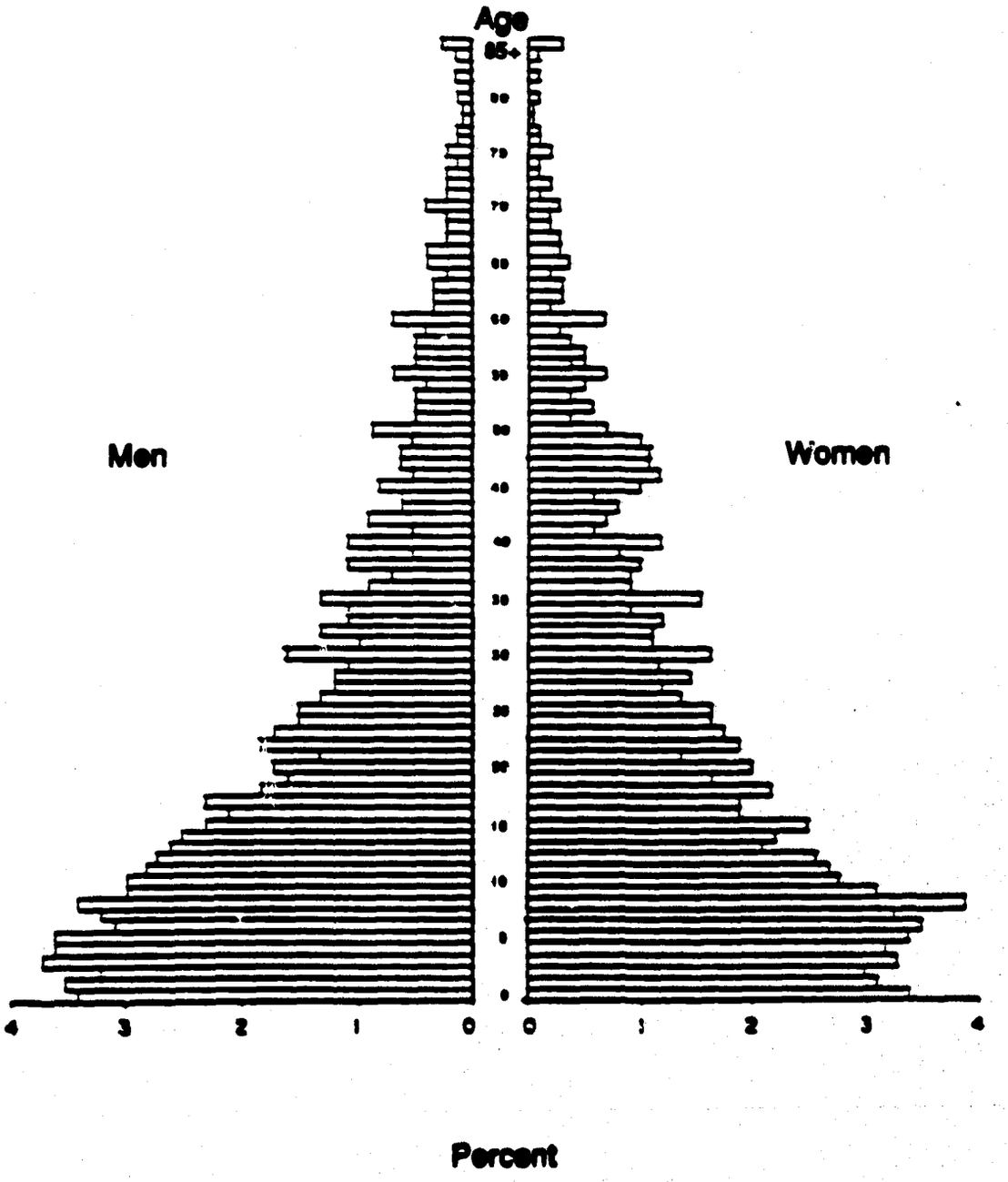
I. THE ROLE OF WOMEN IN AGRICULTURE

The role of women in the agricultural sector of Guatemala is difficult to ascertain from national statistics. In 1986-87, women made up 24 percent of the economically active population, accounting for 41 percent of the non-agricultural labor force and only 7 percent of the rural labor force (Tables 4 and 5). This marked difference in labor force shares in agriculture is explained principally by the conceptual difficulties in defining women's labor on farms headed by men (the so-called "invisible" labor force). In Guatemala, the difficulty is compounded because of the large proportion of subsistence or near subsistence farms; women in agriculture are predominantly involved in unremunerated domestic production and marketing activities.

According to the 1981 population census, women account for slightly over half of the rural population and, as reported by the 1979 agricultural census, head about 7 percent of the rural households. The total and the rural female populations are heavily skewed toward the young: 55 percent were younger than 20 in 1986-87 (Figure 1).

Few studies specifically examine women's roles in Guatemalan agriculture. However, as noted by Ferguson, "many ethnographies describe the activities and characteristics of the rural family and some include information on women's roles in food production and in the labor force" (Ferguson, p. 7). This report draws heavily on these studies, focusing on women's roles and activities by the predominant types of Guatemalan agriculture -- traditional export crops, non-traditional commercial horticultural crops, subsistence-based food production, and rural-based agro-industry.

Figure 1. 1986-87 Census Population by Age and Gender



Source: I.N.E. Encuesta Nacional, 1986-87.

Export Crop Agriculture

Hundreds of thousands of laborers migrate each year from the highlands to the Pacific coast and Piedmont regions to work in commercial plantation agriculture. These workers include men, women, and children. Female workers usually migrate with their husbands and older children, leaving other members of their family to care for their homes, younger children, and farms.

Plantation recruitment policies and tradition determine the range of agricultural activities involving female laborers. Women cultivate, weed, and pick cotton, transplant coffee trees and pick coffee beans, harvest cardamom, and weed soybeans. Sugarcane cutting appears to be considered a man's activity, as is the year-round harvesting of bananas. Female migrant workers are also employed as mantenedoras or molenderas (camp housekeepers and cooks).

There is evidence that for equivalent work, women are paid at rates equal to men. Pay for harvesting operations is usually based on piece work, i.e., weights or volumes of product harvested. Common field work may be reimbursed on the basis of piece work (rows of crop weeded), but more typically is paid on the basis of a daily wage established by local labor market conditions. Daily salary rates for both men and women laborers vary with the season and bear little relationship to the agricultural minimum wage. During peak labor demand periods, daily rates easily exceed the minimum; in slack periods, they fall below the official minimum wage level.

While peak labor requirements are filled primarily by migrant labor, an estimated 20 percent of the total labor force in the large-scale export sector is permanent. Women residing in area households do field work in peak labor demand seasons, but they do not make up a notable part of the permanent year-round agricultural work force. In slack periods, women tend to domestic activities, household plots, and small animals, or work part time within the informal economy.

Subsistence Food Production Agriculture

The economic role of women in Guatemala's subsistence agricultural sector is transparent. In subsistence agriculture, total production of the household, whether for self-consumption or for the market, constitutes the economic output -- and the "income" -- of the family. Women, men, children -- all able family members -- contribute to that output. As noted by Brooks,

> In Guatemala, the peasant family typically has a very small pool of capital and a very large pool of unskilled labor which can be converted to capital. The decision of the household, or any household member, to participate in any economic activity is usually a function of the internal relationship between capital and available labor . . . what every rural Guatemalan family is attempting to do is enrich the household resource base (capital and non-capital) in order to enhance the scale of family output. And, in reality, this is the role/work of the woman in rural Guatemala. It occupies all her waking time; it is a full-time job: to arrange capital and labor within the family in order to achieve the most favorable entry point onto the economic output curve. In short: to move the family as far as possible in the opposite direction from starvation. (p. 23)

Brooks continues, noting that "rural women who are absurdly classified as 'economically inactive' by the census actually contribute to raising family output by four principal means":

- Income conservation. Much of a rural woman's daily effort is involved in conservation of household resources. Whereas a rural woman has almost no opportunity to earn cash, she devises numerous ways to avoid leakage of scarce household resources. These include home weaving, eating less, raising small animals, home gardening, and all domestic maintenance tasks. As a general rule, as the resource base of the family improves, a woman is likely to move out of the strict "income conservation mode" to some means of direct, more productive income generation.

- Agricultural field work, paid and unpaid. Most rural women do not particularly like agricultural field work, and given a choice, most find some other occupation. Nevertheless, women continue to work in the field. This is especially true in highly labor-intensive vegetable growing areas, where shortage of cheap labor is a major constraint on production.

> Artisanal production, especially backstrap weaving. Of the many women's artisanal activities found in Guatemala, backstrap weaving is the most commonly practiced and most widely commercialized today. More than 100 Guatemalan municipios contain some women who weave. Based on estimated tourist textile expenditures for 1976 and the shadow wage rate . . . backstrap weaving accounted for the equivalent of about 18,500 full-time jobs, or more realistically, supplemental income to about 45,000 women. The actual rate of return from this activity, however, is remarkably low . . . about 4.5 cents per hour. It is reasonable to assume that this rate approximately reflects the opportunity cost of labor for a skilled Indian woman artisan who is otherwise unequipped with skills marketable in the modern sector economy.
>
> Petty commerce, especially vegetable marketing. When peasant families are unable to produce enough food to support themselves, women often turn to market trading... throughout the highlands of Guatemala a large share of poor rural women contribute small but important quantities of cash to family income by low volume sale and re-sale of agricultural commodities (pp. 24-5).

To summarize these four contributions, women may be fully employed with domestic responsibilities (such as child care, food preparation, weaving, and laundering) and a range of agricultural activities (such as seed selection and preservation, post harvest processing, supplemental vegetable gardening, and especially small livestock care). When opportunities are available, women in smaller households may work away from the farm for part of the year.

Women and children usually are responsible for the husbandry of the household's livestock. Livestock and livestock products produced by the household are typically marketed by women and generally not used for home consumption; money from the sale of animals and their products is used to cover household subsistence expenses. The importance and relative contribution of these sales to household income in subsistence Guatemalan agriculture is not known. Although it is not common, some women manage limited-scale commercial poultry or swine operations. Commercial family large-animal operations are the responsibility of men.

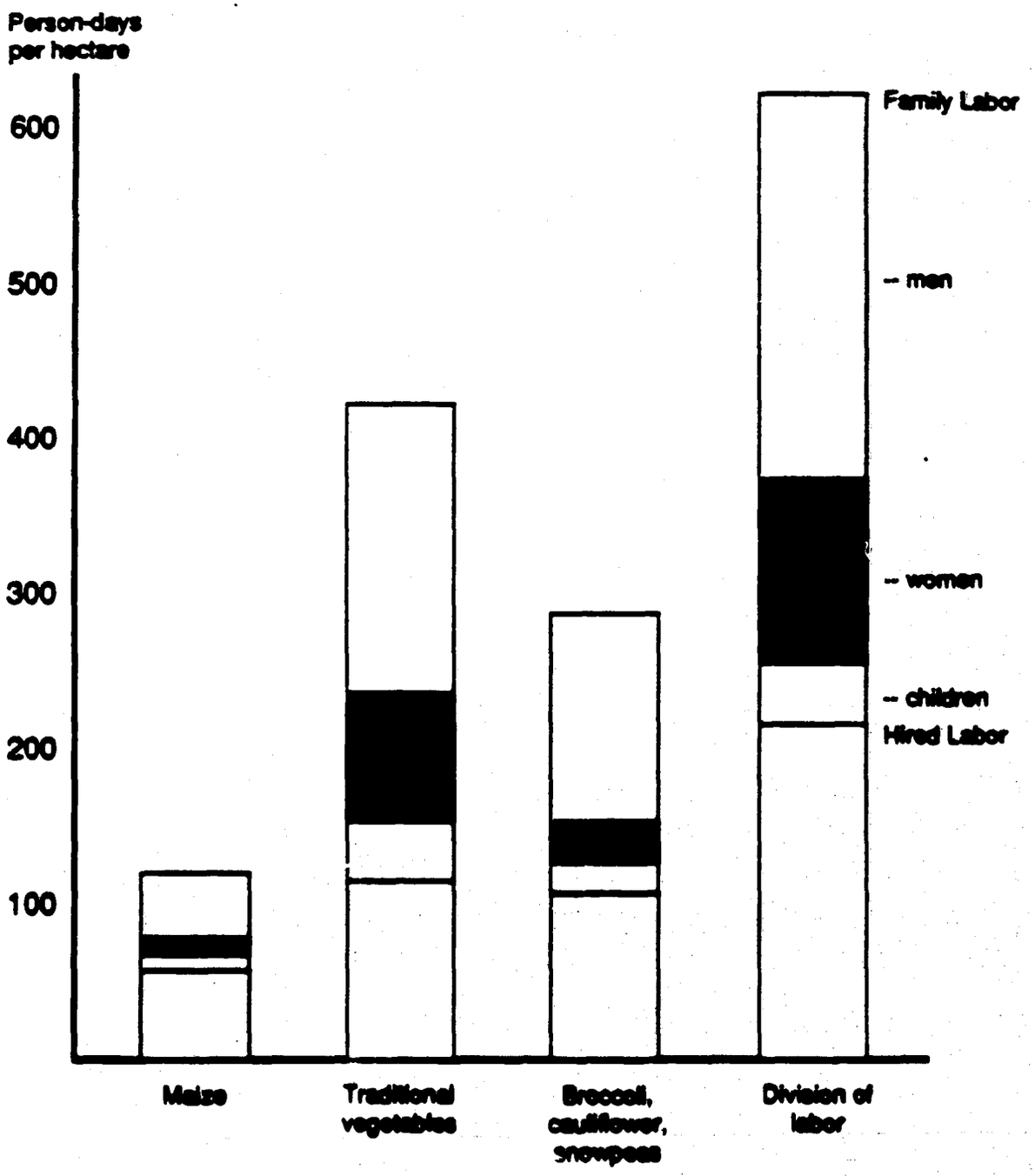
Variations in the roles of women within the subsistence economy are largely a function of ethnic tradition (which prescribes the division of labor along gender lines), family size (extended versus nuclear) and wealth, and type of crops grown. For example, among the Mams in the northwest highlands of Guatemala, women plant potatoes (a supplementary crop destined for sale in the local market), but they do not take part in the planting and cultivation of maize (the key food crop). In extended families, older women may relinquish all field work to the younger women.

Women's marketing activities raise small amounts of subsidiary income to cover household subsistence expenses. Household subsistence expenses include day-to-day food purchases such as salt, sugar, and spices, as well as manufactured goods such as thread and candles. To the extent that the items sold on these trips are made or raised by women, the income from such activities is usually controlled by women and may remain separate from other monies, including those contributed by men towards household expenses. Men are generally responsible for providing money for clothes, education, and major capital investments in the home. In some communities, women may also undertake longer marketing trips to sell the family's main cash crop at a terminal market. (Men usually control the purchase of farm inputs and will undertake the trip themselves should such purchases be required.)

Commercial Non-traditional Agriculture

Guatemala's agriculture has shifted from food grain production to agro-industrial crops, and women have become increasingly involved in providing the labor required to produce these crops (Figure 2). Virtually all commercial vegetable production for export and domestic markets is concentrated on small farms. Small farms have a comparative advantage in commercial vegetable production. These farms have experience in vegetable cultivation, and more important, they have labor available at a relatively low opportunity cost. In fact, the availability of the household labor force and its composition appear to be factors determining whether or not small farmers shift to vegetable production. As von Braun notes,

Figure 2. Labor Inputs in Traditional Crops and New Export Vegetables



Source: INCAP/IFPRI survey (1985). Originally published as Figure 5, p. 75 in Von Braun, *et al.*

> A more sizeable household labor force may enhance adoption of the labor-intensive crop . . . [but] . . . A higher share of women's labor may induce a different balance of preferences and bargaining positions in the household." (p. 50)

Non-traditional crop production requires much more labor per land unit than food grains require, and even more than traditional vegetable production requires. As noted by von Braun,

> Most labor in all crops is provided by men, but this varies by crop type and farm size class. Women are responsible for 9 percent of family labor in maize, 25 percent in traditional vegetables, and 31 percent in snowpeas.
>
> Division of family labor between men, women, and children in the production of new export crops is not uniform across farm size. Men's share of total labor remains quite stable across farm size classes while women's share declines and children's share increases. With increasing farm size, women's labor is relatively replaced by hired labor and child labor. [This is]. . .probably related to the increasing opportunity cost of women's labor in the field when the household and farm enterprise expands. Returns to female household labor including activities such as meal preparation for hired labor, etc., increase and lead to higher degrees of specialization within the farm-household. This still means that absolute levels of family labor input by both men and women may increase with increasing farm size. (p. 76)

The study concludes that as a result of shifting to non-traditional crops, labor input in agriculture increases in the export crop producing farms by 45 percent (81 days per crop season); in the smallest farm size class, virtually all the net increase in labor input comes from family labor (total labor input in these farms below 0.25 hectare more than doubles); and a substantial share of the increased family labor is from women. It is 44 percent of the increase in the two smallest farm size classes and 32 percent in the biggest farm size class (von Braun, pp. 82-84).

Clearly, this analysis confirms that the role of women in non-traditional crop production is significantly different from their role in traditional agriculture. The extent to which work in non-traditional crop production

substitutes for traditional household and production activities was not examined by the study and is unknown.

Rural-based Agro-industry

The growth of the rural-based agricultural processing industry parallels non-traditional crop production. The development of agro-industry is an extension of the structural change that has occurred in Guatemalan agriculture. As at the production level, this change has created significant new employment in rural areas. In contrast to the impacts at the production level, however, virtually all of the employment impacts of agro-industrialization have been on women.

Women unquestionably dominate the labor force of the agricultural processing industry. Men may be employed in initial stages of industrial food processing -- hauling, washing, cleaning -- but women make up almost 100 percent of the labor force involved in line work and final packing. Research conducted on the effects of this employment indicate that salary levels for women in processing and packing plant work equal urban male blue collar wages (Kusterer, 1981). Given that few, if any, other employment opportunities in highland Guatemala pay wages, let alone even remotely equivalent salaries, the economic effect (and a number of other important impacts) of these jobs has been extraordinary. No phenomenon in rural Guatemala over the past several centuries has had a greater impact in influencing change in the role of agricultural women.

II. AGRICULTURAL POLICIES: SETTING, DESCRIPTION, AND ASSESSMENT

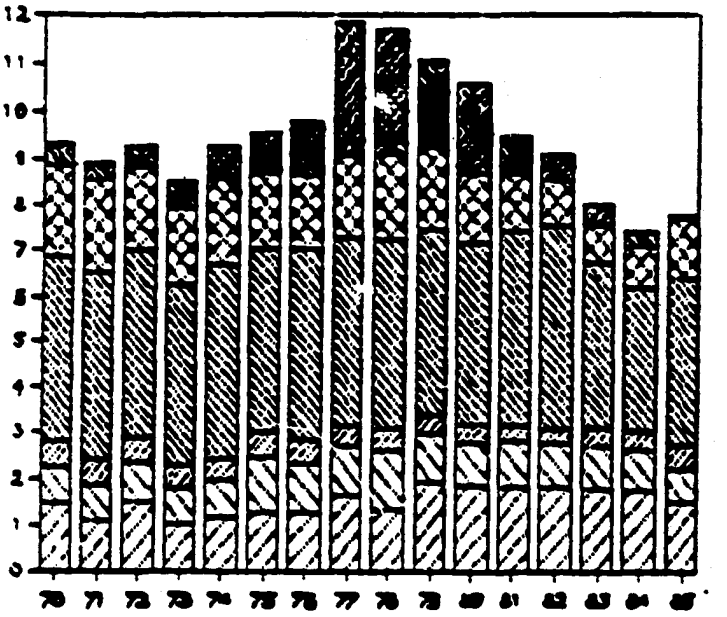
The Policy Setting

Compared with most developing and developed industrial nations, central governmental intervention in the Guatemalan economy is relatively limited. For example, Guatemala's tax revenue/GDP ratio is one of the world's lowest. Now at 9 percent, it has ranged from 7.4 to 10.6 percent during this decade (Figure 3). Fewer than 10 nations in the world have lower tax ratios. While such ratios are usually characteristic of deeply impoverished nations or a manifestation of abysmally deficient tax administration, Guatemala's low ratio may more accurately reflect a national propensity for restricted public intervention in the private sector.

Certainly, the private sector operates relatively freely and reasonably unencumbered by many of the government policies, structures, and market interventions common to developing nations. And, with the notable exceptions of macroeconomic policies, especially (past) monetary and foreign exchange and (current) interest rate controls, the few direct or indirect government interventions in the market economy tend to be either intermittent or economically benign.

Except for the publicly owned utilities, Guatemala has no all-powerful government monopolies, trading companies, or parastatals that directly compete with and notably restrict private sector enterprises. The only non-utility public entities with some degree of monopoly authority are AVIATECA, the national aviation company; FLOAMERICA, the national merchant marine; and INDECA, the national agricultural marketing institute. AVIATECA reserves certain entitlement in transportation of people and goods not

Figure 3. Total Tax Revenues, 1970-85
(Percent of GDP)



Key:

- Export tax
- Import/other trade
- Domestic indirect
- Property/personal income
- Corporate income
- Social security/municipal

Source: World Bank.

permitted to foreign carriers. FLOAMERICA, which has one ship, has government-granted monopoly rights in transportation of sea freight on some routes to and from national ports. Theoretically, INDECA has the authority to set minimum producer prices for basic food grains and a few other agricultural commodities, but in practice, its role in the market is greatly constrained by lack of financial resources.

Taxes on international trade -- an important revenue source for many developing nations -- make up only 20 to 25 percent of the government's total revenues (Tables 6 and 7). Export taxes contribute substantially less to revenues than import taxes do. Many goods are exempt from import taxes. For taxed imports, nominal tariff levels tend to be high, but net effective rates are low because of exemptions. Effective rates average 3-5 percent for intermediate and capital goods and 10-15 percent for goods that compete directly with domestically produced substitutes (Table 8).

High export taxes have not been a constant in the Guatemalan economy. After several years of low, essentially token tax rates (except for coffee), export taxes were temporarily imposed on traditional agricultural exports in 1986 to capture revenues from high world coffee prices and to avert a government fiscal crisis. These taxes will be phased out by 1992.

Although there have been some relatively brief periods of heavy public intervention, Guatemala's international trade does not currently operate under extensive quantitative restrictions. The few import prohibitions in effect apply largely to agricultural commodities and are justified primarily on sanitary or legal considerations (Appendix A). Two exceptions are wheat and wheat flour. Wheat imports come in under a 1 percent nominal tariff, but only when deemed necessary to cover a domestic production deficit. Flour is seldom imported. Export prohibitions include a limited number of economically unimportant items, such as green turtles, and dead or live quetzales (the national bird).

A long and frequently changing list of commodities require import or export licenses (Appendix A). The license requirements can be burdensome, but apparently do not restrict commerce markedly . In practice, both import and export licenses appear to be granted for most products except for commodities deemed critical to national food security.

The government periodically imposes retail price ceilings. Milk, beans, beef, eggs, flour, sugar, and other basic commodities common to the average urban consumer market basket are most often subject to control. The array of products controlled and the degree of enforcement vary. Under the pressure of rapid inflation and volatile exchange rates in late 1985 and early 1986, more than 400 different goods were subject to retail price controls compared with only 17 in 1984. The list was reduced to 8 goods in 1987 and increased to 17 in 1988. Although the actual effect of ceiling prices is debated, the 1985-86 action resulted in some observed shortages, which in turn led to reported widespread disregard of the controls.

Although the economic effect of many government policies tends to be relatively benign, general monetary policy and two specific policy measures -- foreign exchange and interest rate controls -- have had highly perverse impacts on the economy. Because Guatemala is a small export-based economy, the dominance and power of monetary policy and exchange controls coupled with inflexible interest rates have eclipsed and virtually obscured the effects of other policies.

Government and Agriculture

The government plays a minor direct role in the agricultural economy. Government actions unquestionably affect the sector in significant ways, but almost exclusively through macroeconomic impacts. The dearth of policies and resources directed specifically to agriculture is curious, given the sector's vital role in the economy. Perhaps this is yet another manifestation of the (hypothesized) national propensity for restricted public intervention in the

private sector. Or perhaps public resources are so inadequate that they simply preclude most direct policy interventions.

Since 1980, public outlays directed to the agricultural sector have averaged 16 percent of total government expenditures. Of the total amount, more than 45 percent were central government transfers to cover BANDESA operating costs and loan losses (loan losses alone accounted for more than 80 percent of BANDESA transfers). INDECA price support operations absorbed another 24 percent of expenditures (Table 9), leaving less than one-third of the budget available for Ministry of Agriculture operational expenses and investments. In 1987, one-third of this amount was earmarked for investments, and two-thirds for operations. Eighty percent of the investment budget and 10 percent of the operational budget were not spent. To conclude, other than credit and price support programs, all agricultural public sector programs combined absorbed less than 3 percent of total central government expenditures and accounted for a fraction of 1 percent of national GDP.

This low level of public resources -- regardless of how it is allocated -- cannot influence the agricultural economy notably. At best, the ministry's budget is sufficient to maintain low level bureaucratic presence and staff, rudimentary extension and applied investigation programs, but little else. Essential public regulatory activities such as the policing and enforcement of market rules, sanitary standards, and timber compliances are not and cannot be carried out effectively. Domestically financed development programs of the Ministry of Agriculture are all but precluded.

Sector Goals and Strategies

Given the meager resources allocated to agriculture, the primary instrument (other than macroeconomic policy) used by the government to influence agricultural development is the control and guidance of international assistance. This is by no means a weak or impotent instrument; the annualized level of bilateral and multilateral assistance to Guatemalan agriculture easily exceeds the Ministry of Agriculture's total annual operating budget.

One broad means by which the government manipulates this instrument is through the articulation of sector goals, strategies, and actions. For example, the government's recent White Paper on agriculture reviewed the sector's condition, examined the outlook, and identified specific development goals. Measures ("acciones") to achieve the specified goals were noted, but expressed in highly general terms. While the statement does not call for specific policy interventions, it establishes the framework for externally financed sector development programs. This framework guides sector development strategy and influences the choice and content of policy measures required to implement strategies to achieve sector goals. Current government goals are to

- Assure food security with increased agricultural production and productivity through diversification and technology
- Create new rural employment and redistribute incomes to the poorest (small farmer) rural sectors
- Stimulate development of small- and medium-scale agro-industry production for the domestic and international markets
- Enhance the rational use of natural resources through increased irrigation and improved soil conservation, reforestation, and watershed and forest management

The government and international donors collaborate in achieving these generic sector objectives by targeting resources to priority programs. The development strategies and government policies used to achieve these goals are assessed in the following section.

Scope and Limitations of Analysis

This section describes and assesses recent and current macroeconomic, sector, and when relevant, subsectoral government policies. The theoretical basis for the analysis is neoclassical economics. The analysis concentrates on the effects of policies on women's agricultural production, farm and off-farm

income and employment, trade and consumption within the context of sectoral or, when relevant, subsectoral impacts.

Time and resource constraints precluded original data collection and rigorous research; thus, the descriptions and analysis are brief and draw heavily upon secondary sources. Primary and major secondary impacts of policy interventions are the focus. The information and data available do not permit assessment of tertiary impacts even though they may be as important -- perhaps in some cases more important -- than the more evident primary and secondary effects. To be specific, the analysis does not examine the nature, magnitude, and distribution of policy impacts within the family or household. Although it would be a valid and useful area of inquiry, the data available do not support testing hypotheses that might be advanced on this subject.

Macroeconomic Policies

The Junta Monetaria (Monetary Council) is the highest decision-making body for macroeconomic policies implemented by the Central Bank (Bank of Guatemala). This includes all matters relating to monetary, exchange, and credit policies. Fiscal policy also falls within the authority of the Junta; policy administration is the responsibility of the Ministry of Finance.

The Junta is composed of representatives of the Bank of Guatemala; Congress; the Ministries of Finance, Economics, and Agriculture; the University of San Carlos; private industry; commerce and agricultural associations; and the private banks. The President of the Republic influences the Junta through the appointment of key government members and through the tacit approval of official advisers and technical consultants (Consejo Tecnico) to the body. In principle, as a member of the Junta, the Minister or Vice Minister of Agriculture has an equal voice in macroeconomic policy deliberations; however, in practice, the Ministry of Agriculture representative plays a subordinate role in the body's decisions.

Monetary Policy

Direct monetary policy instruments used by the Junta include reserve requirements regulations, open market operations, and rediscount operations with both internal and external funds. Reserve requirements on current and time deposits seldom change, while open market and rediscount operations are used with considerable frequency and vigor.

Open market operations are used to manage short-term liquidity in the banking system through the Central Bank's purchase or sale of monetary stabilization bonds and predominately to finance public debt through treasury bond sales. Since 1979, Central Bank credit has expanded rapidly to finance fiscal deficits. Given that the deficits derive from the government's current expenditures with no compensatory shift in aggregate supply, the increased public debt has fueled inflation.

Rediscount operations with internal funds are used for both monetary control and Bank of Guatemala credit policy, the latter with an unconventional twist: the Bank has applied varying rediscount rates to loans for different economic activities. In 1983-84, for example, basic grains and soybean production loans were rediscounted at a minimum of 4 percent, housing construction loans at 7 percent, and all other loans at 9 percent. The rates were unified at 9 percent in 1985.

Rediscount operations with external funds are a powerful policy instrument; sales of foreign currency through trust funds are used to reduce the money supply and thus inflationary pressures, to capture resources for domestic development programs, and to finance imports. The external funds used in rediscount operations derive from concessionary loans by bilateral and multilateral donors. Lines of credit for specific imports are established by mutual agreement of the government and lender.

Monetary policy appears to be directed predominantly to the control of the money supply. As an almost unrelated policy, commercial bank interest

rates are controlled by ceilings. From the standpoint of the private sector, monetary policy influences access to commercial bank credit rather than the price of credit. Interest rates are fixed, and to the extent they are pegged below market conditions, credit must be and is rationed (see credit policy discussion below).

Apart from the effect of interest rate ceilings (see credit policy discussion), monetary policy affects the agricultural sector in four significant ways. First, inflation, stemming largely from deficit financing, has caused agricultural input costs to increase faster than output prices. This has cut the profitability of crops such as cotton and coffee, which rely heavily on purchased inputs. During this decade, cotton area and yield fell sharply, while coffee, a perennial, suffered yield losses. Much of the land formerly devoted to cotton is now planted in basic grain crops or soybeans, which require lower input levels. As a result, the nation's basic grain output has not changed appreciably with inflation, but has tended to shift from highland small farms to commercial operations of the Pacific coast.

Second, nearly half of all internal fund rediscount operations involve loans for agriculture. A small number of influential cotton producers have long had access to these loans. Traditionally, cotton production credit alone has traditionally accounted for about 80 percent of all rediscounted agricultural loans. With declining cotton plantings, many former cotton producers now use the credit for basic grain production. Since small farm producers rarely meet conditions for these loans (see credit discussion below), traditional grain-producing areas have not benefitted from internal fund rediscount operations. Access to this credit by commercial operations has further contributed to the locational shift of basic grain production.

Third, virtually all external (trust fund) rediscount operations are used to finance imports. The bulk of imports financed are industrial inputs and machinery, including inputs and capital goods for agro-industry. Data are unavailable to determine the extent to which agro-industry and agricultural production inputs benefit from these operations. Although Jiron, et al.

contend that "agriculture has not benefitted directly from these operations," it is unclear whether the statement refers to primary production or to the entire agriculture economy. Certainly, the data available clearly show that imports financed through at least two of the seven trust funds include considerable intermediate and capital goods for agricultural product processing. Producers of non-traditional export crops, primarily small farmers, thus benefit directly from these targeted external rediscount operations.

Fourth, all monetary policy instruments employed by the government directly or indirectly influence both bank and informal credit cost, terms, and availability. Agriculture requires both production and investment credit, and the direction and magnitude of monetary policy dictate not only immediate effects but long-term sector and subsector impacts. At the beginning of this decade, the government pursued expansionary policies. From 1982 through late 1984, monetary measures severely suppressed money supply growth. In late 1984, money supply growth again exploded and was not contained until 1986. Aside from the obvious short-term effects of credit expansion or restriction, this uncertainty of policy discriminated heavily against agriculture through the virtual elimination of long-term investment credit.

Impacts on Women in Agriculture

The impact of monetary policies on women in agriculture is mixed. On a net basis they may be somewhat positive, but data to support or to refute this contention are not readily available . The primary negative effect derives from loss of employment in traditional export crops. The major positive effect comes from enhanced employment in non-traditional agricultural export production and processing.

The reduction in production of traditional export crops, especially cotton -- in part a result of perverse monetary policy -- has had a significant impact on the income and employment of women. This has affected migrant and farm-resident women laborers employed directly in production activities

and women deriving income indirectly from activities associated with export crop production.

In the late 1970s and early 1980s, cotton occupied an average of 110,000 hectares of Pacific coast land. By mid-decade, the average harvested area dropped to 60,000 hectares and in 1986-87 reached a low of 31,000 hectares (Table 9). Cotton production requires large labor inputs, even when produced using relatively modern technology. While Guatemalan production systems vary somewhat from farm to farm, a conservative estimate puts average labor requirements at 100 person-days per hectare. Women make up an estimated two-fifths of the labor force directly employed in cotton production. Estimated from the average 1979-81 peak period to the low year, 1986/87, the total days of women employed in cotton production fell from about 4.4 million to 1.2 million, a 70 percent drop. This represents more than 10,500 person-years of labor or more than 4 percent of the total estimated actively employed female labor force in 1979. Although much of the land formerly devoted to cotton now produces corn, grain sorghum, edible beans, and soybeans, these crops are highly mechanized and require relatively little labor.

The readily discernible income and employment impact of other traditional export crops is not as pronounced as in the case of cotton. Coffee requires an average of about 50 percent more labor per hectare than cotton. Over the past decade, coffee production fluctuated at a relatively constant output level. The extent to which monetary policy discouraged additional coffee plantings is a matter of speculation. One hypothesis is that substantial additional employment opportunities were not realized because of investment disincentives. Direct female employment in sugarcane and banana production is limited, and, while cardamom production uses high levels of female labor, output levels have changed little over the past decade.

The government's emphasis on agro-industrialization, reflected in part by the use of external fund rediscounting to import intermediate and capital goods for agro-industry, has been highly conducive to increased employment in the production and processing of non-traditional crops. As noted

previously, women laborers make up a substantial proportion of the net new employment created in the production and industrialization of non-traditional horticultural crops. Although data limitations preclude quantifying the effects, some insight can be gained by examining data in the following table.

The two columns in the table show the labor requirements and total cost of selected horticultural crops relative to cotton. Cotton was selected as the base index crop because of the high total labor requirement, the high female labor component, the high level of input costs, and its unique employment role in Guatemala's rural wage-labor force.

Table 11. Indices of Per Hectare Labor Requirements and Total Cost of Selected Horticultural Crops Relative to Cotton

(1987/88 Crop Year)

Crop	Labor index	Total cost index
Cotton	100	100
Broccoli	325	142
Brussels sprouts	450	219
Garlic	771	380
Celery	259	121
Melons	203	116
Okra	480	213
Onions	361	168
Snowpeas	900	402
Tomatoes	273	128

Source: Derived by author from data in Table 16 of Guatemala: Agricultural Situation, USDA/FAS Guatemala, March 28, 1988 (Report No. GT-8005).

All horticultural crops shown have significantly greater employment and considerably greater total cost indices than cotton. Snowpeas, the extreme case, require nine times more labor and four times greater levels of production

inputs per hectare than cotton. Put another way, one hectare of snowpeas generates the same demand for labor as nine hectares of cotton.

While the social and economic significance of the labor index is apparent, the total cost index merits a brief explanation. This index is a relative indicator of the summed value of all intermediate goods and services used in the production process. The larger the index, the greater the economic activity required to produce the product. Garlic, for example, has a high total cost index because inputs costs for fertilizers, plant protectants, transportation, and labor inputs are high, at a level greater than for cotton by a factor of 3.8. In other words, nearly four hectares of cotton are required to generate a level of backward-linked economic activity equal to one hectare of garlic.

It would be informative to have estimates of the total direct and indirect female employment impacts of non-traditional agricultural production and agro-industrial processing. Unfortunately, data are incomplete. Sketchy information for 1985 provides area data for only three horticultural crops: tomatoes, 5,600 hectares; flowers, 24,500 hectares; and melons, 4,200 hectares. Labor requirements for just these three crops greatly exceeded that of the 57,300 hectares of cotton grown that year. At a minimum, the labor demand of all non-traditional crops equals that of all traditional cash crop exports.

While the magnitude of increased demand for women's labor cannot be quantified, it is known that women constitute a relatively high proportion of net new labor employed in non-traditional, export-oriented agricultural production and virtually all additional labor employed in the processing of these commodities. Moreover, it is known that both production and processing have expanded sharply during the past decade. Women's involvement in the production and processing of the crops has meant that they make notable contributions to household income. Clearly, the income and employment impacts for women have been significant.

An additional impact of monetary policy merits brief discussion. The substitution of basic grain production for cotton in the Pacific lowlands has affected the structure and to some extent the income distribution of Guatemalan agriculture and probably has had considerable influence on the national diet.

In the highlands, small producers reduce the area and perhaps their production of basic grains when they shift into non-traditional horticultural enterprises (see discussion of food production impacts under labor creation policies below). These crops are immensely more profitable than corn, beans, or wheat (Table 11). Income levels of small farms soar when they shift from basic grain production to horticultural crops. With cash available to purchase grains in the market, subsistence production is no longer a life and death matter; a family production deficit in basic food grains is no tragedy. The expansion of the commercial production of basic grains in the Pacific lowlands has permitted small highlands farmers to shift to more profitable horticultural crops, in part because food grains are available in the marketplace at reasonable cost. The increased horticultural production has been both exported and sold in domestic markets. Although no data are available to indicate national dietary trends, long-term observers of the country note a pronounced increase in fruit and vegetable consumption in urban and rural areas.

Credit Policy

In the overall macroeconomic policy setting, Guatemalan credit policy must be considered a subset of monetary policy. For this analysis, however, the discussion is separate because a key policy element -- the control of interest rates -- is virtually independent of monetary policy. Although this element is not entirely unique to Guatemala, the policy element and its impacts are sufficiently distinctive to merit a separate discussion.

As a subset of monetary policy, credit policy follows monetary policy objectives; however, in contrast to conventional monetary policy, interest rates in the short run are not permitted to fluctuate. As noted previously,

credit is expanded or contracted by opening or closing access to credit rather than by the price of credit. Monetary policy is largely the rationing and targeting of credit.

Maximum interest rates charged and paid by the banking system are established by the Junta Monetaria and are changed infrequently. Between 1979 and 1988, for example, rates were changed only four or five times. The Junta does not formally control interest rate ceilings for institutional or informal lenders outside of the commercial banking system if the funds lent are internal resources. These interest rates reflect market conditions.

From 1979 until late 1986, controlled real interest rates were negative -- at times well below the rate of inflation. Without exception, all the distortions and problems cited in the rich literature of developing nation financial markets transpired: savings collapsed, capital took flight, international reserves dropped, GDP fell, banking institutions decapitalized, the most creditworthy and wealthy were paid (subsidized) to accept credit, and the most credit-needy and poor were excluded from consideration. The scenario was classic Adams textbook and entirely predictable.

For agriculture, controlled interest rates resulted in subsidies channeled almost exclusively to producers of coffee, cotton, and sugarcane. Producers of basic grains and non-traditional diversified crops reaped little benefit. The distribution of credit rather closely paralleled that of land. Data from a 1984 agricultural credit analysis show that distribution of agricultural credit has been extremely unequal and concentrated:

> In 1983, 2.4 percent of borrowers had loans in excess of Q 50,000, which corresponded to 75.7 percent of the amount lent in that year. In contrast, some 55.5 percent of the borrowers received loans up to Q 1,000 in size, which corresponded to 3.3 percent of the year's credit. (Ladman, p. 17)

Impacts on Women in Agriculture

The direct impacts of credit policies on women in agriculture parallel the overall sector impacts. No activities in which women are engaged yield specific gender effects of credit policy. Women are engaged in small farm agriculture proportionally more than in commercial export-oriented agriculture. Small farm agriculture has had far less access to credit than commercial agriculture, and thus women are among the most disadvantaged in terms of access to credit. Also, women are among the poorest of the small farm agricultural economy, and for all practical purposes, the poor obtain no institutionalized credit. Thus most women do not obtain credit not because they are women, but because they are poor. If women, like men, are highly creditworthy, institutional credit appears to be available -- subject to general policy objectives -- without discrimination.

The indirect impacts of credit policy on women are quite favorable. Through Central Bank rediscounting of external funds (see monetary policy discussion) established in collaboration with international donors, credit has been specifically targeted to export-oriented agro-industry, primarily to those industries processing non-traditional crops. As noted elsewhere, women play an important role in the production and processing of these crops and therefore have benefitted notably from this policy.

Fiscal Policy

In contrast to many small export-oriented nations, the direct impact of fiscal policy measures on Guatemalan agriculture is very limited. At peak international trade taxation levels in the mid 1970s, export and import taxes combined made up less than 24 percent of government revenues. Moreover, export taxes have been less important than import taxes in government revenue. With about 90 percent of all export taxes derived from coffee -- a commodity exported under international quota agreements -- the strong

economic disincentives typical of many developing nations' export tax regimes are not present in Guatemala.

Non-traditional exports are taxed at a flat 4 percent rate on FOB value. Under current legislation, export taxes are levied on the traditional export crops -- coffee, sugar, cotton, beef, bananas, and cardamom -- only if the FOB price exceeds a given quetzal level. At a designated threshold price, the tax is assessed at a given percentage rate and (with some exceptions) increases by percentage (Appendix B). The tax operates very much like the pre-1987 U.S. federal income tax rate system: no tax is paid below a given threshold; above that level, the tax is progressive. This system was imposed as a temporary revenue-raising measure in 1986. The original legislation included a phase-out schedule of 3 percent per month. By 1992, the rate will reach zero.

Import taxes are nominally quite high, but net effective rates are low. According to Bank of Guatemala and World Bank estimates, for all imports in the early 1980s, the weighted average total ad valorem rate was 14.7 percent; the net effective tariff rate was 6.8 percent (Table 8). Over 54 percent of imports were exempt from tariffs. Complete current nominal and net tariff data are not available, but from information available, it appears that both rates may now be even lower than at the beginning of the decade.

Indirect taxes such as value added taxes (VAT) and stamp taxes are the single largest source of government revenues. There are no direct taxes on basic foodstuffs. Direct taxes account for less than 15 percent of total government revenues, and income and property taxes are virtually insignificant (Table 7).

Guatemalan fiscal policy cannot be faulted for highly negative impacts on agricultural production incentives. At prevailing rates, taxes on agricultural output, resources and wealth, and fiscal policy measures have minor -- essentially negligible -- effects on production and marketing incentives. If fiscal policies were to be faulted, it would be because aggregate taxation levels are too low to sustain even minimal necessary public services. In this regard,

agriculture suffers seriously. It would perhaps be facile to claim that women in agriculture bear the brunt of poor and inadequate public services; in fact, the level and the quality of services are so miserably deficient that even the effect of a deliberate policy of gender discrimination would be of little or no consequence.

International Trade Policy

In small trade-oriented nations like Guatemala, the control and influence of trade, foreign exchange, monetary, and fiscal policies are inseparable. Any notable policy-induced distortion in one element inevitably seems to bring about even greater distortions in another; policy "quick fixes" often reemerge as massive breaks, if not at the repair point, then somewhere else.

Such is the case with Guatemalan international trade policy. Price inflation in the Guatemalan economy in this decade has been largely a function of government deficit financing fueled by highly expansionary monetary policy. Rather than attacking the root cause of inflation, the symptoms were treated through trade policy measures. Trade policy -- with the objective of rationing foreign exchange -- was used in an attempt to compensate for the errors and failures of monetary and fiscal policies. The treatment appears to have been worse than the ailment.

Import quotas and exchange rate controls were the two predominate policy measures used to ration foreign exchange. Both measures were subject to varying degrees and types of controls depending on the economic circumstances. There had been little direct government intervention in international commerce until mounting deficits accompanied by rising inflation rates in the mid to late 1970s and early 1980s began to put pressure on the quetzal. In 1982, quotas were imposed on a large number of commonly imported goods in an attempt to maintain the quetzal at parity with the dollar and to ration the diminishing quantity of foreign exchange. Based on the import history of the previous three years, the quotas effectively reduced the supply elasticity of these goods to zero. With restricted import supplies and

domestic industry unable to produce substitutes, speculation set in and prices soared.

Pressure on the quetzal continued to build. By late 1984, with the parallel rate moving toward 4:1, import quotas were abolished and replaced with a complex multiple exchange rate system. This new foreign exchange rationing scheme was modified frequently over the following months. In brief, it incorporated a legal parallel rate, auction markets for certain priority imports, and an official exchange rate at parity with the dollar. In June 1986, the regime was simplified by the adoption of a single regulated official rate of Q 2.50 per dollar while allowing the parallel rate to float. Over the past two years the gap between the official and floating rate closed to less than 5 percent, and in late June 1988, the government established a single unified rate of Q 2.70:US$ 1.00. This rate was pegged slightly above the parallel rate, and consequently, as of this writing, exchange rate distortions appear to be eliminated.

The economic effects of import quotas and exchange rate controls were perverse and widespread. Direct or indirect impacts of the policy reverberated through every sector of the economy. The principal effect was a strong anti-export bias.

Agriculture, with its extensive export orientation, was profoundly affected. Although most agricultural inputs were imported at the favorable official 1:1 rate, import quotas and long delays in obtaining access to foreign exchange restricted supplies. Black markets and contraband trade quickly emerged and prices soared for fertilizers, plant protectants, farm chemicals, animal vaccines, and other imported inputs. The immediate effects were sharp declines in the use of inputs, a drop in crop yields and livestock productivity, and increases in output prices. Less obvious were impacts of factor price distortions. Because of the capital import subsidies implicit in currency overvaluation, the relative price relationships of capital and labor shifted; labor became relatively more expensive and capital relatively less expensive.

Artificially cheap machinery imports thus favored producer adoption of capital-intensive production processes at the expense of labor.

The extent to which subsectors of agriculture were affected by these policies depended on the degree of market orientation. Because of limited input/output market orientation, highland subsistence producers were far less affected than small-scale producers of non-traditional export crops or Pacific coast cotton. The latter two producer groups saw their export market prices collapse while input prices skyrocketed.

Impacts on Women in Agriculture

The anti-export effects of trade policies on women during the 1980-88 period appear to parallel those of agriculture in general. Employment opportunities for women and men laborers in traditional export crop production dwindled as profitability and production of these crops fell and producers shifted to more capital-intensive systems. Apparently, women laborers did not bear a greater job loss impact than men. The literature available cites no evidence that women are necessarily the last hired and the first fired in export crop field work. For some types of work, women are preferred over men. In other types of work, women may receive less income for a day of agricultural field work, but this is because the work is paid as piece work (workers are paid by the unit of work completed) rather than because of wage discrimination.

As producers of non-traditional export crops, women -- like all producers -- experienced rapidly rising input costs and lower profitability and output prices. However, given that the labor involvement of women is relatively greater in these enterprises than in traditional agricultural crops, women were comparatively more affected. The same goes for women employed in the processing of these crops. Women in particular were affected because food processing laborers are predominately female. While there are no indications of women producers or processing workers being laid off because of the policies, employment opportunities simply expanded at a rate far slower

than would have been the case under a less perverse policy. Thus, the greatest effect on women both as producers and as processing laborers is the lost opportunities. This effect is not easily estimated; the impact of employment not created is difficult to quantify.

With one exception, women engaged in traditional subsistence agriculture were relatively unaffected by trade policies. By definition, subsistence agriculture has limited links to the market economy, and price movements in the market economy should not notably affect welfare. In Guatemala, however, rural women's artisan work -- primarily textile weaving -- is an important source of cash income. Some of the raw materials such as cotton thread are imported. Not all of these materials were granted the favorable import quota or exchange rates provided to many raw material imports. Hence, artisanal output was economically disadvantaged relative to competing industrial goods.

The aggregate effects of the severely perverse trade policies on the economy, on agriculture, and on women cannot be quantified easily. Certainly the aggregate impact was enormously negative. Agriculture suffered to a greater degree than other sectors; and within the sector, export agriculture was affected more than subsistence agriculture. More women are employed in agriculture than any other sector, and within agriculture, women working in export-oriented enterprises comprise a comparatively large proportion of the wage-labor force. Therefore, women have borne a comparatively large share of the burden created by these policies.

Commercial Regulation Policies

Direct government interventions in national commerce are limited. Two exceptions that affect agricultural trade concern the small, publicly owned national airline (AVIATECA) and the merchant marine (FLOAMERICA).

AVIATECA has preferential treatment in certain airport charges and landing privileges. As a result, AVIATECA has the equivalent of a

government-granted monopoly in the air transport of non-traditional agricultural exports to the U.S. market. FLORAMERICA has a similar government-granted monopoly position in sea shipments of agricultural products to the United States. These restrictions do not apply to other international markets.

The extent to which exports are restricted by these preferences is not known. That the pricing of these transportation services may be affecting exports is suggested by the fact that this year, for the first time, fresh vegetable exports were transported overland by refrigerated trucks to the United States through Mexico.

Sector Policies

This section describes recent and current agricultural sector policies and assesses their effects on women with special attention to women's agricultural production, farm and off-farm income and employment, trade activities, and consumption.

A number of policy elements often encountered in developing nations are absent in Guatemala. The nation either does not have some common explicit (or even implicit) policies, or implementation of existing policy legislation is absent or highly deficient. Many of the government's sector policies resemble articulations of sector goals more than implemented policy measures. Although the government has clearly identified sector goals, development strategies, and policy actions, the actions are specified not as policy measures to be carried out through policy instruments but as general paths and directions for policy.

The impacts of many policies are neutral, and certainly gender neutral, because there is no content. In other cases policies may have some content, but the impacts are highly limited. To examine the inconsequential and trivial effects on women -- or any other group -- would be pointless. For this reason, this section passes quickly over many policy areas and focuses discussion on a fairly limited set of the most relevant and important policies

that appear to have the greatest impacts -- real or potential -- on agriculture and women in agriculture.

Taxation Policies

Implemented sector fiscal policies are of three different types: export taxes, import taxes, and fiscal incentives for investment. Current export taxes were imposed temporarily in May 1986. The legislation invoking the taxes included a 3 percent per month phase-out provision with expiration by 1992. Given the basis on which taxes are levied, the onus of export taxes under current legislation is not great. The magnitude of tax levied depends on FOB price. With the exception of coffee, this has resulted in minimal levels of export taxation.

Taxes on coffee exports have accounted for an average of more than 90 percent of all export taxes (Table 7). Coffee is exported under quotas through international agreement, and with the few exceptions of exceptionally poor crop years, the national quota has been filled readily. Coffee export taxes have confiscated wealth, but because coffee profits in general have remained positive, the effects of wealth confiscation do not appear markedly perverse. To suggest that a part of the government-taken coffee wealth is confiscated from laborers is incorrect; conditions of the agricultural labor market rather than the coffee market govern wages. The taxed wealth is essentially Ricardian rent, and thus the tax itself approximates the theoretically ideal tax. It is truly unfortunate and lamentable that international entities, for whatever reasons, have persuaded the nation to abandon this important and benign tax; the revenues are desperately needed.

Taxes collected on other traditional exports are quite insignificant in terms of both the revenue raised and the production impacts. All non-coffee export taxes account for less than 10 percent of export tax revenues and a small fraction of production value. Any production disincentive impact is inconsequential.

The tax on non-traditional exports is not regarded as a production disincentive by producers or processors because it makes up such a small fraction of total costs. International transportation and marketing costs typically far exceed all domestic production and marketing costs; therefore, the 4 percent tax on FOB value of these products is not indicative of the much lower percentage levy based on total value of the product when placed in international market ports.

Fiscal incentives were provided to rubber, banana, poultry, swine, and milk production, but were repealed in 1987. These incentives were granted under leyes de fomento (development stimulation laws) rather than as a part of a sector fiscal policy package. The incentives were numerous and varied. Included were import tax exemptions for intermediate and capital inputs, tax holidays or exemptions on property, and income and miscellaneous taxes.

In principle, these incentives stimulated investment in the production of goods in subsectors deemed to be of high priority by the government. Yet there appears to be little evidence of the economic need for such incentives. The extent to which investment has been stimulated is unknown. Given the ambiguous relationship of the targeted industries to the government's sector priorities, these incentives appear to be little more than special interest legislation provided for a few commercial production operations.

It seems highly unlikely that small farm agriculture and women in agriculture have benefitted directly or indirectly from these incentives. To the extent that the incentives have subsidized investment in commercial agricultural output of pigs, chickens, and eggs -- products that large numbers of women in subsistence agriculture produce and market -- women may have been disadvantaged by the incentives.

Foreign Trade Policies

Guatemala's agricultural sector foreign trade policies are driven by a single underlying objective: national food security. The national food security goals are characterized by the willingness of the nation to isolate itself from international competition in the production of food. Food, as tacitly defined for national food security purposes, is corn, beans, wheat, and rice. Historically, national food security goals have resulted in a transfer of resources from consumers to producers. Consumers have borne the burden of a technically inefficient agriculture. This has been and will likely continue to be an acceptable social cost.

The following assessment of Guatemalan agricultural foreign trade policies does not consider explicitly the political economy of national food security. These concerns are disregarded easily because the current social costs of maintaining the policy are the lowest in recent history. Under different international or domestic conditions, the analysis might be quite different.

To describe and assess the wide array of sector policies, regulations, and controls relating to foreign trade of agricultural products, production, and capital inputs is beyond the scope of this report. Virtually every agricultural commodity and agricultural input has -- at least on paper -- highly specific restrictions of one sort or another in addition to generic restrictions (Appendix A). Various ministries or ministerial entities are involved in these restrictions, and some products require the equivalent of duplicate licenses, permits, or related documentation from multiple governmental entities. A product-by-product review and impact assessment would be a major research task.

To summarize briefly, sector trade policies are implemented primarily through import and export authority and/or licenses. In general, licenses are obtained through the Ministry of Economy and export authorities through the Ministry of Agriculture, one of its entities such as INDECA, or an officially recognized private producer association. No product is typical, and the

bureaucratic procedure for obtaining official import or export permissions is not standardized.

For this analysis, the essential question is to what extent these policies and regulations actually affect the sector, subsectors, and women in agriculture. This question is best answered by determining where these policies appear to create the greatest economic distortions. The distortion magnitude is measured by the net differences in domestic and international prices weighted by the commodity's importance in the agricultural economy.

The Jiron study meets the analysis criterion and is an appropriate and useful guide in responding to the central question. The study examined domestic versus international price differences for five key commodities -- corn, beans, rice, wheat, and grain sorghum from 1970 to 1985. The study concluded that corn, wheat, and grain sorghum generally had a positive and relatively high level of protection until about 1984-85, while rice and beans were generally negatively protected throughout the period. Protection levels for all five commodities shifted after 1984-85 as the government began to devalue the quetzal. With the devaluation of the quetzal, corn, wheat, and grain sorghum protection levels became negative, and the already negative protection of rice and beans increased.

Since the Jiron study, the devaluation of the quetzal has continued, and the currency is now at market equilibrium with the dollar. Since 1986, internal prices for these five commodities have been at or very close to international levels. (Note: July 1988 international prices are sharply above domestic prices because of U.S. drought.)

Food grains are far more than just representative proxies in this analysis, and there is no evidence of significant distortions in Guatemalan food grain prices because of current trade policy. There is no analogous proxy for imported agricultural inputs, but as shown previously, imports -- including agricultural production and capital goods -- generally face very low effective tariff rates. In principle, some conceivable distortions could arise from export

prohibitions on food grains. Because the bulk of all food grains is produced for subsistence consumption, however, this possibility appears quite remote.

In sum, the current impact of these restrictions and controls appears to be quite neutral, in spite of extensive (paper) regulation of agricultural foreign trade. While the neutrality of sector trade policy impacts is due in part to random conditions in international markets, Guatemala's recent modification in exchange rate policy is the predominant explanatory variable in the achievement of economic equilibrium.

Domestic Marketing Policies

Policy measures oriented to internal markets are designed to control prices rather than to impose quantitative restrictions or controls. Price regulation measures are directed to retail food sales in the form of ceiling prices and to the wholesale commodity level through minimum producer prices.

Retail Ceiling Price Controls

Retail price ceilings on food and other basic goods date back to 1974 when the Ministry of Economy fixed maximum prices on sugar, milk, eggs, and a few other products. During the past 14 years, retail price controls have frequently been invoked in response to a rapid run-up in the general consumer price level or to price rises of specific products deemed economically and socially basic by the Ministry of Economy.

Establishing retail ceiling prices has protected the purchasing power of urban consumers. Original legislation confined price controls to the Guatemala City metropolitan area. While this limitation is no longer in effect (in principle), the composition of products involved in price controls clearly reflects urban consumption patterns.

Administration and implementation of retail price controls are the responsibilities of the Ministry of the Economy. Establishment of actual

ceiling price levels is under the authority of the Comision Reguladora de Precios (Price Regulating Commission). Composition of this commission varies with the product under discussion but includes representatives from the Ministry of Economy and the National Labor Union Council, plus representatives from the relevant product industry and ministry.

The establishment, administration, and implementation of retail price ceilings in Guatemala are complex, difficult, and -- pragmatically speaking -- pointless endeavors. Price level determination, for example, is on a full cost recovery approach. The government has insufficient resources to collect original cost data; therefore, it must rely on industry-provided figures for the analysis. Aside from the obvious difficulty of obtaining unbiased data, this approach is inherently defective; it permits the most inefficient firms to recuperate their total production costs.

Selection of the product to be controlled is based on inconstant and, at times, internally contradictory criteria. In principle, product selection is premised on the average urban consumer retail market basket plus other social and economic considerations. In practice, in 1985, this resulted in more than 400 different goods falling under price control, including 25 brands of powered whole milk, 17 brands of vinegar, and 33 brands of detergents. Since 1985, the number of goods under price control has been reduced sharply and now (July 1988) stands at 17.

Enforcement of price ceilings in the thousands of retail establishments has been sporadic and inconsistent at best. As a result, retailers widely ignore the controls or temporarily suspend price-controlled product sales until price levels are adjusted upward or price controls are abandoned. Manufacturers ignore or avoid controls on specific products by changing package size and brand names or by making minor adjustments in product composition. Even price controls for unprocessed products such as meat are ignored; Jiron found little apparent relationship between the announced ceiling prices and actual retail prices for different meat cuts in his 1986 survey (Jiron p. 77).

Government retail price control policy is a policy with limited content. As such, the impacts at any economic level or in any sector of the economy are indiscernible. Certainly, the agricultural sector appears to be untouched by the policy.

Producer Support Prices

INDECA, a semi-autonomous entity of the Ministry of Agriculture, is responsible for administration and implementation of producer support prices. This responsibility involves mary multi-objective activities. The INDECA product mandate includes the key food grains -- corn, beans, wheat, rice, and grain sorghum.

The magnitude of INDECA intervention in the food grains market depends on funds available. It seldom has funds to purchase, store, and market more than a maximum of 5 percent of annual production of any of the five food grains. INDECA authorizes but has no direct involvement in the import or export of food grains.

INDECA financing is derived directly from the Junta Monetaria, therefore, funding levels are determined more by monetary policy objectives than by the entity's needs in fulfilling agricultural marketing policy mandates. Severely constrained by funding and market action limitations, INDECA's task as the government's only agricultural marketing institution is formidable indeed.

INDECA's central objective is to support and to maintain the income levels of the nation's small farm producers. An underlying operational assumption of this objective is that small farmers have a net marketed surplus that can be sold to the state at a minimum price rather than to the (presumed) monopsonistic and exploitative market intermediaries. The assumption is seriously flawed: a high proportion of Guatemala's small farmers produce no net marketable surplus; they are net purchasers of food grains (because of lack of transportation, many small farmers with market surplus

have no ready access to the state market). The Jiron analysis shows that in only 5 of the nation's 23 departments is average production per farm sufficient for subsistence. The case of beans is similar. Most small farmers never produce a net market surplus of either of the two key crops.

This presents INDECA with a dilemma. The purpose of the food grains support price is to help small farmers maintain income levels, but most of the small farmers are net food grain purchasers. Thus, if the policy maintains high food grain prices, most of the intended clientele suffer. The more successful the policy, the more it fails.

The Jiron analysis examines in depth the impacts of INDECA operations. The following are among the key findings:

- Seasonal food grain price variability declined at the producer level and increased at the consumer level during the 1970-85 period. It is hypothesized that INDECA price signal interventions contributed to the greater seasonal consumer price variability.
- INDECA price support operations appear to have had little, if any, effect on long-term food grain production incentives.
- Contrary to intent, there is strong evidence that changes in market prices of food grains drive changes in INDECA support price levels.
- There is no evidence that differences in the relative support price levels established by INDECA for corn and beans influence production levels in any way.

The Jiron study of the effects of INDECA operations on food grain price levels, price variabilities, production and production incentives, while not exhaustive, is analytically rigorous. The study's overall conclusions are transparent: INDECA operations have no discernible impact on the agricultural economy, but perhaps contribute negatively to price variability at the consumer level. Although there is no evidence that INDECA operations provide a floor

support level for food grain prices, if prices were to be supported, the intended clientele of the policy would be disadvantaged.

Agricultural Input Policies

Agricultural production inputs are subject to a considerably greater variety of policies than are outputs. This section examines policies for the three major types of inputs: labor, fertilizers and farm chemicals, and seed.

Labor Policies

Policy measures directed to agricultural labor are of two distinct types. One measure is the direct intervention by the government in the regulation of salary levels, i.e., minimum wage laws. The other is a set of either direct or indirect policies -- predominantly the latter -- oriented to rural employment creation. The nature and the impact of the two policy categories are distinctly different and merit separate discussions.

Salary Policies. The Ministry of Labor and Social Welfare, with the advice and counsel of the National Salary Commission, is responsible for the administration, implementation, and enforcement of national minimum wage laws. This authority includes the setting of agricultural minimum wages. The National Salary Commission revises wage levels when it is deemed appropriate and convenient or when pressures for revision come from workers. In the case of agricultural wages, the minimum salary levels remained unchanged between 1980 and early 1988.

From 1980 until January 1988, the level of agricultural minimum wages varied with the agricultural enterprise. Minimum daily wages for workers in cotton, coffee, sugarcane, and livestock were set at Q 3.20. For laborers in food grains, cardamom, horticultural, and miscellaneous crops, the wage rate was Q 1.12 per day and for poultry, bananas, and tobacco it was Q 1.25 per day. The rationale provided for the varying rates "was to maintain a high salary level for traditional export products, and favor the production of food

grains and non-traditional crops with low salaries" (Jiron, p. 120). No explanation is provided for the maintenance of a low salary level for cardamom, a crop now generally considered a traditional export.

The January 1988 revision of minimum wage levels established a single uniform rate for all agricultural activities. The rates are now Q .5625 per hour, Q 4.50 per day, and Q 135.00 per month. Compared with the maximum daily salary of Q 3.20 in 1980, the 1988 hourly salary represents a 40 percent increase, an increase well under half the rise in consumer prices during the period.

Agricultural minimum wage policy is a policy only on paper. The effectiveness and impact of the policy on labor and on agriculture are totally neutral as summarized by Jiron:

> The institution with responsibility for enforcing the [agricultural] minimum salary is the Inspector General of Labor. However, due to the lack of inspectors and physical resources, there is no effective implementation of the law. As a result, the minimum salary has no real application except to serve as an indicator in the labor market. During peak labor demand periods the salaries will rise 30 to 50 percent above the minimum level and in slack seasons will fall by the same proportions. (p. 120) (translation by author)

Employment Creation Policies. An exhaustive review of Guatemalan public policies likely would not reveal any measures explicitly identified as rural employment creation policies. However, virtually every official statement, national or sectoral development plan, or other government articulation relating to agriculture refers to enhancing rural employment. Employment creation concerns conspicuously pervade all government utterings on agriculture, even though specific policy measures oriented to employment creation are not to be found.

As noted previously, the most discernible and powerful tool used by the government to influence the direction of agricultural development, and more specifically, to direct resources to rural employment creation is the control

and guidance of foreign agricultural assistance. In this decade, the annual level of foreign assistance has unquestionably exceeded all government support to all national agricultural development programs. Although precise data are not available, the magnitude of current annual foreign assistance to agriculture is estimated at well over US$ 100 million. By itself, this is a significant level of resources; but because the government also concentrates its counterpart resources in foreign-assisted development programs, the impact of these resources is multiplied considerably. Through these efforts, rural employment creation has been stimulated by four principal means:

- Emphasis on projects involving labor-intensive construction activities such as the building of mini-irrigation systems, rural farm-to-market roads, and soil conservation terraces. Typical of such programs are the A.I.D.-funded Farm to Market Roads Project and the Highlands Agricultural Development Project, the PL 480-funded irrigation works programs and rural roads programs, the Japanese irrigation assistance programs, the ROCAP and A.I.D. soil conservation projects, and the CABEI-funded rural access roads programs.

- Emphasis on labor-intensive, non-traditional export crop production. Representative projects include the A.I.D.-funded Small Farmer Diversification Project, Small Farmer Marketing System Project, and Agribusiness Development Project; the Highlands Agricultural Development Project; the ROCAP Non-traditional Export Project; and the IDB-financed Agricultural Wholesale Market program.

- Emphasis on the development of labor intensive agro-industry oriented to the production of value-added non-traditional exports. Some important programs in support of this thrust are the A.I.D. Rural Enterprise Development Project, Cooperative Strengthening Project, and Private Enterprise Development; the ROCAP Non-traditional Agricultural Export Support Project; and the three Bank of Guatemala-A.I.D.-financed rediscounted credit lines for rural business development, fruit and vegetable marketing, and agro-industrial development.

- Emphasis on the maintenance of competitive capability of labor-intensive traditional export crop production. In addition to foreign assistance such as the programmed A.I.D. Technification [sic] of Traditional Export Crops and the current ROCAP Regional Coffee Pest Control Project,

> the government subsidizes production credit, gives preferential treatment to imports of production and capital inputs, and so forth (see discussions in monetary, fiscal, trade, input, and marketing policies).

Impacts on Women

Of the four employment-creating emphases, the latter three especially affect employment opportunities for women. In addition, the emphases on non-traditional crop production and agro-industrial processing have also had positive effects on subsistence food production, farm income, expenditure patterns, caloric consumption, and nutrition.

Employment Impacts. The important role of women laborers in traditional export crops has been discussed. While only the employment-creating effects are noted above, government policy also has affected traditional export crop production negatively. As a result, total area has declined and employment opportunities, in the aggregate, have fallen. However, in the absence of the measures noted above, the drop in employment would likely have been somewhat greater.

Government emphases on non-traditional crop agriculture have had significant impacts on employment opportunities for women. Virtually all of the new jobs in agro-industrial processing of non-traditional crops are filled by women. Evaluations of non-traditional export projects and programs indicate that women account for not only almost all new labor employed in processing, but also a substantial portion of all additional labor employed in producing these crops. As the Cuatro Pinos Cooperative study concludes

> Nontraditional export crops created local employment directly on farms and indirectly through forward and backward linkages and multiplier effects resulting from increased income spent locally. Labor input in agriculture increased in the export vegetable producing farms by 45 percent. About half of this increase is covered by family labor and half by hired labor. (von Braun, pp. xiii-iv)

> A substantial share of the increased family labor is from women. It is 44 percent of the increase in the farms below 0.5 hectares and 32 percent in the farms above one hectare. Women's labor input into the subsistence crop (maize) is low (9 percent) as compared to traditional vegetables (25 percent) and the new export vegetables (31 percent). (von Braun, p. xiv)

Food Production Impacts. It has long been known that highland farmers who shift to intensive non-traditional crop production reduce the land area of the farm devoted to basic food grains. The untested postulate is that as a result of reduced food grain area, production declines and families become more dependent on the market as a source of food grains. An associated postulate is that nutrition, especially of women and children, suffers as a result of reduced food grain production (see nutrition discussion below). As von Braun's findings show, both postulates are unfounded in the Guatemalan case.

> Despite smaller areas allocated to traditional subsistence crops by export crop producers, the great majority tend to have higher amounts of maize available (per capita) for consumption from their own produce than other farmers of the same farm size because coop members' maize and beans yields are 30 percent higher on average than nonmembers' yields. A combination of factors is responsible for the increase in yields. Fertilizer inputs are increased and cropping practices are more labor-intensive (more weeding labor). This is not an effect of a possible self-selection bias of more efficient farmers who became export crop producers. One reason is the positive effect of snowpeas on soil fertility [nitrogen fixation]. A second more hypothetical reason is that export crop producers improved their crop management of subsistence crops once new export crops were introduced. (p. xvi)

Income and Expenditure Pattern Impacts. Higher income levels and shifts in expenditure patterns are two key indicators of economic development. As family incomes increase, Engel's law comes into play and families spend a lower percentage of income for food. Also with income increases, proportionally less income is spent on starchy foods and proportionally more goes to animal proteins. The Cuatro Pinos study found this to be the case for Guatemalan small farm families moving to non-traditional crops:

> The export promotion scheme led to increased income in the participants' households. Expenditures -- used as an income proxy -- increased by 38 percent above the average nominal increase in the total survey population. The income gains were highest among the adopters in the smallest farms. The new export crops had a favorable effect of moving the poorest upward on the income scale.
>
> Export producers spend on average 64 percent of their total expenditures on food compared to 66.8 percent among the other households. The relative lower budget share to food among export crop producers is due to relatively lower expenditures on almost all foods but meat, fish, and eggs. Nevertheless the absolute per capita budget spent on food is on average 18 percent higher in export crop producing households. (p. xviii)

Caloric Consumption and Nutrition Impacts. Nutrition and development literature widely reports that when family caloric intake and nutritional levels are at the margin, women and children are typically the most nutritionally deprived, since the adult male household member(s) eat first. This is a totally rational family survival technique if the adult male household member is the principal income earner. Thus, if family caloric and nutritional levels improve, the primary beneficiaries are women and children.

In this regard, the findings of the Cuatro Pinos evaluation are highly relevant. The study clearly shows that Guatemalan highland farmers in the surveyed region are at caloric and nutritional margins. Caloric acquisition increased with greater income levels; each 10 percent income increase resulted in a 3.1 percent average increase in calories. As income levels increased, the growth in caloric intake declined. An additional finding pertaining to relationships between gender income and nutrition is of special interest for this analysis:

> It is found that increased income leads to significant nutritional improvement, but decreasing so at the margin. The hypothesis that an increased share of male-controlled income -- be it off-farm income or income from the export crops -- would lead to adverse nutritional effects does not find support by this analysis. A higher share of especially women-controlled nonagricultural income, however, tends to add more to nutritional improvement than does men's nonagricultural income. (p. xx)

In sum, the gender and aggregate impacts of the government's non-traditional crop production and processing emphases are highly positive with regard to income and employment, subsistence food production, and caloric and nutritional intake. Although not examined, other likely important impacts include greater equality in sector (and gender) income distribution, improved national diets, and increased foreign exchange earnings.

Fertilizers and Chemicals

The general policy of the government has been to stimulate the use of fertilizers and agricultural chemicals (herbicides, pesticides, fungicides). In addition to preferential treatment through favorable exchange rates during the early and mid-1980s, all imported fertilizer and agricultural chemicals were exempted from import duties as of 1981.

During the 1970s, BANDESA was a major actor in the importation and marketing of these inputs. Private sector establishments were involved only in market distribution under prior authorization of DIGESA. With the growth in the number of commercial agricultural input firms through the 1970s, the government withdrew from the market, then resumed direct importation and distribution in 1984.

It is apparent the government has less than complete confidence that market forces in the domestic fertilizer supply industry will bring about price competition. There may or may not be justification for this position. Certainly, the nature of the industry would appear less than competitive. Fewer than 30 firms are involved in the market, and a handful of these apparently dominate it. Prices appear to be set by agreement through GREPAGRO, the industry trade association. The three cooperative federations, although not members of GREPAGRO, appear to follow the association's price policies.

The principal reason given for government re-entry into the market is the rapid jump in prices. Indeed, prices soared with the devaluation of the quetzal and exchange market uncertainties of the mid-1980s. BANDESA directly imported an estimated 10 percent of all fertilizer used in 1986 and distributed it at a price one-third less than the prevailing prices of private distributors. Jiron reports that fertilizer prices of private commercial distributors dropped by 30 percent as a result of BANDESA distributions. This seems to be an exceptionally large price drop, given that official imports were doubly subsidized, first through the exchange rate and again through uncharged transport and handling costs.

The fertilizer was distributed by DIGESA to small farmers who were limited to 600 pounds, the presumably proper amount for exactly one manzana of corn. The program continued with few modifications during 1987 and 1988 with assistance from the Italian government. Apparently there has been no formal evaluation of the program, but it is generally accepted that a high proportion of the fertilizer distributed to small farmers has been resold to commercial farmers for profit. This implies that the 30 percent price drop reported by Jiron may be overstated.

Because of data limitations, the various impacts of the government's fertilizer policies are not clear. Because price levels may have been influenced (lowered) the policies likely have encouraged somewhat greater amounts of fertilizer use by Guatemalan agriculture than would have been the case without the policies; therefore, aggregate agricultural production is somewhat greater because of the policies. Which crops, regions, groups, or types of agriculture are benefitting from the policies is pure conjecture, since reliable data on the distribution of use by crop, region, or type of agriculture are unavailable. The likelihood of any notable gender impact of the policies would be quite small.

Other agricultural chemicals also have had favorable exchange rate and tariff treatment; however, unlike fertilizers, the government has not been involved in direct importation of these inputs. Two types of chemical-intensive enterprises -- cotton and non-traditional crops -- have especially

benefited from these policies. Cotton is produced as a plantation crop, and non-traditional crops are grown by small farmers. Because women are heavily involved in both cotton production and non-traditional crop production and processing, they are beneficiaries of these policies.

Seeds

Two distinctly different seed production systems exist in Guatemala. Little information is available on the private system that produces horticultural plant seeds for the U.S. and international markets. It apparently operates under contract to international horticultural firms, and thus is essentially a subsector of the non-traditional crop production system.

The other seed production system is operated by ICTA, the Ministry of Agriculture entity responsible for agricultural research, with the participation of DIGESA. ICTA produces a small amount of foundation seed primarily for corn and beans plus very limited amounts for rice, wheat, and grain sorghum and a few other crops such as soybeans, melons, potatoes, and okra. DIGESA, and, to a limited extent, DIGESEPE are involved in multiplication work and seed distribution to farmers.

Guatemala has no identifiable national seed policy. Seed importation is free of duty and has no notable quantitative restrictions. The limited quantity of ICTA foundation seed production is sold to commercial seed multiplication firms at less than production cost, as DIGESA seed is distributed to farmers. The total public subsidy for the entire seed program is inconsequential. Given the minor cost, but the critical importance of high quality seed, the program likely yields very high social returns.

Livestock Policies

Three distinctly different production systems produce Guatemala's livestock and livestock products. Most of the beef cattle are produced by land-, labor-, and management-extensive commercial ranches. Virtually all of

the export beef is produced by these commercial operations. A few vertically integrated, high technology factory systems directly transferred from the United States produce a high proportion of the milk, poultry, and eggs and a growing, but still small, part of the pork consumed in urban areas. Small and medium size farmers produce all of these livestock and livestock products plus others -- rabbits, sheep, and goats. Most of the small and medium farm production, except for hogs, is sold in local markets.

Guatemala has no policies oriented specifically to livestock production with the exception of past fiscal incentives for poultry, swine, and milk production (see taxation policies above). The Poultry Development Law of 1962 exempted imported poultry-production inputs and provided for 10-year income tax holidays on profits. This law was repealed in 1987. There appear to be no special import or export restrictions (other than sanitary regulations) relating to breeding stock or genetic material. Import and export licenses are required for live animal imports or exports, but contraband border trade with neighboring countries is common. Import tariffs are 5 percent for breeding stock and 30 to 40 percent for processed meats. Animal slaughter and meat marketing (sanitary) regulations are on the books, but apparently are not enforced.

Land and Natural Resource Policies

Two laws essentially define Guatemalan land policy: the "idle lands" law and the "basic grains" law. Both are designed to affect land use.

Guatemalan legislation relating to idle lands dates to 1962. The objective of the law is to regulate the under-utilization of land on farms of 100 hectares or more. The complex system was designed for INTA, the implementing entity, to use to determine the degree of land under-utilization. It includes five land classes and numerous soil characteristics -- texture, pH level, drainage, erosion, color -- plus other criteria such as land topography, location relative to water, and roads. Based on this system, high taxes (Q 2.50 per hectare) are to be imposed on the best lands and low taxes

(Q 0.75) on the poorest lands. Since promulgation of the law in 1962, total tax collections have amounted to less than Q 200,000 (US$ 70,000). The law is not enforced, is disregarded by landowners, and thus has no impact on land use.

The other land legislation is directed to the cultivation of basic (food) grains on farms of 100 hectares or more. The 1984 law requires these units to devote a minimum of 10 percent of land area to basic grain production and imposes fines if landowners do not comply. DIGESA is responsible for enforcing the law. To date, not one farm has been brought to court for failure to comply with the law.

The official government position regarding land is "to propitiate the transfer of under-utilized and abandoned farms to landless campesinos to be developed and organized as cooperative businesses." To further this goal, the government has declared that there will be no expropriation of land and has advocated an expansion of the land market to allow campesinos to purchase land.

In 1984, A.I.D. initiated a pilot land market program with the Penny Foundation. The Foundation

> purchases large farms on the market, surveys and divides the farm into family-size plots (an average of 2.8 hectares) which are then resold to landless or land-poor households as individual owners with 10-year mortgages. Between 1985 and 1987, as a pilot project with US$ 3 million of USAID funding, 20 farms were purchased and 1,223 family-sized plots were created for resale to landless families" (Wing, p. 41).

This program was expanded with US$ 8 million in additional funds for 1987-92.

This program differs from the government program, which also purchases land but requires that it be turned over to campesino collective organizations (empresas asociativas) under the management of INTA. In 1987, the

government purchased 9 farms and established 11 projects benefitting 8,350 people.

To the extent that women are among the poorest of the rural poor, the government (and A.I.D.-funded) land-sale program is beneficial; however, the program is minuscule relative to the nation's land access problem. Lack of greater government attention to this problem is short-sighted.

Research did not reveal any government articulation of policies regarding resource utilization other than these land laws. This finding is confirmed by USAID/Guatemala.

Agricultural Research and Extension Policies

Research

Guatemala has no national agricultural research policy or program. But this does not imply that there are no research institutions or that no research is being conducted; the opposite is true. For a nation of Guatemala's size and wealth, a surprisingly large and active set of agricultural research entities is involved in a rich variety of research endeavors. The large number of institutions and the wide range of research activities precludes all but a cursory overview for this study.

The public and private sectors divide -- in no formal manner -- the nation's agricultural research. The only public entity devoted exclusively to agricultural research is ICTA. It concentrates efforts on the basic grains, notably corn, beans, wheat, rice, and grain sorghum, and gives limited attention to horticultural crops. Other public sector entities involved in agricultural research are the National Forestry Institute (INAFOR), the Institute for Agronomic Research (IIA) and the Institute for Livestock Research (IIP) at the University of San Carlos, and the Research Institute and Veterinary Faculty of the Universidad del Valle. DIGESA and DIGESEPE

conduct limited and highly applied work in carrying out agricultural extension mandates.

All private sector entities involved in research-oriented activities are commodity-specific organizations. Each of the important -- and some not so important -- crops is represented by a producer association or similar organization that is involved in conducting research for that crop. For example, coffee research is done by the National Coffee Association (ANACAFE), banana research by the Banana Growers Association (BANDEGUA), essential oils research by the Essential Oil Producer's Association (APAESA), and so on.

An assessment of the effectiveness of public and private research is beyond the scope of this study. Certainly ICTA's research work in basic grains enjoys an excellent international reputation (perhaps due more to the dedication of its scientists than to the size of its budget). ICTA's orientation to food grains implies a public research policy orientation toward the poor, but the primary users and beneficiaries of ICTA research output have been the large commercial farming operations of the Pacific coast. The gender impact of ICTA's work is rather obscure.

Extension

Two official entities, DIGESA and DIGESEPE, are responsible for the nation's crop and livestock extension activities. Extension work oriented to specific crops is also carried out by private producer associations such as ANACAFE and BANDEGUA. The private organizations involved in extension activities are generally the same as those conducting research, although several entities do extension work with no research backstopping. Private resources applied to extension activities probably exceed government resources.

As in the case of agricultural research, an assessment of the effectiveness of extension programs is beyond the scope of this report. Neither of the two public entities has sufficient resources to conduct an

effective extension program. For the entire Western Highland region, for example, there are a total of 70 extension workers -- one per 3,000 farms, or roughly one per 20,000 people. At best, this ratio is 10 times greater than is minimally acceptable. The level and content of services are so deficient that even if extension efforts had blatant and deliberate gender biases -- and this does not appear to be the case -- the negative aggregate effects on women and on agriculture would be inconsequential.

III. FINDINGS AND CONCLUSIONS

This study assessed the effects of national economic and agricultural policies on women in Guatemala's agricultural sector. The analysis focused on the effects of macroeconomic and sectoral policies on women's agricultural production, income and employment, and trade and consumption within the context of women's roles in the predominant types of Guatemalan agriculture -- traditional export crop production; non-traditional commercial horticultural crop production and associated agro-industrial processing; and small-farm, subsistence food production.

The Guatemalan economy and agricultural sector are not beset with government interventions to the extent of many developing nations. Many of the policies that affect agriculture are relatively benign. Moreover, because of lack of implementation or insufficient implementation resources, many potentially positive or negative policies have little or no impact. Policies that have the greatest impact on agriculture are general macroeconomic policies -- those policies not specifically directed to the agricultural sector, such as monetary and fiscal policy. Most of Guatemala's policy-induced agricultural resource and output market distortions are history; recent changes have reduced or eliminated the negative effects of previous policy measures. Thus, in general, the current set of economic policies only nominally affects agricultural resource and output markets. It appears that the net effects of current policies are generally positive for agriculture and for women in the agricultural sector.

No policy or group of policies has discernibly marked gender effects. Clearly, some policies affect women more than other policies, but this is primarily because proportionally more women are involved in some activities

than others. In Guatemala, women are disadvantaged or benefited when policies affect any given subsector in which they are involved; they are proportionally more disadvantaged or benefited if they make up a proportionally large share of that subsector. Women have clearly defined and important economic roles in agriculture. But it does not appear that these roles are sufficiently unique that economic or sector policies -- short of blatant legalized discrimination -- could deliberately be tailored specifically to benefit or to disadvantage women.

The effects on women in agriculture of the key Guatemalan macroeconomic and sector policies are summarized in Appendix 3. It is of some interest that virtually all the negative effects flow from expressly deliberate macroeconomic policies. The positive effects derive from private sector and foreign assistance initiatives supported by the government's general articulation of sector development strategy, i.e., the production, processing, and export of non-traditional crops.

APPENDIX 1. TABLES AND FIGURES

Table 1. Guatemala: Gross National Product by Sector, 1987, Constant 1958 Prices

(Millions of dollars)

	Value[a]	Percent
Agriculture[b]	765.9	25.4
Mining	8.7	0.3
Manufacture	475.1	15.8
Construction	55.1	1.8
Utilities	72.0	2.4
Transport, warehouses, and communication	214.4	7.1
Commerce	745.0	24.8
Finance	115.3	3.8
Housing	161.2	5.4
Public administration and defense	207.9	6.9
Services	189.3	6.3
Total	3,009.9	100.0

a. Preliminary.
b. Includes forestry, hunting, and fishing.
Source: Central Bank of Guatemala.

Table 2. Number of Farms and Area by Farm Size, 1964-79

Farm size (hectares)	Number of farms				Percent change	Total area (hectares)				Percent change	Average farm size (hectares)		
	1964	Percent	1977	Percent	79/64	1964	Percent	1979	Percent	79/64	1964	1979	Perc char
Up to 1.4	183,741	44	361,489	60	97	133,991	3	173,113	4	29	0.7	0.5	-28
1.4 to 3.5	129,116	31	128,587	21	–	274,243	7	287,268	6	5	2.1	2.2	4
3.5 to 44.5	95,679	23	101,307	17	6	906,700	23	1,085,235	23	20	9.5	10.7	12
Above 44.5	8,808	2	13,654	2	55	2,620,277	67	3,146,794	67	20	297.5	230.5	-22
Total country	417,344	100	605,037	100	45	3,935,211	100	4,692,410	100	19	9.4	7.8	-17.

Source: International Fund for Agricultural Development, "Estrategia para el Desarrollo de la Produccion Campesina en el Altiplano Occidental," 1985, p. 68; and World Bank estimates.

Table 3. Specialization in Crop Production, by Farm Size, 1950, 1964, 1979

Farm size (hectares)	Type of crops[a]	Land use in percent of farm-size class		
		1950	1964	1979
Below 1.4	Basic food	96.7	91.1	87.4
	Agro-industrial crops	3.3	8.5	12.2
	Pasture	--	0.4	0.4
1.4 - 3.5	Basic food	93.5	90.1	84.6
	Agro-industrial crops	6.2	8.4	14.0
	Pasture	0.3	1.5	1.4
3.5 - 44.5	Basic food	84.8	68.0	64.4
	Agro-industrial crops	10.8	12.6	19.1
	Pasture	4.4	19.4	16.5
Above 44.5	Basic food	18.8	14.4	13.7
	Agro-industrial crops	35.1	32.1	38.4
	Pasture	46.1	53.5	47.9
Total	Basic food	58.0	41.3	37.4
	Agro-industrial crops	20.0	23.1	29.8
	Pasture	22.0	35.6	32.8

a. Basic food includes maize, beans, rice wheat, potatoes, and vegetables. Agro-industrial crops include sorghum, cotton, coffee, sugarcane, cardamom, sesame, groundnut, tobacco, rubber, and fruits. Pasture includes permanent pasture and land for fodder crops.

Source: SEGEPLAN, *Agricultura, Poblacion, y Empleo en Guatemala* (Guatemala: SEGEPLAN, 1984).

Table 4. Population More Than 10 Years Old, by Condition of Employment, According to Gender and Age Group

Gender and age group	Total	Economically active					Inactive
		Total	Employed	Unemployed			
				Total	Unemployed	Looking for work for the first time	
Men and women	5,472,104	2,740,061	2,644,288	95,773	65,758	30,015	2,732,043
10 - 14	1,064,147	194,758	189,397	5,361	1,620	3,741	869,389
15 - 19	829,922	416,823	390,182	26,641	14,068	12,573	413,099
20 - 24	679,635	398,539	373,070	25,469	18,039	7,430	281,096
25 - 29	546,752	340,352	327,316	13,036	8,774	4,262	206,400
30 - 34	488,317	324,941	315,863	9,078	7,613	1,465	163,376
35 - 39	413,480	257,203	249,876	7,327	6,869	458	156,277
40 - 44	318,561	197,695	193,782	3,913	3,856	57	120,866
45 - 49	264,566	164,509	162,894	1,615	1,615	–	100,057
50 - 54	222,353	134,770	133,626	1,144	1,144	–	87,583
55 - 59	207,244	122,660	121,697	963	963	–	84,584
60 - 64	142,959	76,448	75,913	535	506	29	66,511
65 and over	294,168	111,363	110,672	691	691	–	182,805
Men	2,670,774	2,069,076	2,011,397	57,679	42,797	14,882	601,698
10 - 14	548,143	152,339	148,374	3,965	1,061	2,904	395,804
15 - 19	406,356	309,282	292,207	17,075	9,927	7,148	97,074
20 - 24	319,437	298,593	283,545	15,048	11,555	3,493	20,844
25 - 29	255,980	250,476	244,135	6,341	5,670	671	5,504
30 - 34	244,466	242,351	237,531	4,820	4,473	347	2,115
35 - 39	194,298	190,867	187,219	3,648	3,415	233	3,431
40 - 44	153,867	150,380	147,120	3,260	3,203	57	3,487
45 - 49	122,486	119,992	119,099	893	893	–	2,494
50 - 54	110,300	104,958	104,191	767	767	–	5,342
55 - 59	103,081	97,933	96,970	963	963	–	5,148
60 - 64	69,165	61,232	60,917	315	286	29	7,933
65 and over	143,195	90,673	90,089	584	584	–	52,522

(continued)

Table 4. (continued)

Gender and age group	Total	Economically active					Inactive
		Total	Employed	Unemployed			
				Total	Unemployed	Looking for work for the first time	
Women	2,801,330	670,985	632,891	38,094	22,961	15,133	2,130,345
10 - 14	516,004	42,419	41,023	1,396	559	837	473,585
15 - 19	423,566	107,541	97,975	9,566	4,141	5,425	316,025
20 - 24	360,198	99,946	89,525	10,421	6,484	3,937	260,252
25 - 29	290,772	89,876	83,181	6,695	3,104	3,591	200,896
30 - 34	243,851	82,590	78,332	4,258	3,140	1,118	161,261
35 - 39	219,182	66,336	62,657	3,679	3,454	225	152,846
40 - 44	164,694	47,315	46,662	653	653	–	117,379
45 - 49	142,080	44,517	43,795	722	722	–	97,563
50 - 54	112,053	29,812	29,435	377	377	–	82,241
55 - 59	104,163	24,727	24,727	–	–	–	79,436
60 - 64	73,794	15,216	14,996	220	220	–	58,578
65 and over	150,973	20,690	20,583	107	107	–	130,283

Source: I.N.E. Encuesta Nacional, 1986/87.

Table 5. Economically Active Population[a] and Inactive Population with Work Experience, by Gender and Sector

Gender and sector	Total	Employed				Unemployed and laid off	Inactive population, available and experienced
		Total	Full employment	Visible under-employment	Invisible under-employment		
Men and women	2,816,377	2,644,288	1,041,019	296,870	1,306,399	65,758	106,331
Agriculture	1,415,433	1,372,612	373,863	138,603	860,146	14,880	27,941
Mining	2,951	2,761	1,355	62	1,344	–	190
Manufacturing industry	362,438	334,721	152,319	47,390	135,012	13,036	14,681
Utilities	10,584	10,476	8,441	1,068	967	80	28
Construction	101,034	93,926	53,822	2,325	37,779	5,557	1,551
Commerce	393,991	362,910	166,446	45,051	151,413	9,492	21,589
Transport & communication	56,017	53,604	36,623	4,808	12,173	1,744	669
Financial services	34,752	31,329	24,173	1,658	5,498	1,702	1,721
Social services	438,080	380,902	223,133	55,905	101,864	19,267	37,911
Miscellaneous activities	1,097	1,047	844	–	203	–	50
Men	2,073,614	2,011,397	818,072	180,089	1,013,236	42,797	19,420
Agriculture	1,298,335	1,276,888	362,616	119,928	794,344	13,759	7,688
Mining	2,899	2,735	1,355	62	1,318	–	164
Manufacturing industry	224,155	213,290	125,520	13,643	74,127	7,912	2,953
Utilities	10,107	9,999	8,158	1,068	773	80	28
Construction	100,402	93,400	53,296	2,325	37,779	5,557	1,445
Commerce	162,937	156,332	90,567	14,931	50,834	3,521	3,084
Transport & communication	53,413	51,132	34,489	4,808	11,835	1,612	669
Financial services	26,620	24,864	19,449	1,273	4,142	1,230	526
Social services	193,649	181,710	121,778	22,051	37,881	9,126	2,813
Miscellaneous activities	1,097	1,047	844	–	203	–	50

(continued)

Table 5. (continued)

Gender and sector	Total	Employed				Unemployed and laid off	Inactive population, available and experienced
		Total	Full employment	Visible under-employment	Invisible under-employment		
Women	**742,763**	**632,891**	**222,947**	**116,781**	**293,163**	**22,961**	**86,911**
Agriculture	117,098	95,724	11,247	18,675	65,802	1,121	20,253
Mining	52	26	–	–	26	–	26
Manufacturing industry	138,283	121,431	26,799	33,747	60,885	5,124	11,728
Utilities	477	477	283	–	194	–	–
Construction	632	526	526	–	–	–	106
Commerce	231,054	206,578	75,879	30,120	100,579	5,971	18,505
Transport & communication	2,604	2,472	2,134	–	338	132	–
Financial services	8,132	6,465	4,724	385	1,356	472	1,195
Social services	244,431	199,192	101,355	33,854	63,983	10,141	35,098
Miscellaneous activities	–	–	–	–	–	–	–

a. Not including those looking for work for the first time.
Source: INE, Encuesta Nacional 1986/87.

Table 6. Tax Revenues, 1970-1985

	1970	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
	Millions of quetzales											
Total central government taxes	148.7	300.7	370.3	556.9	626.6	629.4	686.1	658.6	632.7	551.5	536.1	689.0
Corporate income tax	14.4	42.1	45.5	56.7	74.4	72.3	70.6	84.9	83.5	82.4	81.6	74.3
Personal income and property tax	10.3	20.6	22.0	23.1	30.7	28.8	33.7	30.1	26.2	36.6	38.6	57.1
Indirect taxes on domestic transactions	77.6	146.5	183.7	227.8	251.9	280.4	316.3	366.1	389.8	331.3	301.7	408.6
Import taxes	37.7	69.2	68.9	97.1	108.4	117.9	111.9	105.2	80.5	67.4	80.7	80.5
Export taxes	8.7	31.3	49.2	152.2	158.3	125.8	149.7	68.2	48.7	39.8	28.4	9.9
Other taxes on international transactions	0.0	0.0	0.0	0.0	2.9	4.2	3.9	4.1	4.0	4.0	5.1	58.5
Taxes not levied by the central government	28.7	47.4	56.3	92.5	82.9	134.5	147.1	158.0	159.5	163.4	167.2	169.1
Total taxes	177.4	348.1	426.6	649.4	709.5	763.9	833.2	816.6	792.2	714.9	703.3	858.1
	Percent of GDP											
Total central government taxes	7.8	8.2	8.5	10.2	10.3	9.1	8.7	7.7	7.3	6.1	5.7	6.3
Corporate income tax	0.8	1.2	1.0	1.0	1.2	1.0	0.9	1.0	1.0	0.9	0.9	0.7
Personal income and property tax	0.5	0.6	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.5
Indirect taxes on domestic transactions	4.1	4.0	4.2	4.2	4.1	4.1	4.0	4.3	4.5	3.7	3.2	3.7
Import taxes	2.0	1.7	1.6	1.8	1.8	1.7	1.4	1.2	0.9	0.7	0.9	0.7
Export taxes	0.5	0.9	1.1	2.8	2.6	1.8	1.9	0.8	0.6	0.4	0.3	0.1
Other taxes on international transactions	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.5
Taxes not levied by the central government	1.5	1.3	1.3	1.7	1.4	1.9	1.9	1.8	1.8	1.8	1.8	1.5
Total taxes	9.3	9.5	9.8	11.8	11.7	11.1	10.6	9.5	9.1	7.9	7.4	7.8

Source: Ministry of Finance; General Planning Office and IMF.

Table 7. Guatemala: Central Government Current Income

(Millions of quetzales)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total current income	165.2	173.4	185.1	213.1	279.6	329.7	406.8	591.2	660.7	668.8	747.3	740.6	720.7	741.1	666.3	864.8
Total taxes	147.2	154.0	163.6	191.8	254.8	300.7	370.3	556.9	626.6	629.4	686.1	658.6	632.7	305.5	264.1	315.3
Direct taxes	23.9	25.3	28.9	32.1	39.4	62.7	67.5	79.8	105.1	101.1	104.3	115.0	109.7	134.3	85.4	126.2
Income tax	18.4	20.2	22.4	25.3	32.0	54.8	59.2	70.8	94.7	92.9	96.7	107.0	102.2	128.2	78.5	108.0
Personal	4.3	5.0	5.5	6.1	7.3	12.7	13.7	14.1	20.3	20.6	26.1	22.1	18.7	18.1	29.1	35.8
Companies	14.1	15.2	16.9	19.2	24.7	42.1	45.5	56.7	74.4	72.3	70.6	84.9	83.5	110.1	49.4	72.2
Property tax	5.5	5.1	6.5	6.8	7.4	7.9	8.3	9.0	10.4	8.2	7.6	8.0	7.5	6.1	6.9	18.2
Territorial	5.1	4.8	6.2	6.5	6.9	7.6	8.1	8.6	9.7	7.9	7.2	7.5	7.0	5.4	5.9	17.6
Inheritances and donations	0.4	0.3	0.3	0.3	0.5	0.3	0.2	0.4	0.7	0.3	0.4	0.5	0.5	0.7	1.0	0.6
Indirect taxes	123.3	128.7	134.7	159.7	215.4	238.0	302.8	477.1	521.5	528.8	581.8	543.6	523.0	171.2	178.7	189.1
Business taxes	45.8	47.5	47.1	57.2	80.0	91.5	119.1	249.3	269.6	247.9	265.5	177.5	133.2	60.6	50.1	30.1
Import tariffs	36.2	38.5	37.4	41.6	58.8	60.2	69.9	97.1	108.4	117.9	111.9	105.2	80.5	15.4	18.6	19.4
(Protocol from San Jose)	7.6	9.4	9.0	9.2	13.8	14.2	16.0	21.3	23.2	26.0	24.8	23.3	18.3	15.3	18.6	19.0
(Others)	28.6	29.1	28.4	32.4	45.0	46.0	53.9	75.8	85.2	91.9	97.1	81.9	62.2	0.1	0.0	0.4
Export tariffs	9.6	9.0	9.7	15.6	21.2	31.3	49.2	152.2	158.3	125.8	149.7	68.2	48.7	45.2	31.5	10.7
Coffee	8.4	7.5	7.9	13.7	20.1	7.8	36.7	140.8	147.2	115.1	133.1	43.1	35.9	27.5	22.0	7.5
Banana	0.2	0.2	0.3	0.2	0.3	0.4	6.2	6.7	7.6	6.5	9.7	10.3	10.0	6.1	2.9	1.3
Cotton	0.2	0.2	0.4	0.4	0.5	1.6	1.6	0.3	3.2	0.7	4.6	7.8	2.2	0.6	0.4	0.2
Sugar	0.0	0.0	0.0	0.0	0.0	19.3	2.5	0.3	0.0	0.2	1.7	6.6	0.0	5.4	3.1	0.8
Others	0.8	1.1	1.1	1.3	0.3	2.2	0.2	4.1	0.3	0.3	0.6	0.4	0.6	5.6	3.1	0.9
Other business taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	4.2	3.9	4.1	4.0	0.0	0.0	0.0
Taxes on domestic transfers	77.5	81.2	87.6	102.5	135.4	146.5	183.7	227.8	261.9	280.4	316.3	366.1	389.8	110.6	128.6	159.0
Tax stamp	35.6	36.9	40.6	49.6	74.1	78.5	104.7	140.2	151.6	171.3	200.3	261.0	284.8	23.7	19.3	38.5
Petroleum	11.5	12.0	13.2	14.5	16.5	18.1	19.3	17.6	24.2	28.8	24.3	20.7	19.5	24.5	43.9	42.6
Tobacco	6.7	7.1	7.0	7.2	8.5	10.2	12.4	13.1	13.9	16.9	20.7	20.6	22.8	24.5	23.0	32.5
Alcohol	15.9	17.4	17.9	19.9	23.8	25.6	31.1	36.8	40.4	42.7	46.6	43.0	41.3	33.6	40.8	43.6
Carbonated drinks	0.6	0.9	2.2	2.5	2.7	3.2	3.8	5.4	5.5	5.2	5.4	5.6	5.5	3.4	0.7	0.8
Others	7.8	7.8	6.7	8.8	9.8	10.9	12.4	14.7	16.4	16.9	19.0	15.2	15.9	0.9	0.9	1.0

Source: Public Financial Statistics, Economic Studies Department, Bank of Guatemala.

Table 8. Total Ad Valorem Rates, Tariff Paid and Import Exemptions, 1981 (percent)

Type of good	Total ad valorem	Tariff paid	Exempted imports
Agriculture	25.3	7.7	69.8
Mining and energy	2.6	0.9	65.8
Nondurable consumer goods	23.7	11.4	52.0
Consumer durables	24.1	15.1	37.5
Petroleum and coal products	15.3	3.0	80.3
Intermediate products	14.5	5.5	62.0
Construction materials	16.0	4.9	69.2
Machinery and transport equipment	13.7	10.5	23.3
Weighted average[a]	14.7	6.8	54.2

a. Weighted by share of production.
Source: Bank of Guatemala and World Bank estimates.

Table 9. Public Sector Agriculture Budget, 1977-85
(Thousands of quetzales)

	1977	Percent	1978	1979	1980	Percent	1981	Percent	1982	1983	1984	1985
MINISTRY OF AGRICULTURE												
Operating costs	2,903		1,211	1,544	2,102		2,825		1,949	5 937	3,070	3,070
Fixed investment	-		-	-	-		865		2,910	-	-	-
Other	459		463	4,291	5,210		6,189		5,889	3,613	6,204	6,540
Subtotal	3,362	4	1,674	5,835	7,313	4	9,879	5	10,748	9,450	9,274	9,611
DIGESA												
Operating costs	11,424		10,807	11,101	13,352		13,097		12,243	9,915	9,238	10,726
Investment costs	2,789		1,524	1,790	941		1,114		1,010	3,383	2,275	2,240
Other	-		-	-	-		-		-	-	-	-
Subtotal	14,212	15	12,331	12,891	14,293	8	14,211	7	14,253	13,298	11,513	12,966
DIGESEPE	a		a	a								
Operating costs	-		-	-	3,092		2,884		3,247	2,877	2,679	2,877
Investment costs	-		-	-	-		-		203	7,157	4,548	2,851
Other	-		-	-	-		-		-	-	-	-
Subtotal	-		-	-	3,092	2	2,884	1	3,450	10,034	7,227	5,728
INTA												
Operating costs	1,256		3,708	2,733	4,756		3,852		5,754	4,650	5,151	4,588
Investment costs	3,670		2,347	7,817	11,788		8,000		6,400	3,696	2,952	2,825
Other	1,164		5,904	7,908	8,048		7,904		-	-	-	-
Subtotal	6,090	6	11,959	18,458	24,591	13	19,756	9	12,154	8,346	8,103	7,414
ICTA												
Operating costs	3,134		3,638	3,622	4,334		4,980		4,968	4,644	4,606	3,950
Investment costs	185		68	60	195		93		84	159	-	174
Other	-		124	158	170		-		168	170	173	108
Subtotal	3,320	4	3,831	3,840	4,699	3	5,073	2	5,220	4,974	4,778	4,232
INAFOR												
Operating costs	2,465		3,477	3,486	5,100		5,075		4,440	3,933	3,546	3,387
Investment costs	452		1,116	3,000	2,215		3,750		4,278	1,930	1,598	1,332
Other	93		-	194	-		-		207	47	61	136
Subtotal	3,011	3	4,593	6,680	7,316	4	8,825	4	8,925	5,910	5,205	4,854

(continued)

Table 9 continued.

	1977	Per-cent	1978	1979	1980	Per-cent	1981	Per-cent	1982	1983	1984	1985	Per-cent
INDECA													
Operating costs	1,992		1,612	1,808	4,658		5,336		5,030	4,462	1,783	1,755	
Investment costs	878		333	493	1,616		2,034		1,611	-	-	-	
Other	41,967		30,462	46,206	32,123		42,654		40,991	38,939	33,431	37,061	
Subtotal	44,837	48	32,408	48,507	38,397	2	50,024	24	47,633	43,401	35,214	38,816	2
PROLAC													
Operating costs	242		302	211	510		417		245	198	175	209	
Investment costs	612		917	-	-		-		-	-	-	-	
Other	4,820		4,182	4,519	3,539		3,570		3,413	3,670	2,978	2,943	
Subtotal	5,674	6	5,402	4,730	4,049	2	3,987	2	3,658	3,868	3,153	3,152	
BANDESA													
Operating costs	6,188		7,441	9,249	10,228		14,308		11,687	12,067	15,863	15,394	
Investment costs	590		250	271	-		190		240	90	120	-	
Other	6,908		1,908	68,605	68,838		80,130		75,526	58,747	56,474	59,469	
Subtotal	13,686	15	9,599	78,125	79,066	43	94,618	45	87,452	70,904	72,457	74,864	4
Total operating costs	29,604	35	32,197	33,755	48,132	26	52,774	25	51,563	48,584	46,111	45,946	2
Total investment costs b	9,177	10	5,555	13,432	16,755	9	16,036	8	16,737	16,415	11,493	9,422	
Total other c	55,410	59	43,044	131,881	117,920	65	140,447	67	125,193	105,186	99,320	106,258	6
GRAND TOTAL	94,191	100	81,796	179,067	182,816	100	209,258	100	193,492	170,184	156,924	161,636	1

a. DIGESEPE was part of DIGESA.
b. Physical or financial investment through specific projects.
c. Includes transfers, indirect investment, commercial or industrial operations, financial assistance, public debt, and reconstruction.

Source: USPA

Table 10. Average Annual Area Under Cultivation for Principal Products

	Thousands of hectares			Increase in thousands of hectares		Percent change	
	1972/73-1976/77	1976/77-1981/82	1982/83-1985/86	1976/77-1981/82	1982/83-1985/86	1976/77-1981/82	1982/83-1985/86
Traditional Exports							
Coffee	253.1	256.9	257.3	3.8	0.4	1.5	0
Cotton	97.4	109.9	61.2	12.5	-48.7	13.1	-44.0
Bananas	5.0	8.9	10.8	3.9	1.9	98.0	22.0
Sugercane	57.4	67.0	69.9	9.6	2.9	16.7	4.0
Cardamom	9.9	21.5	31.0	11.6	9.5	117.0	45.0
Products for Domestic Consumption							
Maize	530.2	607.6	648.5	77.4	41.5	14.5	7.0
Beans	107.5	92.7	138.3	-14.8	45.6	-13.8	49.0
Rice	13.1	13.7	15.0	0.6	1.3	5.2	10.0
Wheat	37.8	31.4	31.5	-6.4	0.1	-16.8	0
Sorghum	52.8	41.9	52.5	-10.9	10.6	-20.6	25.3

Source: INE and Bank of Guatemala.

TABLE 11. TAXABLE BASE RATES AND DETERMINATION OF SPECIAL EXPORT TAX

Coffee (grain or its equivalent)

FOB price for each 46 kilograms	Tax
Up to Q .237.5	0%
Q .237.51 to Q .300.0	40% in excess of Q .237.5
Q .300.01 to Q .350.0	50% in excess of Q .300.0
Q .350.01 to Q .500.0	60% in excess of Q .350.0
Q .500.01 to Q .550.0	75% in excess of Q .500.0
Q .550.01 or more	40% in excess of Q .550.0

Sugar

FOB price for each 46 kilograms	Tax
Up to Q .25.0	0%
Q .25.01 to Q .30.0	40% in excess of Q .25.0
Q .30.01 to Q .35.0	60% in excess of Q .30.0
Q .35.01 to Q .45.0	80% in excess of Q .45.0
Q .45.01 or more	40% in excess of Q .45.0

Cotton

FOB price for each 46 kilograms	Tax
Up to Q .125.0	0%
Q .125.0 to Q .137.5	2% in excess of Q .125.0
Q .137.51 to Q .150.0	5% in excess of Q .137.5
Q .150.01 to Q .162.5	10% in excess of Q .150.0
Q .162.51 to Q .175.0	15% in excess of Q .162.5
Q .175.01 to Q .187.5	20% in excess of Q .175.0
Q .187.51 to Q .200.0	25% in excess of Q .187.5
Q .200.01 to Q .212.5	30% in excess of Q .200.0
Q .212.51 to Q .225.0	35% in excess of Q .212.5
Q .225.01 to Q .237.5	40% in excess of Q .225.0
Q .237.51 to Q .250.0	45% in excess of Q .237.5
Q .250.01 or more	40% in excess of Q .250.0

Cow Meat (refrigerated or frozen, cut or uncut, and packaged in any form, except carcasses)

FOB price for each pound exported	Tax
Up to Q .2.5	0%
Q .2.51 to Q .2.7	15% in excess of Q .2.5
Q .2.71 to Q .2.9	25% in excess of Q .2.7
Q .2.91 or more	33% in excess of Q .2.9

Cow carcasses

FOB price for each pound exported	Tax
Up to Q .0.7	0%
Q .0.71 to Q .3.0	Q .160.0 per head
Q .3.01 to Q .3.5	Q .180.0 per head
Q .3.51 or more	Q .215.0 per head

Cattle -- live weight

FOB price for each pound (live weight)	Tax
Up to Q .07	0%
Q .0.71 to Q .150	Q .160.0 per head
Q .1.51 to Q .1.75	Q .180.0 per head
Q .1.76 or more	Q .215.0 per head

Registered cattle, live weight: Q .450.00 per head
The registration of cattle for export must be in document form.

Bananas

Specific tax of Q .165 per box of 19 kilograms gross, plus 33% in excess of Q .13.50 in the price per box or its equivalent.

Cardomom

FOB price for each 46 kilograms	Tax
Up to Q .550.0	0%
Q .550.01 to Q .600.0	15% in excess of Q .550.0
Q .600.01 to Q .650.0	20% in excess of Q .600.0
Q .650.01 to Q .700.0	25% in excess of Q .650.0
Q .700.01 to Q .750.0	30% in excess of Q .700.0
Q .750.01 to Q .800.0	40% in excess of Q .750.0
Q .800.01 to Q .580.0	50% in excess of Q .800.0
Q .850.01 to Q .900.0	60% in excess of Q .850.0
Q .950.01 to Q .1050.0	80% in excess of Q .950.0
Q .1050.01 or more	40% in excess of Q .1050.0

Other products exported to markets out of the area of Central America, except petroleum.	4 percent above the FOB value
Other products exported to Central America (excluding Panama), except petroleum.	4 percent above the FOB value

Table 12. Cost of Production and Gross Margins of Export Vegetables and Subsistence Crops, 1984/85

(Quetzales per hectare, mean values of sample)

Items, costs	Traditional crops			New export crops	
	Maize	Beans	Traditional vegetables	Broccoli/ cauliflower	Snowpeas
Seeds, plants	0.21	26.55	106.30	85.76	54.87
Fertilizer	105.60	85.28	158.61	243.82	216.16
Other inputs	14.85	55.10	167.95	103.88	1,296.13
Total inputs	120.66	166.98	432.86	433.46	1,567.16
Wages paid	167.71	133.69	306.06	283.58	552.71
Value of output	457.80	681.00	1,804.53	1,339.17	4,416.20
Gross margin/hectare	143.87	362.79	1,065.61	593.37	2,204.15

Source: INCAP/IFPRI survey (1985). Originally published as Table 13, p. 58, Von Braun, et. al.

APPENDIX 2. GUATEMALAN RESTRICTIONS ON THE EXPORTATION AND IMPORTATION OF AGRICULTURAL COMMODITIES

I. Products Prohibited for Exportation:

1. Coffee, unprocessed, cherry, and/or parchment
2. Cyclamates, products containing
3. Citronella - plants, seeds, or roots
4. Tree ferns - except when processed or ornamentals
5. Cattle, not registered (unless specially licensed)
6. Orchids - Monja Blanca (Lycaste Skinery-Alba)
7. Alligator skins - less than 1.5 meters
8. Quetzales - dead or alive
9. Amarillydacea and Dioscoracea plant roots
10. Lemon tea - plants, seeds, or roots
11. Turtles, green - (Chelonia Mydas)

II. Products Requiring Export Licenses:

1. Edible vegetable oils
2. Sesame seed
3. Cotton
4. Food products
5. Animal feed
6. Wild animals and/or animal products
7. Sugar
8. Cocoa
9. Coffee, green and/or processed
10. Shrimp and crustaceans
11. Cardamom
12. Beets
13. Poultry
14. Hides, cured and uncured
15. Endangered wild plants and animal species
16. Cattle, registered
17. Horses
18. Basic grains (corn, sorghum, rice, beans, seasame seed, peanuts, and sunflower seed)
19. Cottonseed meal or flour
20. Eggs
21. Lumber
22. Margarine and butter
23. Molasses
24. Rattan
25. Pigeons
26. Panela
27. Cottonseed
28. Forest, fruit, ornamental, or commercial seeds
29. Tobacco

III. Products Prohibited for Importation:

1. Bees
2. Wild and domestic animals from countries with exotic diseases
3. Animal products from countries with exotic diseases
4. Live trees for Christmas decoration
5. Flower bulbs from countries afflicted with Golden Nematodes
6. Cocoa seed
7. Coffee seeds and plants from countries with Coffee Bean Borer and Coffee Rust
8. Cyclamate, products containing
9. Fruits and flower from Mexico
10. Flour from soft wheat, except special types not manufactured in Guatemala
11. Kenaf (Hibiscus Cannabinus) seeds, except for research by GOG agency
12. Marijuana (Cannabis Indica)
13. Opium for smoking
14. Potatoes (all species) from countries with diseases or plagues
15. Piranha fish
16. Fir trees for Christmas decoration
17. Plants or their parts recognized as potential bearers of Coffee Bean Borer or Coffee Rust from infested countries
18. Rosella seeds, except for research by GOG agency
19. All tallow - except for soap or feed manufacturing
20. Seeds for following species: Cynodon Cactylon L., Sergham Halepense, Cyperus Rotundatus, Iponmea Sps, Sonchus Arvenses, Euphorbi Esula, Apocynum Cannbinum
21. Soil from countries afflicted with Coffee Bean Borer or Coffee Rust
22. Soft wheat

IV. Products Subject to Import Licenses:

1. Any foodstuffs
2. Animal and products
3. Birds of "Columbia Plumbus" and "Columbia Livia" species
4. Purebred poultry
5. Coffee seeds, clones, and plants
6. Rubber, natural or synthetic
7. Fertilizer
8. Purebred livestock
9. Herbicides
10. Insecticides
11. Special soft wheat flour, not manufactured in country, for pastry
12. Rubber seeds
13. Dry milk only through quota
14. Fresh apples
15. Fresh pears

16. Raw fruit pulp for industrial use
17. Rosella (Hibiscus Sabdabariffa)
18. Industrial tallow
19. All seeds intended for crops
20. Cottonseed
21. Fresh grapes

V. Regulated Products:

Exports

1. Alcoholic beverages (spirits)
2. Coffee
3. Dolphins
4. Wheat
5. Grains (including corn, sorghum, beans, rice)

Imports

1. Fertilizer
2. Tobacco
3. Wheat
4. Grains (including corn, sorghum, beans, rice)

VI. Central American Trade:

Requires import and/or export licenses:

1. Sugarcane rums
2. Foodstuff
3. Cotton from El Salvador
4. Raw or refined sugar
5. Cigarettes to and from Costa Rica
6. Wild species to and from Costa Rica
7. Fermented fruit juices to and from Costa Rica
8. Tobaccos from Costa Rica

APPENDIX 3

Guatemala: Inventory of Policies Affecting Women in Agriculture

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
Macroeconomic Policies				
Monetary policies	Regulate supply of money and access to financial resources	Bank of Guatemala (Central Bank) under direction of the Junta Monetaria	Mixed impacts 1) Reduced employment in traditional export crop production, especially cotton 2) Increased employment in non-traditional crop production and agro-industrial processing 3) Possible reduced household production of basic foodgrains in small farm sector	Impact depends on policy instrument utilized 1) Deficit financing has ca high rates of inflation, resulting in increased input costs and reduced profitabili of traditional export crops 2) Rediscounting of some of external funds are target imports of intermediate and capital goods for agro-indust 3) Rediscounting of interna funds directed to large commercial farms to produc grains (formerly cotton)
Credit policies	Control access to credit	Bank of Guatemala under direction of the Junta Monetaria	Mixed impacts 1) Possible reduced production of basic foodgrains in small farm sector 2) Increased employment in non-traditional crop production and agro-industrial processing	Depends on policy instrume 1) Small farms lack access credit; with subsidized credi competitive advantage tends shift to commercial large far sector 2) See (3) above.

(continu

APPENDIX 3 (Continued)

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
International trade policies	Ration foreign exchange	Ministry of Finance	Negative impact	Anti-export bias affecting all agricultural exports
			1) Reduced employment in traditional export crop production	1) Profitability of export cro production reduced
			2) Reduced employment growth in nontraditional crop production and processing	2) Costs of intermediate and capital good for agro-industry reduced investment
			3) Reduced income from artisan work	3) Costs of imported raw materials increased due to u favorable exchange rate and import quota treatment
Fiscal policies	Revenue generation	Ministry of Finance	Generally neutral effect	Revenue from all agricultural taxes including export and in taxes totals less than 25 per of government tax revenue; export taxes comprise high proportion of total; coffee exported under international quota and normally filled
Commercial regulation policies	Maintain publicly owned air and sea transport companies	AVIATECA, FLOAMERICA	Effects unknown	Government-granted monopol transport agricultural products on certain sea and air routes
Sector policies				
Taxation policies	Revenue generation	Ministry of Finance	Possible negative effect of reduced income derived from sales of animal production, especially poultry and swine in small farm sector	Fiscal incentives shift competitive advantage of pou and swine production to commercial sector (now repe
Foreign trade policies	National food security	Ministries of Economy and Agriculture plus other public and private entities	Neutral effects	Complex set of regulations a controls on international agri-cultural trade, but no evidenc of significant economic distortions

(continued.

APPENDIX 3 (Continued)

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
Domestic marketing policies	Control retail price levels, support small producer incomes	Ministry of Economy and Ministry of Agriculture through INDECA	Neutral effects	Retail price ceilings are not effective; INDECA is under-financed; producer foodgrain support prices appear to foll not lead market prices
Agricultural input policies			No effect	Minimum wage law not e- and disregarded by emplo
Labor policies			Positive effects	General agricultural sector development strategy impl primarily via guidance of assistance to agricultural s
Minimum wages	Maintain agricultural labor income levels	Ministry of Labor and Social Welfare	1) Increased employment and contribution to household income	
Employment creation	Expand rural employment	Government agricultural development strategy	2) Increased production of basic foodgrains	Emphasis on employment production and rural-based a industrial processing of non-traditional horticultural crops
			3) Enhanced consumer expenditure patterns	
			4) Improved caloric consumption and nutritional levels in household including women and children	Women comprise large p- of additional labor emplo production and nearly all involved in processing
Fertilizer and agricultural chemicals policies	Stimulate domestic agricultural production	Ministries of Economy and Agriculture via BANDESA, DIGESA	Positive effects	Favorable exchange rate and import quota treatment of imported inputs of agricultur chemicals; some government subsidized fertilizer distributions
			1) Increased employment in cotton production	
			2) Increased employment in non-traditional crop production and processing	Cotton and nontraditional cr production especially benefit from favorable treatment of a cultural chemical imports
Seed policy	Increase agricultural production	ICTA	Limited effect	ICTA operates limited scale foundation seed program in foodgrains and some other c-

(continued

APPENDIX 3 (Continued)

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
Livestock policies	See fiscal policies	See fiscal policies	See fiscal policies	See fiscal policies
Land and natural resource policies				
Idle lands law	Regulate land use	Congress; to be implemented by INTA	No effect	Unenforced law requires idle lands to be cultivated
Basic grains law	Regulate land use	Congress; to be implemented by DIGESA	No effect	Unenforced law requires 10 percent of land in farms over hectares be used for foodgr[illegible] production
Land distribution	Redistribute land resources	Congress; implemented by INTA	Very limited effect	Government purchase land fo[illegible] resale to cooperative farmer groups
Agricultural research and extension policies	Increase agricultural sector productivity	ICTA, DIGESA, DIGESEPE	Limited or neutral effects	Research, but particularly extension entities seriously underfunded

APPENDIX 4. LIST OF PEOPLE CONTACTED

Cecilia Burette, regional coordinator of animal health, DIGESEPE, Region I, Quetzaltenango

Armasido and Fredy Cajas, Cajas Dairy, Quetzaltenango

John H. Diehl III, team leader and adviser on animal production, Small Farmer Agricultural Diversification project (Sistemas de Diversificacion para el Pequeno Agricultor del Altiplano), Quetzaltenango

Donald Fiester, consultant to ROCAP

Isaias Figeroa, deputy director, credit, BANDESA, Guatemala City

Michael Goldberg, project manager, Small Scale Enterprise Development, CARE/Guatemala

Maria Elena de Hernandez, Women in Development Officer, USAID/Guatemala

Kirsten Johnson, project manager, Agro-Forestry Development, CARE/Guatemala

Marie Ann Joyce, Peace Corps volunteer, Antigua

Virginia Lambert, Office of Rural Development, USAID/Washington

Joseph F. Lombardo, Office of Assistance Projects, USAID/Guatemala

Roberto Matheu, sub-coordinator, Agriculture Sector Planning Unit, Ministry of Agriculture, Guatemala City

James Murphries, consultant to ROCAP

Isabel Nieves, Scientific Officer, INCAP, Guatemala City

Mary Ott, economist, USAID/Guatemala

Thelma Pereira, executive director, Foundation for the Assistance of Women (Foundacion para el Desarrollo de la Mujer), Guatemala City

Blanca de Sanchez, director, National Office on Women (Oficina Nacional de la Mujer), Ministry of Labor and Social Welfare, Guatemala City

Patrick Sayer, project manager, Agricultural Development, CARE/Guatemala

Gary Smith, OICD resident adviser at USAID/Guatemala, former team leader of the Small Farmer Agricultural Diversification project, Guatemala City

Christian Will, deputy representative, Inter-American Development Bank/Gautemala

Harry E. Wing, chief, Office of Rural Development, USAID/Guatemala

Reyna Aravz de Zepeda, health promotor (promotora de salud), former livestock health promotor for DIGESEPE, Quetzaltenango

APPENDIX 5. BIBLIOGRAPHY

Blumberg, Rae Lesser. *Following Up a Guatemalan "Natural Experiment on Women in Development": Gender and the ALCOSA Agribusiness Project in 1985 vs. 1980.* Draft. Washington, D.C.: Bureau for Latin America and the Caribbean, Bureau for Program and Policy Coordination, U.S. Agency for International Development, 1985.

Bossen, Laurel Herbenar. *The Redivision of Labor: Women and Economic Choice in Four Guatemalan Communities.* SUNY Series in the Anthropology of Work. Albany: State University of New York Press, 1984.

Bremer-Fox, Jennifer, Rekha Mehra, and Laurene Graig. *The Policy Inventory: A Manual for Rapid Appraisal of Policies Affecting the Agricultural Sector with Disaggregation of Impacts by Gender.* Agricultural Policy Analysis Project Report submitted to the Office for Women in Development, Bureau for Program and Policy Coordination, U.S. Agency for International Development. Washington, D.C.: Abt Associates and Robert R. Nathan Associates, Inc., June 1988.

Chaney, Elsa M. *Women of the World: Latin America and the Caribbean.* Washington, D.C.: Bureau of the Census, U.S. Department of Census, and Office for Women in Development, U.S. Agency for International Development, May 1984.

Esteve, Humberto, Robert Bond, Eduardo Tugendhat, Barbara Friday, and Oscar Echeverria. *A Review of Guatemala's Economy, 1968-1985.* Report prepared for USAID/Guatemala under Contract No. LAC-000-C-00-5113-00. Washington, D.C.: International Science and Technology Institute, Inc., February 1986.

Ferguson, Anne, and Marina Flores. *Resource Guide to Women in Agriculture: Guatemala.* Bean/Cowpea CRSP Women in Agriculture Series. East Lansing: Michigan State University, March 1987.

Hough, Richard, John Kelley, Stephen Miller, Russell Derossier, Fred L. Mann, and Mitchell A. Seligson. *Land and Labor in Guatemala: An Assessment.* Washington, D.C.: Development Associates and U.S. Agency for International Development, 1982.

Instituto Nacional de Estadisiica. *Censos Nacionales de 1981 (IX Censo de Poblacion).* Tome 1. Guatemala.

Jiron, Rolando, and Otto Samayoa U. *Inventario y Analisis de Politica Economica y su Relacion con la Agricultura en Guatemala.* Agricultural Policy Analysis Project Report submitted to USAID/Guatemala. Washington, D.C.: Abt Associates, October 1986.

Ladman, Jerry, and Jose Isaac Torrico. *The Guatemalan National Agricultural Development Bank (BANDESA): Analysis of Credit Operations and Potential for Savings Mobilization.* Report prepared for USAID/Guatemala under the Rural Savings for Capital Mobilization Cooperative Agreement No. DAN-5315-A-2070-00 between Ohio State University and USAID/Washington. Tulsa: Arizona State University, August 31, 1984.

Ministerio de Economia. *III Censo Nacional Agropecuario, 1979.* Volume 1, Tome 2 (*Numero y Superficie de Fincas y Caracteristicas Principales*). Guatemala, February 1985.

Stein, John P. *Children and Women in Traditional and Cash Crop Agriculture: A Preliminary Cross-Section Study of Economic Development in Guatemala.* A Rand Note prepared for U.S. Agency for International Development under Contract No. AID/OTR-C-1822. Santa Monica: The Rand Corporation, July 1982.

USAID/Guatemala. *Guatemalan Agriculture Sector Review.* Office of Rural Development Report No. 24. Guatemala, March 1987.

USAID/Guatemala. *Country Development Strategy Statement.* Guatemala, 1988(?).

U.S. Department of Agriculture. "World Indices of Agricultural and Food Production 1977-86." *Economic Research Service Statistical Bulletin* Number 759. Washington, D.C.: USDA.

U.S. Embassy, Guatemala. "Guatemala: Agricultural Situation." Economic Attache Report No. GT-8005, March 1987.

von Braun, Joachim, David Hotchkiss, and Maarten Immink. *Nontraditional Export Crops in Traditional Smallholder Agriculture: Effects on Production, Consumption, and Nutrition in Guatemala.* Washington, D.C.: International Food Policy Research Institute, May 1987.

Wing, Harry E. *Agriculture Sector Development Strategy (1988-92).* Office of Rural Development Report No. 25. Guatemala: Office of Rural Development, U.S. Agency for International Development, February 1988.

World Bank. *Guatemala: Economic Situation and Prospects.* Report No. 6434-GU. Washington, D.C., January 16, 1987.

The Impacts of Economic and Agricultural Policies on Women in Agriculture in Malawi

February 28, 1989

Mary Reintsma
Paola Lang

Robert R. Nathan Associates, Inc.
Economic and Management Consultants
Washington, D.C.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

ACRONYMS

ADD	Agricultural Development Division
ADMARC	Agricultural Development and Marketing Corporation
CBM	Commercial Bank of Malawi
EPA	Extension Planning Area
FA	Farm Assistant
FHA	Farm Home Assistant
GOM	Government of Malawi
GRAMIL	Grain and Milling Company
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
INDEBANK	Investment and Development Bank of Malawi
MDC	Malawi Development Corporation
NBM	National Bank of Malawi
NRDP	National Rural Development Program
NSSA	National Sample Survey of Agriculture
RDPA	Rural Development Project Area
SAL	Structural Adjustment Loan
SEDOM	Small Enterprise Development Organization of Malawi

INTRODUCTION

This paper presents the results of a study undertaken for the Women in Development Office of USAID, to examine the impacts of economic policies on women in the agricultural sector in Malawi. In addition to this study, three other country studies were completed in Guatemala, Yemen, and Thailand. The research was undertaken between June and September 1988 by two teams, each consisting of two researchers. Four to five weeks were allocated per country, two of them in the field. Given the extremely limited time available and the relatively broad terms of reference, the study relied entirely on secondary data sources as well as interviews with people knowledgeable about the economic policies of the country and the roles of women in the agricultural sector. In view of this, the study should be considered as an overview of the subject matter rather than as a detailed and in-depth analysis.

The paper is organised into five sections, the first of which provides a background to the country and its recent economic performance. The second and third chapters are descriptive, the former covering the inputs, outputs, and institutions in the agricultural sector, and the latter describing the multiple roles of women in that sector. On the basis of this descriptive material, chapter four summarises the policies that affect the agricultural sector and attempts to assess the impacts of these policies on women in the sector. The final chapter provides a summary and a statement of the major conclusions of the study.

I. COUNTRY BACKGROUND, RECENT ECONOMIC PERFORMANCE, AND PROSPECTS

Malawi is a small, landlocked country, with Zambia to the west, Tanzania to the north and east, and Mozambique surrounding the Southern Region. The topography is extremely varied and altitudes range from almost sea level at the floor of the East African Rift Valley to 3,000 meters in the northern mountains. The consequent diversity of climate and vegetation enables the production of a wide range of agricultural products.

The country is divided administratively into three regions, with the Southern Region experiencing the most severe population pressure. The principal commercial center, Blantyre, is located here, as are most of the country's modern sector commercial and industrial enterprises. The Central Region is a fertile plain, which is also quite densely populated and which is the location of the new capital city, Lilongwe. The Northern Region is mountainous, less fertile, and more sparsely populated.

The population of Malawi in 1987 was estimated at 7 million with a growth rate of approximately 3.2 percent per annum. Almost 50 percent of the population are under 15, and 51.8 percent are women. Nearly 90 percent of the population lives in the rural areas. The regional distribution and density of population are illustrated in Table 1.

Table 1. Estimated Population Distribution and Density, 1985

	Urban	Rural	Total	No. per Sq. Km. Land
Northern Region	90,000	730,000	820,000	30
Central Region	225,000	2,475,000	2,700,000	74
Southern Region	450,000	2,970,000	3,480,000	107
TOTAL	765,000	6,235,000	7,000,000	74

Source: National Statistical Office

Overview of the Economy

Per capita income in 1987 was approximately US$ 170, and 85 percent of the population was employed in the agricultural sector. This sector, which in recent years has contributed around 37 percent of Gross Domestic Product (GDP) (see Table 2) consists of two sub-sectors, the agricultural estates, which provide 20 percent of the agricultural production but around 70 percent of the export earnings; and the smallholder sector, which provides 80 percent of total agricultural production, including the major staples such as maize, beans, groundnuts, rice, cassava and sweet potatoes, as well as raw materials such as tobacco and cotton for local industry and export.

A significant proportion of activity in manufacturing and commerce is derived from the processing, transport, and trading of agricultural goods. Until recently the purchase and sale of smallholder marketed production was dominated by the Agricultural Development and Marketing Corporation (ADMARC), but the private sector is now encouraged to participate more actively and trades in all crops except cotton and tobacco. In the estate sector, trade is dominated by a small number of private firms, some of which have foreign ownership. There are a few large-scale manufacturing enterprises, most of which are quasi-public or under foreign control. The principal products manufactured are food and beverages, followed by textiles and clothing. Local manufacturing is generally of a smaller scale and includes activities such as brick making, furniture manufacture, and metal work. The government has followed an import substitution policy, with the result that over 80 percent of the value of manufacturing production is for domestic consumption. Mining and tourism are small industries whose potential appears to be underexploited. In the service sector the main activities are

Table 2. Gross Domestic Product (GDP), By Sector of Origin At 1978 Constant Factor Cost 1984-1988

(K million)

	1984	1985	1986	1987 OS	1987 NS	1988
Agriculture	306.5	308.0	311.5	317.3	317.3	319.9
Small scale	240.9	242.0	246.0	247.2	247.2	246.3
Large scale	65.6	66.0	65.5	70.1	70.1	73.6
Manufacturing	100.6	101.1	101.0	100.2	100.2	102.1
Electricity and Water	16.1	16.4	17.3	18.7	18.7	19.6
Construction	29.6	39.3	49.5	36.6	36.6	37.9
Distribution	104.1	113.9	108.0	109.8	109.8	110.3
Transport and Communication	47.0	49.5	52.2	50.2	50.2	50.4
Financial and Professional Services	51.2	54.9	55.8	54.2	54.2	55.3
Ownership of Dwellings	34.6	36.2	37.2	37.4	37.4	38.4
Private Social and Community Services	34.3	35.6	36.4	37.4	37.4	38.7
Provision of Government Services	101.7	106.5	116.1	120.8	128.3	127.9
Unallocable Finance Charges	-20.6	-22.1	-22.6	-21.8	-21.8	-22.2
GDP at Factor Cost	805.1	839.3	862.4	860.8	868.3	878.3

Note: OS – old series; NS – new series

Source: Economic Planning and Development; National Statistical Office, Reserve Bank and Treasury

transport and distribution, as well as government, which accounts for 13 percent of GDP.

Recent Economic Performance

In the post-Independence period (1964-69) the performance of the economy was quite erratic due to wide fluctuations in weather conditions and world prices. Consequently, in some years production in agriculture and related sectors actually declined. The situation improved dramatically in the 1970s, however, when Malawi experienced strong economic growth, facilitated by favorable external conditions and a set of economic policies which the World Bank rated first among 31 LDCs considered. All sectors of the economy other than subsistence agriculture grew at a rate higher than the population growth rate, leading to steady increases in per capita income. Output of the major export crops, tea and tobacco, grew rapidly. However, imports grew even faster and throughout the 1970s the high economic growth rate was accompanied by an increasing deficit on the balance of payments. Among the factors contributing to this situation were a decline in the terms of trade, a fall in migrant workers' remittances, and increasing transport costs due to political problems in neighboring countries.

In common with many developing countries that had achieved significant growth in the 1960s and 1970s, there was a decline in growth after 1979 due in large part to external factors. Between 1980 and 1982, GDP per capita declined by a total of 12 percent, the government budget deficit and the current account deficit reached record levels, and the country had to import maize, the staple food crop. Among the external factors that contributed to the economic stagnation were the sharp deterioration in the terms of trade, including the oil price increases of 1978/9; the increases in real interest rates; and political instability in neighboring countries which,

combined with the deterioration of Mozambique's transport sector, vastly increased Malawi's transport costs. These external events revealed several areas of weakness in the internal situation which had been masked in more prosperous times. Among these were the reliance of the economy on a small number of primary commodities, produced largely by estates; the virtual stagnation of the smallholder sector, which provides a livelihood for 80 percent of the population; and the vulnerability of the manufacturing and energy sectors, which are dependent on imports.

In order to address these problems, the government, after an initial period of substantial foreign borrowing and drawing down of reserves, which raised the debt service ratio from 5.2 percent in 1977 to 18.7 percent in 1980, undertook a major stabilization program designed to reduce short-term balance of payments and fiscal disequilibria and, over the longer term, to introduce structural adjustments that would encourage sustained growth of per capita income. As part of this program a Structural Adjustment Loan (SAL) agreement was signed between the Government of Malawi and the World Bank in 1981. This was followed by a second loan in 1983 and a third in 1985. Under these agreements the government introduced a series of policy measures aimed at encouraging greater diversification of production and exports, restructuring and strengthening the major development institutions, and streamlining public-sector institutions. These measures contributed to a temporary economic reprieve between 1982 and 1984 when the budget and balance of payments deficits declined and the average annual rate of growth of GDP was 4.6 percent. Since 1984, however, there has been further deterioration in a number of economic indicators. In 1984 the public-sector deficit stood at 6.4 percent of GDP; by 1987, partly due to high debt service payments, it had increased to 11.9 percent. Furthermore Malawi's terms of trade deteriorated by 20 percent between 1985 and 1986 as a result of a sharp decline in the prices of tea, sugar, and pulses, accompanied by a

28.5-percent increase in the unit price of imports. Partly as a result of the increased import prices, the inflation rate, which stood at 14.9 percent in both 1985 and 1986, increased to a record 26.7 percent in 1987.

Prospects for 1988

Real GDP is forecast to increase by 1.2 percent in 1988, which given the population growth rate of over 3 percent means a decline in real per capita income. Furthermore, as the Government of Malawi Economic Report 1988 indicates, even this

> marginal growth rate will be greatly influenced by the expected performance in small scale agricultural output, whose real value is expected to register a decline of 0.4 percent. Although large scale agriculture is expected to increase substantially by 5.0 percent, the net result is that value added in Agriculture Forestry and Fishing is forecast to increase by 0.8 percent ... in 1988 (Government of Malawi, 1988).

Forecasts in other areas are similarly bleak. The Economic Report cited above notes that partly due to the shift in the small scale agricultural sector from cash to food crops, exports will decline (exports of pulses will decrease by about one half, for instance) and this will be reflected in the 1988 balance of payments. Adverse changes in the terms of trade are expected to exacerbate this tendency.

The debt service ratio, which reached a record 41.6 percent in 1987, will decrease only slightly to 37.6 percent in 1988. This outflow will, however, be cushioned to a large extent by long-term capital inflows under the structural adjustment program (Ibid., p. 25).

Finally, government consumption is forecast to increase only 1.5 percent in 1988, compared to 13.6 percent in 1987, and some policy reforms are to be implemented "aimed at streamlining the central government employment level." (Ibid., p. 24)

II. THE AGRICULTURAL SECTOR

The agricultural sector is of fundamental importance to the economy of Malawi. This sector provides a livelihood for about 85 percent of the population, in addition to being the predominant source of foreign exchange earnings. In 1986 agriculture accounted for 91 percent of export earnings, with the major products being tobacco (54 percent of total exports), tea (16 percent), and sugar (9 percent). In the area of food crop production self-sufficiency has been maintained in the past largely by increasing the area under cultivation.

The agricultural sector comprises two fairly distinct sub-sectors, which are defined by the land tenure system. Estate cultivation takes place on freehold or leasehold land, while smallholders cultivate lands held under customary laws. There are regulations governing the crops grown in each subsector, and they have different access to markets, credit, inputs, and extension services. While the estates generally manage their own marketing and purchasing of inputs through the private sector, the smallholders are heavily dependent on government channels. Over 80 percent of the arable land in Malawi is held under customary tenure by smallholders who produce 85 percent of the country's food supply. The majority of these 1.2 million farm families cultivate small plots of between .5 and 2.0 hectares and have an average family income of about $130 per annum (1985), of which 80 percent is from crop and livestock production and 20 percent from off-farm activities. The principle staple is maize, and almost 70 percent of smallholder hectarage is devoted to this crop.

There are a number of constraints that impede increased productivity of smallholder agriculture. The limited land area is clearly a major problem in the densely populated Southern Region. The National Sample Survey of Agriculture showed that the average land holding size in the smallholder subsector declined from 1.54 hectares in 1968 to 1.1 hectare in 1986. At certain times of the year, particularly during the land preparation and the harvesting periods, many families, particularly those that are female headed, have an additional labor constraint. Clearly further increase in production will require more productive use of both land and labor resources.

In addition to the physical constraints on production there exist a number of institutional factors that have limited the potential growth of the subsector. Chief among these are (1) government policies that have restricted the cultivation of certain high-value cash crops to the estate sector; (2) poor price incentives for most smallholder crops (except maize in most years); and (3) lack of adequate research, credit, veterinary or other extension services, particularly for the smallest farmers, who produce almost entirely for domestic consumption.

Production of Major Crops

Maize Production

The local variety of maize, which accounts for well over 80 percent of total maize production, is generally produced without the use of chemical inputs. In addition to the local maize, a small amount of hybrid maize is grown as a cash crop, and fertilizers are commonly used on this crop. Attempts at encouraging increased production of hybrid maize have met with disappointing results partly because it cannot be stored for long periods

without the use of chemical pesticides, and partly because the traditional pounding methods cannot successfully be used as the soft shell causes the whole grain to be crushed. The local maize variety has a harder shell and is easier to pound, an essential factor which adaptive research programs are reportedly beginning to take into account. Since it is not acceptable as a subsistence crop, the level of production is highly dependent on its profitability, particularly vis-a-vis the two principal alternatives, tobacco and groundnuts. As a result of its declining profitability, partly caused by higher fertilizer prices and partly due to the fact that the government raised the relative prices of other crops, maize production declined from 1,295 million tons in 1986 to 1,218 million tons in 1987, a decline of 6 percent. Clearly, when this decline is considered in conjunction with a 3.2-percent increase in population, a significant reduction in the calorie availability from the major staple is indicated. The price has been raised for the 1988 season, and it is anticipated that the level of production will increase, a forecast strengthened by the fact that sales of fertilizer (which is used primarily on hybrid maize) increased by over 24 percent between 1986 and 1987.

Groundnut Production

Groundnuts are produced both for domestic consumption and for cash. About 50 percent of the crop has been marketed in recent years. Sales of this crop have fallen from 40,000 tons a year in the 1960s to 10,000 tons a year in the early 1980s. After a slight increase in production in response to ADMARC price increases, production fell again in 1987, a fall that was partially attributed to poor yields due to inclement weather. Production is expected to decline further in 1988 as the government has maintained the price of groundnuts while augmenting the maize price. It is not clear, however, what impact the government official floor prices will have, since although ADMARC has been a major purchaser of the marketed surplus in

the past, private traders are increasingly becoming involved in this and other crops, and they could totally negate the impact of official prices if there were substantial changes in the relative prices of the crops on the free market.

Cassava Production

Cassava is second only to maize in terms of its importance as a food crop in Malawi. An estimated 200,000 tons a year is produced. Most of the trading in this crop has traditionally been undertaken by small private traders. One of the advantages of this crop is the ease of storage, since it can be left in the ground for several months, thus acting as a household strategic reserve. In recent years the harvests have been severely damaged by pests, and research and extension services are urgently needed to address this problem.

Potato Production

Sweet potatoes and Irish potatoes are produced mainly in the Central Highlands both for subsistence needs and for sale to urban areas. Production is estimated at somewhere between 60,000 and 100,000 tons a year. Increased production is constrained by poor seeds, constant virus attacks on the plants, and storage problems.

Pulses

Production of these crops fluctuates but was estimated in 1986 at around 40,000 tons. Beans are cultivated throughout the country, often being interplanted with local maize, which increases the yields of the latter. Peas are grown mainly in the South and are often monocropped. Guar beans are

produced in the dry Lower Shire Valley, and semi-processed guar is marketed.

Paddy Rice

The major rice producing areas are the Lakeshore, Karonga, the Lake Chilwa Plain, and the lower Shire Valley. Yields are low, and most production is for subsistence requirements. Although Malawi could potentially be a major rice producer, production of paddy rice has been declining. In 1987, production was estimated at 28,400 tons, of which about 7,500 tons was marketed by smallholders through ADMARC and private traders. An increase in the minimum price of rice for the 1988 season is intended to encourage production of this crop, although, as explained above, it is not clear that the government-set prices will have much effect on production if de facto prices are set by private traders. As a further step to encouraging production, the government has proposed that a detailed study of the rice industry be undertaken.

Cotton Production

Cotton production has been declining even more rapidly than rice and groundnuts, falling from over 36,000 tons in 1986 to 21,000 tons in 1987. It has traditionally been a smallholder crop, although since 1983 estates are no longer prohibited from growing it. Production has been extremely price responsive and has fluctuated widely in response to relative price changes. Although the quality is high, yields are generally low. There has been a significant decline in the number of registered growers, apparently reflecting the decline in profitability as cotton prices have lagged behind the costs of inputs, particularly pesticides.

Tea Production

Approximately 18,00 hectares of land are devoted to tea production: 15,600 cultivated by the 26 tea estates, and the remainder by the 4,800 smallholders. The estates have yields that are among the highest in the world. Many of these are British owned and produce medium-grade tea. A recent order rescinding residency permits for British subjects has led to a loss of some management personnel. It is not known whether this will have a significant impact on production of this crop.

Sugar Production

The two major sugar estates in Malawi are SUCOMA and DWANGWA, both of which are managed, and minority owned by Lonrho, Ltd. In addition a smallholder scheme was established in the 1970s. Although sugar production has been growing rapidly, low prices in non-quota markets barely cover the costs of production, and quotas are continually being cut by the EEC and USA. Domestic demand is quite high, however, for both sugar and molasses, which is processed into ethanol and used as a fuel.

Tobacco Production

Malawi produces six kinds of tobacco: on the estates, burley and flue cured, and on smallholdings, Northern dark fire cured, Southern dark fire cured, sun/air cured, and oriental. The crop is produced by about 4,000 estates and some 65,000 smallholders. Production of burley tobacco has been increasing, and in recent years exports have been about 35,000 tons or 15 percent of world trade. Although yields have been improving, it is estimated that they are still only one-third of potential maximum yields. Since Malawi burley tobacco faces a strong demand, future export prospects

are good. Exports of flue-cured tobacco have also increased recently and now stand at 25,000 tons, or 3.5 percent of world trade. Yields of this crop are also well below potential, and export prospects are good.

Smallholder tobacco production consists manly of dark fire-cured tobacco, the output of which fluctuates between 10,000 and 20,000 tons a year. Malawi supplies over half of a declining world market. Yields are well below potential, and market prospects are unfavorable for this crop. A much smaller proportion of smallholder tobacco is taken by sun/air-cured tobacco, which faces similar yield and market problems, but which consists of only 1,000 to 2,000 tons per annum. Production of oriental tobacco is minimal although demand is reportedly strong. Only 130 tons were produced in 1985.

Coffee Production

The total hectarage devoted to coffee production is divided between the estates, which have 3,300 hectares, and smallholders who cultivate 1,200 hectares. About 7,800 smallholdings are involved in the production of this crop, operating under the aegis of the Smallholder Coffee Authority. The establishment of a small instant coffee plant has been under discussion and could contribute significantly to local value added.

Rubber Production

The only rubber estate in Eastern and Southern Africa is located at Nkhata Bay in Malawi. Although production is currently less than 500 tons per annum, this is planned to double over the next few years.

Livestock Production

Livestock production is almost entirely for domestic consumption of meat and dairy products. Beef cattle are raised mainly in the Northern and Central Regions by smallholders using traditional methods. The marketing and slaughter of cattle is under government control through a parastatal enterprise, the Cold Storage Company. Goats, chickens, and hogs are an important source of meat in rural and urban areas. The government has tried to encourage dairy production by introducing high quality breeding stock and establishing a marketing board for dairy produce. A parastatal, the Grain and Milling Company (GRAMIL), is a major supplier of animal feed, but reportedly there are frequent shortages.

Agricultural Institutions

The Department of Agricultural Development is the national agency responsible for administering the National Rural Development Program (NRDP). This program was instituted in 1978 as a means of expanding rural development throughout the country rather than limiting services to specific project areas as had previously been the case. A principal objective was to increase smallholder productivity by providing agricultural inputs, and by increasing the availability and efficiency of extension and credit services. It is organized in a hierarchical fashion, composed of eight ecologically similar Agricultural Development Divisions (ADDs), subdivided into thirty Rural Development Project Areas (RDPAs), which are further subdivided into 180 Extension Planning Areas (EPAs). The two upper levels receive funding from external donors, and they each have a team of technical staff, supervised by a project officer or project manager. The ADDs are responsible for policy development and planning, as well as for providing credit facilities and managerial and technical support, while the RDPAs have primary

responsibility for infrastructure planning. The EPA is the grass roots level, where teams of extension workers, along with one or two technical staff carry out extension work under the supervision of a Development Officer.

The results of the NRDP have been disappointing. Among the reasons cited for the poor performance is the fact that the extension workers are also responsible for providing credit to farmers, which not only confuses the role of credit collector with that of extension agent but also takes up to 50 percent of their time. In addition to this problem, it has been suggested that the technical package offered is inflexible and does not take into account regional differences or individual differences in farming practices.

Agricultural Credit

Unlike many developing countries, in Malawi there is no institution that specializes in providing agricultural credit. Estate farmers have access to credit principally through the two commercial banks, the National Bank of Malawi (NBM) and the Commercial Bank of Malawi (CBM), both of which are indirectly controlled by Press Holdings and by the Government of Malawi through ADMARC and the Malawi Development Corporation (MDC). Other sources of funding include the Investment and Development Bank of Malawi (INDEBANK), which provides medium- and long-term loans to agricultural estates and agri-businesses, and the Small Enterprise Development Organization of Malawi (SEDOM), which provides credit to small entrepreneurs for investment in agriculture, livestock and small agro-industries.

The major sources of credit for smallholders are the NRDP projects, which had approximately 114,000 borrowers in 1984. In addition, credit unions and self-help schemes provide credit to an estimated 7,000 borrowers,

and other government sources reach approximately 40,000 smallholders. These sources provide credit to approximately 12 percent of smallholder households. Non-formal lending is estimated to reach approximately three times this number.

Under the NRDP, the provision of credit has been closely linked to the extension service, and credit has been provided in kind, i.e. with packages of seeds and fertilizers, rather than cash. The credit funds, which are largely donor financed as project assistance, are channelled by the Ministry of Finance to the Ministry of Agriculture, where they are managed by the ADDs, mostly under the NRDP. The ADDS are responsible for maintaining a revolving fund to purchase inputs from ADMARC and other suppliers to be given to farmers on credit.

Repayment rates for loans have been exceptionally high. This has been attributed to the organizational system for the distribution of credit. In order to be eligible for credit, smallholders must belong to a farmers' club, which is a voluntary association of farmers and which is responsible for preparing credit applications, distributing inputs, and ensuring repayments. In 1986 there were 8,200 clubs, with 210,000 members, of whom only 16 percent were women. Repayment is mutually guaranteed by members, and credit is withheld from any club that has a defaulting member. The consequences of this are (1) extreme pressure is applied to any member who falls in arrears, and (2) higher-risk farmers, who may often be the most needy and into which category single women have a high probability of falling, are effectively excluded.

While the NRDP credit system has been highly effective in serving farmers' clubs, those smallholders who are not members are clearly extremely disadvantaged, lacking access to both credit and inputs. Proposals

for a new fund, to be known as the Mudzi Fund, which would make credit available to the near-landless rural poor, are under discussion. Clearly, without further steps in this direction to enable the poorest farmers to obtain access to credit and other inputs, it is futile to expect significant increases in smallholder productivity.

Agricultural Research and Extension

There are four principal organizations responsible for agricultural research in Malawi: the Department of Agricultural Research in the Ministry of Agriculture, the University of Malawi, the Tea Research Foundation, and the Tobacco Research Authority. The latter two, which are funded by levies on tea and tobacco, have been relatively successful in undertaking research for the estates. Research on smallholder crops has been extremely disappointing, however, due reportedly to lack of technical capacity, lack of funding, and poor organization and management of the programs. Clearly, the lack of sound research limits the potential effectiveness of any extension service.

The agricultural extension service is carried out under the NRDP and is decentralized in a hierarchical fashion, through the ADDs, RDPAs, and EPAs. Extension personnel comprise 1700 field assistants, approximately one per farm family, as well as technical specialists at the RDP level. The former system of attempting to provide extension services through projects has thus been replaced by a more comprehensive system, under the umbrella of the NRDP, which has overall responsibility for the provision of economic and social infrastructure as well as extension and related services. A further organizational change that was recently introduced to expand the provision of extension services was the introduction of the block system of extension. During the 1970s, farmers had been encouraged to form farmers' clubs in

order to facilitate the provision of training services and credit. The effect of this was that those who did not succeed in joining a club, often the poorer farmers, including single female farmers, were effectively excluded from receiving credit and extension services. Although it appears to be a change in the right direction, the effectiveness of the block system in actually providing useful technical advice to the smallest farmers is not yet clear, and the available evidence suggests that the impact on productivity has not been substantial.

Fertilizers and Other Agricultural Inputs

The Agricultural Development and Marketing Corporation (ADMARC) is responsible for providing improved inputs, including fertilizers, seeds, herbicides, and implements; for marketing smallholder crops; and in conjunction with other agencies, for setting agricultural prices. There have been numerous criticisms of this enterprise for its inefficient and unreliable provision of inputs. Compounding the problem in recent years are changes in exchange rates and considerable increases in transport costs through Mozambique, which have resulted in high price increases. These factors, in conjunction with the proposed subsidy removal, could render fertilizers even less accessible to small farmers.

III. THE ROLE OF WOMEN IN AGRICULTURE

Women account for some 52 percent of Malawi's population (Malawi Population Census, Final Report 1980). Most women (92 percent) live in rural areas, and of these, the majority, according to a classification system devised by two economists in the early 1980s, work in the smallholder sector. Eighty-five percent are involved full time (i.e., more than nine months annually) in subsistence farming; almost 4 percent participate in profitable cash cropping operations on customary land holdings; some 6 percent are part-time farmers, dividing their time between cultivating their own land and that of other smallholders (Kydd and Christiansen).

According to the same classification system, only 1 percent of rural women are full-time agricultural laborers in the estate sector. The remaining rural women (slightly over 4 percent) are (1) self employed or unpaid workers in nonagricultural family businesses, (2) professionally employed both on the estates and in other sectors, or (3) not engaged in any economic activity outside of the house.

It should be noted that up to 5 percent of rural women work in both the estate and the smallholder sectors by undertaking seasonal work (low-paid labor during peak agricultural periods) on estates. In addition, most rural women engage in a series of economic activities designed to supplement agricultural wage labor and crop production. These activities may or may not be ancillary to agricultural production, and their absence from the classification system mentioned above points to the difficulty of categorizing

the economic activities of women in a meaningful manner. Yet the classification of Kydd and Christiansen is important in that it underscores the predominance of subsistence farming in the economic lives of women in Malawi. This chapter, therefore, will examine the role of women in agricultural production, in domestic and income-generating activities, and in consumption activities as a basis for subsequent chapters, which will examine the impacts of various macroeconomic, agricultural, and product policies on the production and income levels of rural women.

Production Activities

Production activities undertaken by women may be broken down into four categories: food and cash crop cultivation; animal husbandry; domestic responsibilities; and income-generating activities. Women tend to allocate time between the four types of activities according to the season, domestic and income-generating activities receiving more attention during the slack (post-harvest) period. Variations of this time allocation pattern exist, and these will be discussed in greater detail in subsequent sections. In general, however, women's total labor input is extensive: working days are long, often longer than for men (observations run between half an hour and seven hours), and are composed of a wide variety of tasks that may be short but usually are labor-intensive (Engberg, 1986; Beckerson, 1983; Clark, 1975).

Food and Cash Crop Production

Smallholder Production

Malawi's terrain and ecological characteristics differ greatly from area to area, even within districts, the smallest of Malawi's administrative units. As a result, cropping patterns — reflecting different levels of rainfall and soil

quality — differ from area to area. In addition, labor input — reflecting the social and economic organization of various ethnic groups in Malawi, as well as the exigencies of changing factors of production (primarily the availability of land) — likewise differ.

This variability renders an analysis of women's involvement in smallholder agricultural production difficult. Farming-systems studies employing gender-disaggregated data indicate women undertaking a wide variety of cultivation tasks with respect to both cash and food crops (Spring et al., 1983). Sometimes responsibility for crop production is defined by a clear but balanced sexual division of labor, with women performing some cultivation tasks and men others. Sometimes, either men or women are responsible for the cultivation of a particular crop, with the intermittent assistance of the opposite sex. Sometimes cultivation tasks are shared (performed simultaneously) by both men and women. Some patterns observed repeatedly include the following:

- Maize, the staple food crop throughout most of the country, is attended to primarily by women; though men will assist with land preparation, planting, weeding, and banking, they will not undertake any of these activities alone.

- Hybrid maize and tobacco, popular cash crops, involve relatively more male than female labor in terms of land preparation, planting, weeding, and watering.

- Millet, sweet potatoes, and sorghum, labor-demanding food crops, are grown primarily by women in the South, where intercropping 3 or 4 crops, for a total of 8 to 10 different crops, is generally preferred over cultivation in pure stands. Other pulse and vegetable crops popular among female cultivators include peas, beans, pumpkins, tomatoes, and okra.

- Food-crop production in the north covers beans, peas, groundnuts, and sorghum; women, using the

labor of younger female relatives and offspring, are the major producers.

- Smallholder coffee and tea production tasks are shared by men and women, except for pruning, which is a man's task. On tobacco and cotton holdings, men dominate nursery planting and spraying activities, but women have been known to be involved in both.

A few conclusions may be drawn from these observations. First, women have traditionally assumed responsibility for the cultivation of food crops and appear to be increasingly involved in the cultivation of cash crops. Second, in terms of sexual division of labor, men are generally responsible for clearing the land and preparing the soil for planting; women are responsible for post-harvest activities, such as seed selection for next year's planting and storage. The other cultivation tasks, including planting, weeding, and harvesting, are shared in varying degrees by men and women. Third, women will undertake by themselves any of the cultivation tasks that typically are shared with men, more often than men would undertake those tasks without the help of women. In terms of total labor input, women are contributing more than men towards smallholder crop production, the gap being widest in the case of food crops.

Estate Production

Contrary to the smallholders' sector, women's involvement in crop production in the estate sector appears to be limited in terms of both scope of work and degree of participation. Women constitute less than 8 percent of the permanent work force on the estates, and they may contribute only up to 25 percent of the casual labor needed during the peak seasons. For instance, women amounted to 22 percent of the peak seasonal labor force surveyed on 30 tea estates in the Southern Region in 1984 (Vaughan and

Chipande, 1984). Women are also typically hired for specific, low-skill activities such as weeding, tea plucking, macadamia nut and coffee picking, and tobacco tying. Most of these activities require manual dexterity and patience, qualities estate managers readily correlate with female labor.

Livestock Raising

Animal husbandry is important in Malawi, both for immediate household consumption and as a source of additional income. The NSSA of 1980-81 indicates some 80 percent of rural households keeping livestock — chicken, ducks, rabbits, doves, and turkeys being the most common among the smallest smallholders; pigs, goats, sheep owned primarily by the more prosperous smallholders. (National Statistical Office, 1984) Women predominate in the individual efforts focused on small animals and poultry. Men traditionally take charge of larger animals such as cattle — though women have successfully participated in cattle stallfeeding and dairy cow schemes sponsored by the Ministry of Agriculture (Spring, 1983). Men are always responsible for constructing and maintaining the structures that house the animals; women and children, more often than not, become involved in livestock feeding.

Domestic Responsibilities

Domestic responsibilities, unremunerated tasks associated with family nutritional and overall welfare, fall, of course, to women. Women, who often spend as much time in the field as men, spend an equal amount of time gathering firewood, collecting water, preparing food, and taking care of children (Clark, 1975). These tasks can be very time consuming due to extraneous factors. According to data supplied by the National Statistical Office of Malawi in 1984, approximately 49 percent of all households are at

least two kilometers away from the nearest potable water supply, and 33 percent are similarly situated with respect to the nearest source of firewood.

Income-generating Activities

Income-generating activities are usually engaged in by women to raise household production and hence consumption levels, especially when a regular source of outside income -- such as remittances -- is absent. There are two types of entrepreneurial income-generating activities: sale of cash or food crops, and non-farm activities such as beer brewing, baking, and food processing. Paid employment (either in cash or in-kind) is also an avenue for additional income. Such employment may be differentiated between seasonal work on the estates or ganyu (casual labor), typically on smallholdings. There is clearly a preference for entrepreneurial activities (especially the selling of surplus crops) over paid employment, but the income-generating strategies ultimately pursued by women are a function of access to land and capital. Women on larger land holdings are able to rely on greater amounts of surplus food for sale, and consequently, are not as preoccupied with alternative ways of raising money. Women with savings and suitable markets are able to embark on any of a series of entrepreneurial ventures. Beer brewing is popular, for instance, because of its high profit margin and ready supply of customers, but women have to be able to purchase inputs which may cost MK 20 and upwards (as a point of comparison, household cash incomes range from MK 79 to MK 111, NSSA 1980/81). Paid employment tends to be seasonal and poorly paid, but it is

sometimes the only recourse for women with small holdings and no access to credit.[1]

Marketing Activities

Marketing activities on the part of women are generally confined to low-volume retailing of agricultural produce. In this manner, women dominate the selling of food crops (on average they spend 83 percent more time in this activity than men) and participate in varying degrees in cash crop sales (Peters, 1988; Engberg et al, 1986). Women rarely engage in reselling agricultural produce, preferring to process such items in order to raise the profit margin. Men are generally responsible for the one-time post-harvest sales of cash crops to ADMARC or private traders.

---

1. Chipande's survey of income generation by women in Phalombe reported extensive selling of farm produce (by 95 percent of the respondents) and non-farm activities (77 percent) — and limited paid employment (only 4 percent). The non-farm activities covered beer brewing (popular because of relatively low capital inputs and high profit margins), food processing (popular because of small resource outlays, but generally not very remunerative), and handicraft production (of limited appeal due to limited demand in the local markets and inadequate distribution channels to larger markets). Paid employment covered field work on the estates and positions as nurses, midwives, and domestic helpers. Selling farm produce covered a range of products from cultivated crops (cotton and hybrid maize being the most common/high volume commodities, but rice, pulses, groundnuts, and root crops also being marketed) to fruits and vegetables (such as cabbages, onions, and tomatoes) to livestock and associated products (in order of popularity: chickens, goats, eggs, cattle, milk, and pigs). These trends in income-generating activities are confirmed by studies by Pauline Peters and the Center for Social Research, among others.

Consumption Activities

The greater the extent of men's involvement with off-farm activities (such as wage employment, fishing, and trading), the greater the control of women over farm management decisions and cash transactions. When men are present, the control of women over expenditures involving considerable cash outlays — such as the purchase of agricultural inputs and hired labor and the payment of school and medical treatment fees — is most likely limited to possible consultations, a weak form of joint decision making (Hirshmann and Vaughan, 1984). Women are always responsible for the purchase of food items and basic necessities, which they pay for primarily with the money gained through independently operated income-generating activities. As heads of households, women tend to devote relatively more resources into such purchases and thus affect the overall nutritional level of their family. When unable to dominate the household cash flow directly, women may affect the income stream by converting an available resource, such as small livestock, into cash. (This, in effect, becomes an income-generating activity.) Women also appear to participate actively in decisions concerning crop planting and seed selection and thereby exercise a certain degree of control over the allocation of their own labor (Evans, 1983).

Factors Affecting the Scope and Range of Women's Activities

The following factors have been selected for their obvious, and in some instances inter-related, impacts on the workload of women.

Growing Population Resulting in Intense Land Pressure and Ever Smaller Land Holdings

Malawi's population of 8 million people is growing at an annual average of 3.2 percent (Government of Malawi, 1988). This corresponds to a doubling of the population approximately every 20 years on a total land area of 118,484 square kilometers. Agricultural holdings, already small with 37 percent of all households cultivating less than 0.7 hectares and 83 percent cultivating less than 1.5 hectares, will decrease further (see Table 3). 0.7 hectares is the area below which a household "cannot, with present technology, satisfy their own subsistence requirements from their holdings and even with modern technology . . . will remain dependent on off-farm income" (GOM, 1988). In spite of attempts to farm the land more intensively, the majority of households in Malawi face increasing food deficits and dependence on outside sources of income, either in-kind or cash. As a result women, some 70 percent of the full-time farmers in Malawi, find themselves trying to balance farming and income-generating activities for the optimum output.

Frequent Absence of Men From Land Holdings

In response to the situation outlined above, many men have taken to migrating on either a seasonal or long-term basis. Migration patterns are generally rural-rural, with countries such as South Africa, Zimbabwe, and Zambia absorbing most of the migrant labor until the 1970s. In recent years, worsening economic conditions in most of Southern Africa have constrained external migration and have increased the amount of male labor available for Malawi's estate sector and the more profitable holdings on customary land. As early as 1977, it was noted that the number of female full-time and part-time farmers increased by 11 and 66 percent respectively over a

Table 3. Characteristics of Households by Cultivated Area

(Percent)

Item	Cultivated Area (hectares)			All
	<0.7	0.7-1.49	>1.5	
Proportion of total households	36	36	27	100
Proportion of households in size group using fertilizer	19	33	54	33
Proportion growing crops[a]				
Any cash crop	10	25	51	27
Local maize	89	93	94	--
Improved maize	3	8	24	--
Rice	9	12	6	--
Millet/sorghum	9	14	20	--
Roots	25	28	33	--
Groundnuts and pulses	37	67	99	--
Proportion of households depleting food stocks by February	83	73	51	70

a. Cash crops are improved maize, cotton, tobacco, guar, sunflower, and others.
Source: Centre for Social Research 1988, Cultivated Area Tables 1, 7, 9, and 12.

ten-year period (1977 Population Census). Male migration also increased the number of "grass widows" who assumed the role of head of household during extended periods of time. Other studies indicate that the head of household status changed frequently and that, overall, more women became heads of households than gender-specific frequency rates revealed at any given moment (Hirshmann). Women, faced with the absence of their husbands for short or long periods of time, incur a proportional increase in their workloads.

Large Pool of Male Labor and Low-Wage Economy

Men appear to dominate the more productive areas of the Malawian economy. Studies on migrant labor reveal men moving from agricultural areas with low potential into areas with high, with the result that women outnumber men in the first area and men significantly outnumber women in the second area (Chipande). Studies on wage employment in the estate sector indicate low pay scales, further differentiated between men and women, with women earning on average two-thirds that of men (Vaughan and Chipande, 1986). The statutory minimum wage on estates of 77 tambala per day affects negatively the pay rate of nearby informal sector activities, such as ganyu labor (Trivedy et al., 1988). In terms of viable economic outlets, therefore, women find themselves increasingly dependent on small-scale income-generating activities, often ancillary to agriculture.

Low Literacy Rates for Women

Only a small proportion of women in Malawi are literate, some 17 percent of all women above the age of 15 being able to read and write, as

compared to 40 percent of all men (see map on female literacy).[2] It is unlikely that this proportion will alter in the short term owing to low levels of enrollment and high levels of attrition even in primary school. Adult education courses, furthermore, appear to have a limited impact on female literacy. Of the women randomly selected under a recent survey covering three distinct areas, only 2.5 percent had attended adult literacy classes (Chipande et al., 1986). The prevailing high illiteracy levels among women make it difficult for them to acquire new skills and obtain other than arduous, poorly paid jobs.

Collectively, these factors appear to be intensifying the workload of women at large, with particularly detrimental effects on women in households unable to generate sufficient income or food to meet their consumption needs. These women appear to be pushed into a cycle of poverty and poor health.

Women's Access to Factors of Production

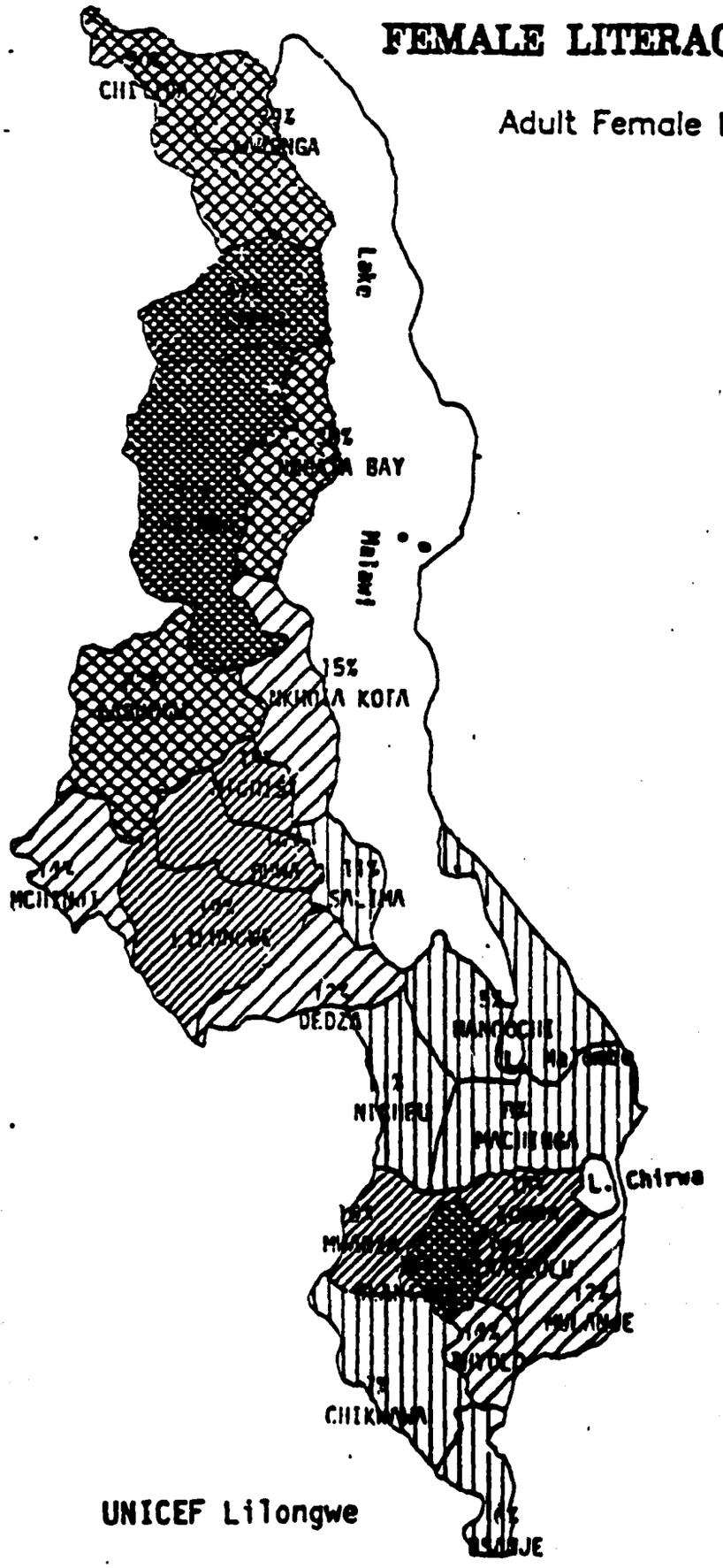
Assessing women's access to the factors of production is one means of gauging the degree of control women maintain over their economic activities. In this discussion, the agricultural credit and extension system described earlier in the paper are again referred to, this time for their direct impact on women.

---

2. A recent study indicated the following levels of educational attainment for women: 46 percent had never received any formal schooling, only 10 percent had completed primary school, 1 percent had received some secondary schooling (Chipande et al., 1986)

FEMALE LITERACY IN MALAWI

Adult Female Literacy Rate by District, 1977



Percent of Women Literate

- 5 to 11
- 11 to 15
- 15 to 19
- 19 to 30
- 30 to 47

UNICEF Lilongwe

Credit

There are two sorts of agricultural credit: seasonal (in essence production loans, with repayment periods lasting 6 to 12 months) and medium term credit (farming equipment loans, with repayment periods of up to 5 years, depending on the item purchased). Seasonal credit has absorbed most of the funds available to borrowers since 1967 (some 99 percent when calculating by the number of borrowers, some 96 percent when calculating by value of the loans). Both types of credit are offered by the Ministry of Agriculture and are available only in-kind, with the former being extended to groups and the latter to individuals since 1980/81-1981/82. The formation and use of farmers' clubs as credit groups for seasonal loans had been encouraged to reduce administrative costs and to increase efficiency of the credit extension system. In 1983/84, nearly one out of every five smallholders was a member of a farmers' club (see Table 4).

It is precisely the use of farmers' clubs in credit extension activities, however, that limits women's access to credit. First, farmers' club eligibility criteria (specifically minimum crop acreage, accumulated savings, and demonstrated interest in innovative farming techniques) render club membership elusive to the smallest land holders, of which women represent a large proportion. Second, women face additional constraints due to their sex: married women may not be members of their husband's club (in an effort to avoid multiple household membership) and married women farming independently must be recommended for membership by the village headmen. Some of these restrictions have been circumvented by the formation of woman farmers' clubs (female-headed club households have often less land than their male-headed counterparts), but the number of these clubs most likely would be too low to have a significant impact on access to credit.

Table 4. Characteristics of Farm Club Households by ADD

	Kasungu	Lilongwe	Mzuzu	Salima	Karonga	Ngabu	Liwonde	Blantyre	Total
Estimated number of holdings									
All	152,225	232,430	71,544	87,138	32,920	62,569	235,366	299,500	1,117,692
M/head	120,448	157,151	50,914	60,849	24,369	44,332	155,509	189,466	803,038
F/head	31,777	75,279	20,630	26,289	8,551	18,237	79,857	110,034	370,654
Heads of household									
Percent female	20.9%	32.4%	28.8%	30.2%	26.0%	29.1%	33.9%	36.7%	31.6%
Percent of households belonging to clubs	25.4%	29.9%	26.3%	12.0%	20.2%	10.5%	9.1%	3.6%	17.1%
Percent of club households headed by females	12.5%	19.4%	11.1%	15.5%	3.7%	5.1%	14.6%	31.2%	14.1%
Female-headed club households as a percent of all households	3.2%	5.8%	2.9%	1.9%	0.7%	0.5%	1.3%	1.1%	2.2%
Percent of female-headed households belonging to clubs	15.2%	17.9%	10.1%	6.2%	2.9%	1.9%	3.9%	3.0%	7.6%

(continued)

Table 4 (Continued)

	Kasungu	Lilongwe	Mzuzu	Salima	Karonga	Ngabu	Liwonde	Blantyre	Total
Man holding size (in hectares)									
All	1.74	1.34	1.34	1.15	0.96	1.29	0.93	0.88	1.20
Club	2.30	1.85	2.23	1.69	1.14	2.68	1.41	1.09	1.80
F/club	2.03	1.78	2.08	1.37	0.46	0.78	0.87	1.38	1.34
De facto mean household size									
All	5.0	4.6	4.9	4.0	4.9	4.7	4.2	4.9	4.6
Club	5.6	5.0	6.0	4.0	4.7	6.0	4.4	5.2	5.1
F/club	4.3	4.5	5.7	2.9	3.7	3.3	4.1	5.9	4.3

ADD: Agricultural Development District
Source: Segal, 1986.

Women have never amounted to more than 30 percent of the total number of borrowers (see Table 5).

Land

Two inheritance systems operate in Malawi, patrilineal in the North and matrilineal/matrilocal in the Central and Southern regions. The latter system accords women de facto title to the land and appears to generate rather fragile marriages subject to high divorce rates. The former system favors men, and a woman must either return to her relatives or remain landless in the case of divorce.

The growing pressure on arable land will, undoubtedly, constrain women's continued access to land. Already certain households in the South are landless, and others farm two to three plots amounting to less than 0.4 hectares (Trivedy, 1988). Land disputes are on the rise, and women are increasingly dependent on land being allocated through village courts (presided by the village head).

Technology and Extension Services

Agricultural extension services are disseminated by government-trained agents through the block extension system. The system relies heavily on demonstration models (such as the block garden), on training sessions (both within the block and at area training centers), and on the active participation of farmers grouped together in clubs. The training is of two varieties: home economics and agricultural information (see Table 6 for a sample range of topics and advice transmission frequency). Unfortunately, the practices recommended by the extension workers focus on (1) handicrafts with little sale potential and (2) cash-crop production requiring the purchase of special

Table 5. Farmers' Participation in Seasonal Credit

Club members	Karonga	Mzuzu	Kasungu	Lilongwe	Salima	Liwonde	Blantyre	Ngabu	Total
1983-84									
Men	6,554	19,373	27,829	51,787	11,266	19,063	9,565	7,586	153,023
Women	1,833	2,146	3,134	9,635	2,048	3,569	3,628	1,042	27,035
Total	8,387	21,519	30,963	61,422	13,314	22,632	13,193	8,628	180,058
Percent women	22%	10%	10%	16%	15%	16%	27%	12%	15%
1984-85									
Men	8,248	19,507	34,190	57,603	15,660	22,265	9,825	10,199	177,497
Women	2,394	3,528	5,849	10,708	1,724	4,116	4,472	1,482	34,273
Total	10,642	23,035	40,039	68,311	17,384	26,381	14,297	11,681	211,770
Percent women	22%	15%	15%	16%	10%	16%	31%	13%	16%
1985-86									
Men	6,982	14,919	49,213	53,190	13,359	15,433	9,150	5,371	167,617
Women	2,195	3,364	12,965	10,703	1,409	3,862	5,164	717	40,379
Total	9,177	18,283	62,178	63,893	14,768	19,295	14,314	6,088	207,996
Percent women	24%	18%	21%	17%	10%	20%	36%	12%	19%

(continued)

Table 5 (Continued)

Club members	Karonga	Mzuzu	Kasungu	Lilongwe	Salima	Liwonde	Blantyre	Ngabu	Total
1986-87									
Men	6,655	10,137	43,965	53,738	9,370	13,717	10,273	6,053	153,908
Women	2,767	2,869	18,250	12,009	1,684	5,339	8,249	334	51,501
Total	9,422	13,006	62,215	65,747	11,054	19,056	18,522	6,387	205,409
Percent women	29%	20%	29%	18%	15%	28%	45%	5%	25%
1987-88									
Men	6,333	14,751	40,934	59,991	10,036	16,721	16,347	5,812	170,925
Women	2,725	7,196	17,826	15,490	2,424	8,240	17,419	1,223	72,543
Total	9,058	21,947	58,760	75,481	12,460	24,961	33,766	7,035	243,468
Percent Women	30%	33%	30%	21%	19%	33%	52%	17%	30%

Note: Breakdown of men and women participating in credit program is not done in 1982-83 season.
Source: Ministry of Agriculture.

Table 6. Percentage of Respondents from Four Areas Who Received Advice on Extension Topics (1980-81)

	Lilongwe Rural Development Project[a]			Ngabu AAD[b]			Phalombe Rural Development Project[c]		Karonga ADD	
	MHH	Wives	FHH	MHH	Wives	FHH	MHH+FHH	Wives	MHH	FHH+Wives
Land husbandry	61	23	34	45	20	42	52	11	59	34
Animal husbandry	42	18	31	31	15	10	43	9	60	15
Crop husbandry	76	47	63	62	22	32	64	11	71	52
Vegetables	25	22	22	17	7	13	29	12	21	16
Woodlots	47	14	9	19	3	6	19	3	30	11
Credit	54	33	43	43	11	26	30	11	67	34
Food storage	31	19	9	22	5	13	25	11	33	27
Agricultural show	39	12	6	24	5	23	42	8	46	22
Farmers' clubs	32	13	11	13	4	10	9	–	37	14

(continued)

Table 6 (Continued)

	Lilongwe Rural Development Project[a]			Ngabu AAD[b]			Phalombe Rural Development Project[c]		Karonga ADD	
	MHH	Wives	FHH	MHH	Wives	FHH	MHH+FHH	Wives	MHH	FHH+Wives
Training	34	16	11	19	5	16	19	8	43	18
Home economics	25	39	26	2	14	26	32	18	13	40
Sample size	147	125	35	95	95	30	77	42	70	73

a. Separate tabulations for male household heads (MHH), their wives, and female household heads (FHH).
b. MHH and FHH tabulated together, whereas the wives of MHH tabulated separately.
c. MHH tabulated separately whereas FHH and the wives of MHH tabulates together.
Source: Adapted from Table 23 in Spring et al., 1983.

inputs or reliance on the credit extended by the Ministry of Agriculture. In this manner, the immediate needs of most women farmers, steeped for the most part in food-crop production and food-processing income-generating activities, are bypassed by the extension system.

Another bias against women in the extension system consists of the disproportionate number of male extension agents (generally known as Farm Assistants, FAs) to female agents (Farm Home Assistants, FHAs).[3] FAs outnumber FHAs by approximately nine to one (IFAD, 1986).[4] The bias in this case is not only one of coverage; it is also cultural or social, since women find it difficult participate actively in meetings led and attended by men. In addition, the training of the FAs themselves is focused primarily on animal and crop husbandry, whereas that of FHAs concentrates on domestic activities. The bias in this instance is clearly based on an inappropriately conceived division of labor on landholdings, with men taking care of the fields and women, the home.

Many methods for overcoming these biases have been considered, including training more female extension workers as FAs, making the formal training of FHAs more responsive to the agricultural needs of women farmers, instructing FAs to increase their contacts with women farmers, and mobilizing women farmers to seek services on their own. The last two methods have been employed successfully in pilot programs (Spring in Lilongwe, and Evans in Phalombe), and they are currently being implemented in varying degrees in different areas throughout the country.

---

3. Currently, approximately 20 FAs are women; since 1983, three to four out of a class of 180 have been graduated annually from the College of Natural Resources.

4. Whereas one FHA is available for approximately every 2400 households, one FA covers only 400 households.

Female Heads of Households: A Special Case

Households headed by females present an interesting case: in common with the most vulnerable households in the country, they tend to occupy smaller land holdings, employ simpler farming systems, and have lower incomes and greater food deficits than the average household.[5]

Approximately 28 percent of smallholdings in Malawi are headed by women (see Table 7 for percent of female-headed households by ADD, consisting of a range from 14 percent in Kasungu ADD to 36 percent in Lilongwe ADD). Seventy percent of the female heads of households are not currently married; 20 percent have husbands who are absent; the remainder are married polygamously.

It appears that the number of female-headed households is growing. Kydd found in the early 1980s that the proportion of female-headed households increased from 11 to 28 percent over ten years (1968-78) in Lilongwe. Segal, using data from the 1983/84 NSSA, derived female head of household figures that exceed those of the 1980/81 NSSA for all ADDs but Liwonde, reflecting a 12-percent increase for the country as a whole (see Table 7). The high incidence of female-headed households has been

---

5. Trivedy in his discussion piece on the Mulanje district -- a densely populated area in the South, characterized by small land holdings between 0.1 and 2.4 hectares -- distinguished between two groups of vulnerable households. The first group, covering some 10 to 15 percent of the households in each village, consists of units with rarely enough food for more than 2 to 3 months of the year and no assets to act as a buffer; these units subsist for most of the year on wild fruit and vegetables and income from ganyu labor, or they starve. The second group of vulnerable households, amounting to some 35 percent of the households in each village, harvest crops sufficient for 4 to 6 months and often consume part of the next season's harvest before crops are mature. This limits, of course, the supply of seeds available for the subsequent planting.

Table 7. Percentage of Female-Headed Households (FHH) by Type of Status and ADD

ADD	FHH	FHH w/Husband	FHH w/pol. hus	FHH not married
Karonga	17	14	---	83
Mzuzu	21	17	1	83
Kasungu	14	13	5	83
Salima	28	16	13	71
Lilongwe	27	21	18	61
Liwonde	37	20	11	69
Blantyre	34	22	6	72
Ngabu	24	28	10	62
Malawi	28	20	10	70

Source: NSSA 1980-81.

attributed to the combined effects of male migration and a high divorce rate (Mkandawire), and the matrilineal inheritance system and fragile marriages (Chipande).

Over 70 percent of female-headed households have land less than one hectare (as compared to 48 percent for male-headed households); some 35 percent have less than 0.5 hectares (19 percent for male-headed households). Holdings of less than 0.5 hectares can produce approximately only 37 percent of the food need of a family of six. Holdings ranging from 0.5 to 1.0 can produce only 77 percent. This gives rise to varying degrees of food insecurity for most members of female-headed households.

Food levels are also adversely affected by the agricultural practices of those female heads of households without access to income.[6] These women tend to plant later, grow fewer types of crops, and have fewer facilities for storing maize (Evans, 1983). Late planting is largely due to the women hiring themselves as casual labor on other smallholdings or as seasonal labor on estates (female heads of households represent a higher proportion of women working on estates). These women are aware of the trade-off between subsistence production and alternative employment options, but the necessity of trying to overcome a food deficit may force them to neglect their own land. The cycle of deprivation can be lessened somewhat by the traditional intercession of female relatives in the form of food and money or the practice of communal eating.

---

6. Pauline Peters, in her recently completed study of the links between production and consumption in south Zomba, concluded that transfers from persons working outside the household were important sources of household income, which allowed the households to expand operations (e.g., hire ganyu labor during moments of peak agricultural activity) and ultimately improve their standard of living.

IV. THE POLICY ENVIRONMENT AND ITS IMPACT ON WOMEN

An overview of the macroeconomic problems and policies which Malawi has experienced in recent years was provided in the introductory section of this paper. Since the impacts of macroeconomic policies on the agricultural sector are often speculative, and the gender-differentiated impacts even more so, this section will confine itself to a relatively brief discussion of those macro policies that one can reasonably claim to have a fairly direct impact on the sector by, for example, influencing the prices of agricultural imports and exports. Specific sector policies will subsequently be discussed in more detail.

Fiscal Policies

Central government recurrent revenue is derived from direct taxes on the incomes of individuals and corporations, indirect taxes on international trade and on the provision of goods and services, and a range of non-tax fees. In recent years, indirect taxes, particularly on trade, have been responsible for the largest share of this revenue.

The government has generally pursued a policy of promoting exports while encouraging import substitution. Thus the taxes on international trade fall mainly on imported goods. An export levy on tobacco and tea was introduced in 1985, but it has since been rescinded. The recent pressures on the government to raise revenue to cover the burgeoning debt service

charges have encouraged a tendency to raise these taxes which provide an easily administered source of revenue. Thus the proportion of tax revenue raised by these indirect taxes increased from 40 percent in 1977 to 47 percent in 1986, and the implicit tax rate on international trade rose from 3.4 percent in 1973 to over 20 percent in 1986.

In order to improve the efficiency and equity of the tax system, the government has developed a package of reforms to be implemented in 1988-90. The overall effect of these measures will be to shift the burden of taxation from international trade to domestic transactions and from production to consumption. A number of the reforms have already been initiated.

Impacts of Fiscal Policies

High levels of taxation on imports serve to protect domestic manufacturers, raise the prices of imports to consumers, and in some cases facilitate inefficiencies in the protected industries. Clearly, the potential gainers are the owners and employees of the protected industries, while the losers are all those persons who consume the more expensive products. To the extent that women are less frequently in the former category it can be suggested that they are less likely to be affected by the trade liberalization. However, without data on consumption baskets, not to mention allocation of consumed items within the household, any real gender-differentiated impact assessment is clearly highly speculative.

As far as agricultural inputs are concerned, since the estate sector purchases these through market channels, they should clearly benefit from liberalization. For the smallholder sector, inputs are supplied by the

government at subsidized rates, and thus a measure of protection is provided.

External-sector Policies

The Reserve Bank of Malawi has pursued an active exchange rate policy since 1974, with the objective of influencing both the domestic monetary situation and the external balance of payments. Since 1984 the Malawi Kwacha has been tied to a basket of currencies, and it has been devalued a number of times, most recently in January 1988, when it was devalued by 15 percent in foreign currency terms against its currency basket. The government will continue to pursue a flexible exchange-rate policy in order to promote export growth, increase efficiency in import substitution, and improve the level of government net foreign liabilities.

There are no import quotas in Malawi, and most imports are subject to an open general-license system. There are, however, prior approval requirements for foreign exchange for private-sector imports. Since foreign reserves are currently at a low level, the government has proceeded cautiously with efforts to liberalize these requirements. It intends to complete the liberalization within a three-year period.

The government is undertaking a number of export-promotion measures, including the strengthening of the Malawi Export Promotion Council and the establishment of a foreign exchange revolving fund for exporters to use for purchase of imported inputs. A reduction in the scope of export-licensing requirements is also being undertaken.

Impact of External-Sector Policies

The regular devaluations of the Kwacha serve to make Malawi's exports more competitive on world markets and thus potentially increase the revenue to producers of these goods. The estate sector, which exports directly, has clearly gained from this policy. It is not evident that smallholders have shared in this gain, however, since ADMARC prices did not always reflect changes in world market prices. With the liberalization of trade, the setting of ADMARC prices at or near export parity prices, and the expansion of private trading activities, there is clearly a strong potential for increased growth of exports, the benefits of which should be felt by the smallholder sector. In addition to the potential increase in prices that the producers of export crops may receive, a more significant impact should be the improved allocative efficiency in the sector as a whole as resources are allocated to their most productive use. Clearly, since women are the major producers, a major expected impact would be an increase in their potential economic productivity.

Agricultural-Sector Policies

According to the Government of Malawi's Statement of Development Policies (1987-96), the overall objective of agricultural policies is

> to enhance the social welfare and income of the agricultural community and the prosperity and stability of the nation as a whole by means of both improving self-sufficiency in food products and expanding and diversifying export receipts from agricultural produce. This will be pursued subject to the avoidance of a deterioration of Malawi's natural resources, serious maldistribution of agricultural incomes, and over-dependence on volatile external trade flows.

The dual objectives of export promotion and food self-sufficiency have been pursued by the government over a long period, with relative success until recently. Many recent critics have, however, suggested that the cost of this success has indeed been a "serious maldistribution of income." The actual policies pursed and their effects on distribution, both from the point of view of income levels and gender (which have a considerable overlap), are discussed below.

Prices and Marketing

Price controls on all the principal smallholder crops have traditionally constituted one of the major policy instruments used by the government to influence agricultural production. The implementation of this policy through ADMARC was facilitated by the fact that this organization held a virtual monopoly on the marketing of all these crops. ADMARC was established in 1971 to replace the Farmers' Marketing Board, but it subsequently expanded its role not only developing a far more extensive network of buying points throughout the country, but also engaging in a wide range of other activities including input and credit supply, strategic reserve management, and provision of development finance to a number of institutions.

In the past ADMARC set prices for most crops at the beginning of the crop year, prior to the planting season. These prices were intended as floor prices and were occasionally subject to upward revision. Furthermore farmers could theoretically buy and sell some crops in the local market at higher prices. In practice, however, because of ADMARC's virtual monopoly on the marketing of smallholder crops, these became the effective prices.

The ADMARC pricing policies relied on high differentials between the purchase and sale prices of goods such as groundnuts, cotton, and tobacco. These crops were taxed (the farmers receiving in some cases only one-third of ADMARC's selling price), while others, such as maize and rice, were subsidized, thus distorting the market and leading to misallocation of resources. If this cross-subsidization had been entirely within the smallholder subsector, it could perhaps have been justified to some extent, particularly as the poorest producers are likely to have been the principal beneficiaries insofar as they are likely to have the highest proportion of their resources devoted to maize production. However, part of the profits made by ADMARC on its trading in the smallholder sector were invested directly or indirectly in the rapidly growing estate sector as well as in industry. The distributional impacts of this are evident.

This method of promoting the modern sector, and particularly the estates, could clearly only continue as long as ADMARC could make a sufficient profit on its trading activities. Thus, when the world prices of the taxed crops fell, ADMARC's profits disappeared, and a principal source of domestic savings and investment dried up. It was partly as a result of these problems that the government entered into agreements with the IMF and World Bank whereby, in return for concessional financing, it would implement a series of policy measures that included removing the distortions on prices of agricultural goods, removing fertilizer subsidies, and increasing the efficiency of parastatal enterprises, including ADMARC.

Among the principal measures implemented to date are the liberalization of trading in all crops except cotton and tobacco, for which ADMARC maintains a monopoly, the reduction of the government subsidy on fertilizers, and the fixing of prices for smallholder export crops at or near export parity levels in order to minimize market distortions. (In addition to fixed

prices for crops, the government also controlled meat prices. These are scheduled for removal by the end of 1988.)

Impacts of Price and Marketing Policies

In the long run, the effectiveness of having floor prices in a situation where ADMARC neither controls trading nor has the capacity to purchase sufficient produce to clear the market is highly questionable. Furthermore, it would seem extremely difficult for the government to pursue its policy of setting a price for maize that will be sufficiently high to ensure that domestic requirements are met since, given all the technical constraints to increased production, the farmers must base their production choices on relative prices, and the market prices of other crops which are being traded more or less freely will clearly not be known in advance when ADMARC is setting the maize price. In the short run, however, a number of trends are discernible, some of which appear to have a detrimental impact on those segments of the population that contain a relatively high percentage of women.

One of the major impacts of liberalizing trade and reducing ADMARC's role has apparently been the increase in maize prices, as traders bid up the price, with a clear adverse effect on net consumers of the product. This group includes not only those commercial farmers who concentrate on cash-crop production, but also a high percentage of the smallest farmers who do not have enough land to produce an adequate amount for domestic requirements and rely on off-farm work to purchase additional maize. A disproportionate number of female-headed households fall into this category (see Chapter 3) and this vulnerable group is clearly likely to have been severely affected, at least in the short run.

A second major impact of the liberalization relates to the closing down of a number of ADMARC's less profitable buying stations. In the past, ADMARC did a remarkably efficient job of fulfilling its obligation to purchase the smallholders' marketed surplus through its very extensive network of buying stations. The fact that the stations to be closed are those that are least viable for ADMARC implies that they are least profitable and therefore least attractive to traders. Consequently, the farmers in the affected areas, which are generally remote from urban centers, are quite likely to be faced with no outlets at all for their marketable surplus. Here again, female-headed households are particularly vulnerable since their ability to transport goods long distances is extremely limited. One foreseeable consequence of the lack of a guaranteed market is also a reduction in the cultivation of crops that have poor storage qualities such as hybrid maize. Farmers have suffered losses in the past when, for reasons of liquidity, ADMARC failed to make prompt purchases and large quantities of the crop spoiled in storage. That this is in fact happening is indicated by the large decline in demand for hybrid maize seeds in 1987.

It should be noted that although the impacts mentioned above appear to be clearly detrimental to the poorest smallholders in the short run, the long-run effects may be less severe. Increased competition among traders in agricultural crops, while it may increase risk vis-a-vis a system whereby the price is known prior to planting, has also the potential to bring higher prices to smallholders and to improve overall efficiency and allocation of resources through the market-price system. In particular, it can be argued that the higher prices will make the use of fertilizer more economic and thus increase returns to other resources. The degree to which fertilizer use increases is, of course, dependent on a number of other cost factors, such as the extremely high transport charges in recent years and the fertilizer subsidy removal program, which has temporarily been put on hold. The important

point is that the vulnerable groups need to be identified and targeted in the transition stages.

On the positive side, the setting of export crop prices near to the export parity price is likely to be beneficial to all those smallholders who have sufficient land to produce export crops. Female-headed households will benefit less than proportionately to the extent that they often have little land available for export-crop production.

On a more general level, the streamlining of ADMARC, including divestiture of unproductive subsidiaries and stocks, which were previously financed by taxes on smallholder trading activities, should clearly have a beneficial impact on the smallholder sector.

Wage Policies

The government implements strict controls on wages, and levels of remuneration in the estate sector are extremely low, reaching a maximum of about 77 Malawi Kwacha per day, equivalent to about 30 cents. Conditions on many estates (though not by any means all) are said to be poor, and malnutrition levels are high.

Impact of Wage Policies

The wage ceilings effectively constitute an implicit subsidy to the estate sector. This subsidy is facilitated by the existence of land shortage, and landlessness, on the one hand, and the suppression of the implicit wage in the smallholder sector by the low crop prices which ADMARC offered in the past on the other. While the anticipated increases in crop prices should raise relative returns to smallholder labor, this will be offset, if not totally negated,

by the diminished possibilities for migration to neighboring countries, and the consequent increase in local labor supplies. There has been a marked trend away from international migration and towards internal migration from small farms to larger farms for a number of years. Given the economic and political situations of neighboring countries, this trend is likely to continue. Since women have traditionally been less involved in migration they are likely to be less affected, at least in a direct sense.

Production Controls

The production of burley tobacco is controlled by a quota system. The rationale for this control was to stabilize prices and to maintain them by restricting supply, since Malawi controls about 15 percent of the world market. Since the demand for burley is strong, and future export prospects look good, this policy is undergoing reexamination, both in terms of its efficiency and its distributional impact. Since this is a crop that many smallholders have experience in cultivating, particularly those who work as tenant farmers on tobacco estates, allowing them to produce this crop could provide them with a valuable source of cash income.

Smallholders are also prohibited from cultivating Guar beans, another potentially profitable cash crop. This policy is currently also under review by the government.

Impacts of Production Controls

The controls on the production of profitable cash crops constitute a constraint to increased income and are potentially detrimental to all smallholders, regardless of gender.

Agricultural Input Policies

Two different supply channels exist for agricultural inputs in Malawi. For the smallholder sector, fertilizers, seeds, and credit are provided through ADMARC at highly subsidized rates. A fluctuating but usually quite large percentage of fertilizer is provided by donors, the remainder being purchased at market prices, while the Malawi Seed Company is responsible for local seed multiplication. The estate sector purchases inputs directly on the open market, although there are reportedly, and not surprisingly, some leakages of government-subsidized fertilizer from the smallholder sector to the estate sector.

Impact of the Policy

Until very recently, fertilizer, seeds, and credit were distributed through farmers' clubs, the membership of which, as mentioned earlier, is predominantly male farmers who have sufficient land to be considered "good risks" for obtaining inputs on credit. Thus female-headed households, and land-poor male-headed households were effectively excluded from obtaining these inputs. This situation is beginning to change as more women are becoming involved in farmers' clubs, and the number of clubs for women only is increasing. Furthermore, the government has reduced the minimum package size of fertilizer from a 50-kilo bag to a 10-kilo bag which enables very small farmers to purchase this input. In addition, the number of different packages available, including both seeds and fertilizers has been increased, allowing for more flexibility on the part of smallholders in the use of the inputs. During the past year, there was a major increase in demand for fertilizer, which is probably due in large part to the increased accessibility of small farmers. This clearly has the potential to increase smallholder productivity and income substantially.

Research and Extension Policies

The government policy towards the provision of research and extension parallels its policy regarding input provision; the estates have their own private enterprises, which are relatively efficient, while the smallholder sector is served by government agencies. While there is a very extensive network of extension agents, those who specialize in agriculture, the Farm Assistants, are almost entirely male, while the Farm Home Assistants, of whom there are considerably fewer and who are mostly female, provide training in nutrition and income-generating activities as well as agriculture.

Impact of the Policy

It was reported that women have virtually no contact with male extension workers for a number of reasons, including social constraints. Since 70 to 80 percent of full-time subsistence farmers are women, this clearly limits the potential effectiveness of the extension service. Any information on improved techniques that these women do obtain comes at best second hand through their husbands. Furthermore, they have no means of providing feedback or making known their needs to the extension service. While the female Farm Home Assistants are becoming more involved in providing information on agricultural techniques, food processing, and other areas of more interest to women, the overall policy remains highly skewed to providing these services to male farmers.

Food Security Policy

The Government of Malawi has as one of its primary goals the attainment of food self-sufficiency, i.e., local production of a sufficient quantity

of staple foods to satisfy the country's domestic requirements. In fact, as mentioned earlier, the country has at times exported surplus food, and it has recently established a strategic reserve stock to cover occasional shortfalls due to drought or other natural causes. The success in achieving food self-sufficiency has unfortunately not been matched in the area of food security, i.e., in the access of the poor to an adequate supply of food. In fact this problem has never been adequately addressed, and quite often its existence is not acknowledged.

Impact of the Policy

While the overall achievement of food self-sufficiency is laudable, the impact on the poorest groups, whose purchasing power is extremely limited, is virtually zero. Until it is freely acknowledged that there is a chronic problem, as evidenced by the statistics on infant mortality and child malnutrition, the poorest and most helpless sectors of the population can have little hope of improvement. A food security policy that does not address the needs of small children and pregnant and nursing women, who could most be helped by such a policy, is clearly deficient.

Land Policy

While the government does not yet have a very clearly defined policy on land, government actions in the past have tended to favor the estate sector, which has been able to lease large tracts of land at very low rates. Despite extreme land pressure, particularly in the Southern Region, where many families do not have sufficient land to fulfill even basic family subsistence requirements, many estates are allowed to leave large tracts of land unutilized or underutilized. While suggestions have been made that a land tax be introduced to encourage increased efficiency of this resource, as

yet no serious proposals have been presented and care would need to be taken that such a tax did not have an inadvertent negative impact on smallholders.

Impact of the Policy

The failure to fully exploit the scarce land resource is clearly detrimental to the population as a whole. For the land poor and landless the opportunity cost is particularly high in terms of the employment and production foregone. Since estates in general employ far more men than women, the reduced employment due to underutilization of estate land is likely to affect men more directly than women, though clearly women are indirectly affected insofar as they are beneficiaries of the remittances of male estate workers.

V. SUMMARY AND CONCLUSIONS

Since Independence, the Government of Malawi has sought to achieve economic growth through an aggressive agricultural export strategy, based mainly on the estate sub-sector. While this strategy was relatively successful in the 1960s and 1970s, major problems were encountered after 1979 due to a combination of external factors, including changes in the terms of trade and rapidly escalating transport costs, and internal factors such as large government and parastatal investments that were not economically viable. To deal with these problems, which caused deficits both in the government budget and in the trade balance, the government initially resorted to commercial borrowing, which ultimately led to high debt-service charges, and subsequently turned to the World Bank and IMF to obtain stand-by arrangements and concessional loans, in return for policy changes.

This paper has reviewed some of the major policies pursued by the government, both those that derive from the pre-1979 export promotion era and those that have been invoked subsequently, largely in conjunction with Structural Adjustment Loan Agreements.

Malawi's export-promotion strategy favored the growth and development of the estate sub-sector at the expense of smallholders. Thus, for example, estates have been able to obtain extensive tracts of land that were previously subject to customary tenure arrangements on a leasehold or freehold basis, while land shortages and landlessness have become increasingly severe for smallholders. In addition to preferential treatment

regarding access to land, which is a crucial resource for small farmers, especially women for whom sources of off-farm income are extremely limited, the estate sector has received preferential treatment in regard to access to world markets and world market prices for its products. While estates have been free to manage their own export trade, smallholders, who have exported through ADMARC, have seen their profit margins cut and part of the difference invested in estates and other industrial enterprises of no direct benefit to them. Furthermore, even when some of ADMARC's profits were used to subsidize agricultural credit, fertilizers, and seeds, these inputs were almost entirely channelled through farmers' clubs, the members of which disproportionately are male farmers and are enabled to be members because they are considered the lowest credit risks, i.e., they constitute the wealthier members of the community. Thus, smallholders in general, and the poorest smallholder in particular (a group that includes a disproportionate amount of female-headed households), have clearly been the net losers from the export-promotion policies.

The consequences of neglecting this sector of the community have implications for both economic growth and equity. While the increasingly severe land pressure has prevented smallholders from augmenting production through cultivating larger areas, the government's failure to provide any agricultural inputs or extension services to the small farmers has constrained increased productivity on the land area that they do possess. The result of these policies has been stagnation of the smallholder sector, which in the past has been relied upon to provide the country's basic food supply. Furthermore, the suppression of wages in the estate sector reduces one of the few sources of off-farm income. In the past, shortage of land or other employment opportunities led to migration to neighboring countries. This phenomenon also had some negative consequences, however, and is a contributing factor to the existence in Malawi of one of the highest rates of

female-headed households on the continent. While in some cases remittances are sent by workers, this frequently does not occur, and there is created a particularly vulnerable class of single women who are often left with a number of small children totally dependent upon them. Thus the export-promotion strategy pursued by the government has had significant negative consequences from the point of view of both growth and equity.

The effects of the more recent liberalization policies are less clearly discernible, largely due to the fact that these have been introduced so recently and in some cases, such as the fertilizer subsidy removal program, have only been partially implemented. Nevertheless it appears that in the short run at least, the liberalization of trade has led to higher prices of smallholder crops, probably to the detriment of the poorest smallholders who are net consumers of food crops. While higher prices may ultimately provide a necessary stimulus to increased production, a prerequisite for achieving this will be the provision of basic inputs, including credit, fertilizers, and seeds, to the vast majority of smallholders who currently lack access to these resources.

In addition to higher prices, trade liberalization — and particularly the closing of some of ADMARC's least profitable buying stations — has resulted in producers in some regions having restricted access to markets for their products. Many of these stations were located in relatively inaccessible areas in the Northern Region, and traders have not yet moved in to fill the vacuum left by ADMARC. Clearly if farmers have no market for their produce there will be a reduction in the production of cash crops, particularly those that have poor storage properties. That this has happened to some extent is evidenced by the reduction in demand for hybrid maize seeds, this crop being particularly difficult to store. This effect is clearly in conflict with the government objectives of encouraging greater diversification and increased

production of cash crops such as the high-yielding hybrid maize. Since most of the female-headed households are located in the Southern and Central Regions, the impact of this policy is gender neutral, except insofar as it is more difficult for female farmers to transport their surplus production to distant markets.

It has been argued elsewhere that the problems with the trade liberalization policies lie in the manner of implementation rather than in the substance of the reforms. Indeed it is clear in retrospect that they were undertaken with undue haste and inadequate regard for the distributional impacts. In the long run, the free-market system should certainly encourage more efficient use of economic resources, a necessary but not sufficient prerequisite for economic development. Farmers who have insufficient land, no access to agricultural inputs or services, and no off-farm opportunities clearly cannot contribute to economic growth in any policy environment.

The effects on both growth and welfare of neglecting smallholders in the past are dramatically illustrated by the statistics. In terms of growth, the performance of the smallholder sector has been abysmal, and in contrast to other developing countries where the smallest farms almost always have the highest levels of productivity, in Malawi the smallholders are less productive than the estates and the smallest small farms are less productive than the larger ones. Clearly, unequal access to inputs and services is a major contributing factor, and it will continue to restrict productivity as long as it is allowed to exist. On the welfare side, the picture is equally bleak. Nationally, about one-third of children die before they reach the age of five, one of the highest rates on the African continent. Of those who survive, over 50 percent will be chronically malnourished.

The government has recently made some very laudable moves in the direction of reaching the smallest farmers, and particularly the women farmers who constitute over 70 percent of all full-time subsistence farmers. These measures include (1) an effort to direct the extension provided by Farm Home Assistants to issues of particular concern to women farmers, most notably specific agronomic issues; (2) the reduction of credit packages to a size appropriate for very small holdings (.2 hectares); and (3) the incorporation of a special section into the new credit manual published by the Ministry of Agriculture which specifically encourages the provision of credit to women. Such actions demonstrate the willingness of the government to address the problems discussed above. Clearly, from the point of view of both growth and equity, there is an urgent need to direct far more resources towards improving the productivity and food security of those smallholders who have been neglected in the past — particularly women and children, who have been most harshly affected, and upon whom the country is highly dependent for its future growth and development.

APPENDIX A. LIST OF PEOPLE CONTACTED

LIST OF PEOPLE CONTACTED

Ruth Ayoade, Nutrition and Food Officer, Ministry of Agriculture, Lilongwe

I. B. Bothomani, Senior Lecturer, Public Administration Department, Chancellor College, Zomba

K. M. Chavula, Assistant Chief, Agricultural Officer (Crops), Ministry of Agriculture, Lilongwe

Isabel Chikagwa, Women's Programme Officer, Department of Agriculture, Ministry of Agriculture, Lilongwe

G. H. R. Chipande, Economist, Treasury, Ministry of Finance, Lilongwe

R. Clough, Economist, World Bank Office, Lilongwe

Carol J. Culler, Women's Program Advisor, Department of Agriculture, Ministry of Agriculture, Lilongwe

Richard C. Day, Program Officer, USAID/Malawi

Lila E. Engberg, FAO Consultant

Anne Ferguson, Women in Development Specialist, Bean/Cowpea Management Office, Center for International Programs, Michigan State University

S. W. L. Gunde, Assistant Market and Depot Controller. Agricultural Development and Marketing Corporation, Blantyre

Miguel Hagemann, FAO, Lilongwe

Willie C. J. Horrea, Market and Depot Controller (formerly Operations Manager), Agricultural Development and Marketing Corporation, Blantyre

E. J. Kalyati, Secretary for Community Services and Chairperson of the National Commission on Women in Development, Ministry of Community Services, Lilongwe

J. A. K. Kandawire, Head, Sociology Department, Chancellor College, Zomba

P. Kashindi, Sociology Department, Chancellor College, Zomba

James R. Kapala, Agricultural Officer (Credit), Ministry of Agriculture, Lilongwe

Gill Lavers, Economist, Planning, Ministry of Agriculture, Lilongwe

D. M. Manda, Chief Community Development Officer, Ministry of Community Services, Lilongwe

Charles K. Mann, Harvard Institute for International Development

M. Mibuka, Principal, Natural Resources College, Lilongwe

M. J. K. Mughogho, Principal Economist, Planning, Ministry of Agriculture

O. G. O. Ndoui, Farm Inputs Controller, Agricultural Development and Marketing Corporation, Blantyre

J. K. Nyasulu, Principal Agricultural Officer (Legumes), Ministry of Agriculture, Lilongwe

Naomi A. Ngwira, Research Fellow, Center for Social Research, University of Malawi, Zomba

Carol Peasle, Mission Director, USAID/Malawi

S. Phokoso, Filed Officer (Women's Programme), Lilongwe Agriculture Development District, Lilongwe

Arnold Radi, Agricultural Officer, USAID/Malawi

D. Scherer, UNDP/FAO Project, Agricultural Development and Marketing Corporation, Blantyre

Guy Sharrock, Evaluations Officer, Blantyre Agriculture Development District, Blantyre

Richard Shortlidge, Assistant Director, USAID/Malawi, Lilongwe

Steve Shumba, Cultural Programs Specialist, USAID/Malawi

L. T. Soko, Chief, Planning, Ministry of Agriculture, Lilongwe

Anita Spring, Director, Women in Agriculture Programs, University of Florida

Victora J. Quinn, Regional Coordinator, Eastern and Southern Africa, Joint UNICEF/Cornell Nutritional Surveillance Program, Lilongwe

APPENDIX B. BIBLIOGRAPHY

BIBLIOGRAPHY

Bortei-Doku, E., P. W. Barnes-McConnell and O. T. Edje. 1984. Malawi: Focus on a Bean Culture. East Lansing: Bean/Cowpea CRSP, Michigan State University.

Chikagwa, Isabel. 1987. Women and the Smallholder Agricultural Credit Programme in Malawi. Paper Prepared for Presentation at the All Africa Home Economic Conference on Economic Security and Family Survival in Africa at Kwakie Nkruna Conference Center, Accra, Ghana, April 20-24, 1987.

Chipande, G. H. R. 1986. Socio-Economic Aspects of Female Headed Households and Rural Development Efforts with Special Reference to the Phalombe Area of Southern Malawi. A Paper Presented at the Workshop on Rural Development Strategies and Programmes in Malawi, Capital Hotel, December 30, 1985 to January 5, 1986.

Chipande, G. H. R., M. M. Mkwezalamba, L. S. Mwaisango, and M. W. Mhango. 1986. Income Generating Activities for Rural Woman in Malawi: A Final Report. Zomba: Center for Social Research, University of Malawi.

Clark, B. A. 1975. "The Work Done by Rural Women in Malawi", Eastern African Journal of Rural Development 8, 2.

Engberg, Lila E., Jean H. Sabry and Susan A. Beckerson. 1987. "Production Activities, Food Supply and Nutritional Status in Malawi", The Journal of Modern African Studies 25, 1.

Evans, Janis. 1981. Rural Women's Agricultural Extension Programmes in Phalombe Rural Development Project. A Report on Base Line Survey of Phase I.

Finney, C. E. 1981. Estate Diversification Study. Main Report submitted to the Ministry of Agriculture, Lilongwe, under a three month extension of the National and Shire Irrigation Study. Lilongwe: Hunting Technical Services Ltd, in association with Sir M. MacDonald and Partners.

Ferguson, Anne, ed. July 1988. Malawi Women in Agriculture Resource Guide: Annotated Bibliography. East Lansing: Bean/Cowpea CRSP, Michigan State University.

Government of Malawi. Statement of Development Policies, 1987-1996. Office of the President and Cabinet, Department of Economic Planning and Development.

Government of Malawi. Economic Report 1985. Budget Document No. 4. Office of the President and Cabinet, Economic Planning Division.

Government of of Malawi and UNICEF. 1987. The Situation of Children and Women in Malawi.

Herrera, M. G. 1988. Nutrition and Health among Small Landholders in Rural Malawi. Draft Report.

Hirschmann, David. 1984. Women, Planning and Policy in Malawi. New York/Addis Ababa: United Nations Economic Commission for Africa.

Hirschmann, David and Megan Vaughan. 1984. Woman Farmers of Malawi: Food Production in the Zomba District. Berkeley: Institute of International Studies, University of California.

Intermediate Technology Consultants, Ltd. 1987. Rural Opportunities Study: Mulanje, South Malwai. Study undertaken under the auspices of the Overseas Development Administration on behalf of the Government of Malawi. First Draft.

Kalyati, E. J. .1988. The Organizational Structure and Functions of the National Commission on Women in Development. A Paper Presented at C.P. Conference held at Club Makokola, Mangochi, Malawi, July 1988.

Liebenow, J. Gus. 1982. Malawi's Search for Food Self-Sufficiency. Part I: Resource Endowment and Development Constraints. Part II: Productivity and Participation. UFSI Reports 1982/No. 30 and No. 31, Africa. Hanover: Universities Field Staff International.

Ministry of Agriculture. 1988. Women's Programme Section Implementation Manual. Draft.

National Statistical Office. 1985. Annual Economic Survey, 1980-1981. Zomba.

National Statistical Office. 1984. National Sample Survey of Agriculture 1980/81: Volumes I, II, III. Zomba.

National Statistical Office. Monthly Statistical Bulletin (May 1988). Zomba.

Ngwira, Naomi. 1987. Effectiveness of Agricultural Extension Service in Reaching Rural Women with Timely and Appropriate Agricultural Information. Zomba: Center for Social Research, University of Malawi.

Ngwira, N. Women's Programmes under the Ministries of Community Services, Agriculture and Health. A Talk Presented at a Forum on the Role of Women in Development held at Great Hall Complex, Zomba by CCAM.

Peters, Pauline E. The Links Between Production and Consumption and the Achievement of Food Security Among Smallholder Farmers in Zomba South. Draft.

Segal, M. T. 1986. "Land and Labor: A Comparison of Female and Male Headed Households in Malawi's Small-Holder Sector" in Women in International Development Forum X. East Lansing: Office of Women in Internaitonal Development, Michigan State University.

Spring, Anita. 1987. Women Farmers and Food Issues in Africa: Some Considerations and Suggested Solutions. Working Papers on Women in International Development No. 139. East Lansing: Office of Women in International Development, Michigan State University.

Spring, Anita. 1984. Trials and Errors: Using Farming Research in Agricultural Programs for Women. A Paper Presented at the Symposium on "Farming Systems Research: The Integration of Social and Biological Approaches", Annual Meetings of the American Anthropological Association, Denver, November 15, 1984.

Spring, A., C. Smith and F. Kayuni. 1983. Women Farmers in Malawi: Their Constribution to Agriculture and Participation in Development Projects. Part I. Report submitted to the Office of Women in Development, U.S. Agency for International Development under the Women in Agricultural Development Project/Lilongwe, Malawi.

Trivedy, H. R. 1988. OXFAM Action Research Programme, Mulanje. Summary Report of the Work Conducted under the Research Programme.

Vaughan, Megan. 1987. The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi. Cambridge: Cambridge University Press.

Vaughan, Megan and Graham H. R. Chipande. 1986. "Women in the Estate Sector of Malawi: The Tea and Tobacco Industries". A World Employment Programme Research Working Paper. Geneva: International Labor Organization.

Zuefle and Kuhlmann. 1983. National Credit Study (Smallholders). Final Report submitted to the Ministry of Agriculture. Duesseldorf: GITEC Consult GMBH.

APPENDIX C. RECOMMENDATIONS TO MISSION

APPENDIX C. RECOMMENDATIONS TO MISSION

The following are some brief recommendations for mission activities that could support the effort to incorporate women more effectively into the development process in Malawi.

1. In view of the fact that the Government of Malawi now recognizes the difficulties faced by smallholder farmers, particularly women, and that they are engaging in serious efforts to address these problems (by, for example, targeting credit to women) it would seem to be very important for the mission to contribute to the momentum, not only by providing public support, but also, where possible, by providing funding support to activities specifically targeted at women. Examples of such activities include:

   i. the training of extension personnel to (a) increase the participation of women in courses provided by the extension service, (b) make the courses responsive to the needs of women farmers, and (c) train more female extension agents.

   ii. the provision of credit packages that are specifically designed with the constraints of the average female-headed household in mind, i.e., very little land and seasonal labor shortage.

2. In addition to the activities mentioned above, the government is currently studying several issues, including the impacts of adjustment policies on different sectors of society and the possibility of removing the restrictions on the production of certain

crops by smallholders. Clearly women are likely to be affected by the outcomes of these studies, and it would be useful to lend support to them. Information exchanges with others studying the issues, such as Cornell and the World Bank in the case of policy impact assessments, would be particularly fruitful.

3. The A.I.D. mission undoubtedly has and should continue to give priority in its own project portfolio to those projects that will contribute to enhancing the productivity of women. Clearly a broad range of projects, including basic education, health, and off-farm income generation could fall into this category. In order to prioritize in this area it might be useful to undertake a study of the major constraints faced by women, including land shortage, labor shortage at critical times of the agricultural calender, and lack of access to critical resources such as credit, extension, or markets. An informal survey of women farmers in different economic categories and in different geographic areas, which would reveal their own perceived constraints, would be most useful. This should preferably be undertaken by local researchers affiliated with a local research institution.

4. The effectiveness of this study was limited, inter alia, by the lack of economic data and particularly by the lack of gender-disaggregated data. While there are clear limitations as far as cost effectiveness is concerned on the amount of primary data that can be collected, a potentially cost-effective method of collecting gender-disaggregated data is by incorporating a simple data-collection system into A.I.D. projects and funding such systems in the projects of PVOs or other organizations.

5. In this and in many other short term studies, the effectiveness could have been improved by having ready access to an inventory of data sources in the country. A system for collecting reports and studies, particularly those that contain original data, would be extremely useful. These reports should include those done by the principal donors, as well as those of local institutions. A project to establish such a system in a local institution would, of course, also contribute to enhancing the capabilities of that institution.

The Impacts of Economic and Agricultural Policies on Women in Agriculture in Thailand

February 28, 1989

Mary Reintsma
Paola Lang

Robert R. Nathan Associates, Inc.
Economic and Management Consultants
Washington, D.C.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

LIST OF ACRONYMS AND ABBREVIATIONS

ALRO	Agricultural Land Reform Office
BAAC	Bank for Agriculture and Agricultural Cooperatives
BOI	Board of Investment
C.P.	Charoen Pokaphan
DOAE	Department of Agricultural Extension
IFCT	Industrial Finance Corporation of Thailand
MOF	Marketing Organization of Farmers
MOI	Ministry of Industry
NESDB	National Economic and Social Development Board
RTG	Royal Thai Government
SAL	Structural Adjustment Loan
WHO	World Health Organization

EXECUTIVE SUMMARY

Thailand has enjoyed steady economic growth averaging 3 percent in real terms over the past 20 years, with low inflation and low unemployment. Although growth has slowed somewhat during the 1980s, Thailand's achievements in reducing poverty and controlling population growth while raising total production and exports will soon enable this country to achieve the status of a middle-income country. Despite this growth, the country has retained its agricultural character, with 80 percent of the population concentrated in the rural areas. The economic base of the rural economy has increasingly diversified away from agriculture, however, through the expansion of rural industry and reliance on remittance earnings from family members working in urban areas and outside the country. Agriculture accounted for only 17.5 percent of domestic production in 1985, although two-thirds of the nation's households rely on agriculture for their primary source of income. Rice, long the backbone of the nation's economy, has fallen behind textiles and garments as the leading source of the nation's export earnings, accounting for 9 percent of exports, compared to 13 percent for textiles.

The Agricultural Sector

Throughout the 1960s, 1970s, and early 1980s, agriculture registered high growth rates averaging 5 percent. This strong performance was supported primarily by an expansion of the area cultivated at 4 percent annually, a source of growth that is now declining in importance as the supply of uncultivated areas suitable for production is being exhausted. Thailand's

agriculture exhibits strong regional differentiation. The North has experienced rapid growth through conversion of forest lands to farming, and intensive cultivation through irrigation. The poorer Northeast has also achieved rapid expansion in the area cultivated, but the mix of crops has been dominated by the relatively low-value cassava. The Center continues to be a major source of the nation's rice production, as well as sugarcane and other crops, with growth due to expanded irrigation and double-cropping. Agriculture in the South is dominated by tree crops, notably rubber. Despite the high growth rates realized over the past 25 years, Thai agriculture continues to exhibit a fairly low level of intensity by Asian standards. Fertilizer use is among the lowest in the region, irrigation to permit double-cropping is limited to only 3 to 4 percent of the area, and use of other inputs is low. This situation is changing, as the increasing commercial orientation of the farm sector, the shift to higher-value crops, and the removal of policy barriers encourage a more intensive pattern of cultivation.

The strong seasonality of agricultural production has led to a pattern of intra-rural migration, with an outflow of rural labor from the Northeast to the Center to participate in the sugarcane harvest and other labor-intensive operations. Seasonality has also encouraged the development of non-agricultural sources of income, which is now reflected in the expansion of rural industry and seasonal or permanent migration to the cities to work in Thailand's growing industrial sector.

Women in the Work Force

Women account for nearly half (45 percent) of the rural labor force. Participation rates are high, with close to 70 percent of women nationwide in the workforce. Women's participation is relatively stable across age-groups; Thai women remain economically active throughout their child-bearing years. Roughly two-thirds of working women are unpaid family agricultural workers,

although a shift into other occupations is evident as female employment in the urban service sector has been growing more rapidly than male employment in recent years and more rapidly than total female employment. Women's literacy rates are high in Thailand, with close to 80 percent of rural women in the 24 to 44 year age bracket literate. Access to higher education remains limited, however.

Within agriculture, women provide about two-fifths of the total labor input for crop production, which accounts for about 60 percent of total rural employment. Men and women typically cooperate in the family's crop production activities, with a flexible division of labor within the traditional gender-based allocation of tasks. Women generally participate in the full range of crop producing activities and play a dominant role in small-scale aquaculture, sericulture, and vegetable production from home gardens. As in most other countries, women's total labor input including domestic work is greater than that of men, and women's contribution to family income may equal or exceed that of male family members, depending on the family's circumstances. Women's wage rates are lower than men's, following the worldwide pattern, and women report higher levels of unemployment, particularly during the dry season. This situation has encouraged seasonal or permanent migration of rural women to job opportunities in the urban areas, particularly among younger women. Participation in informal, home-based productive activities provides additional income. As Thailand's economic expansion creates new business opportunities, women are increasingly joining the ranks of the entrepreneurs, both as owner-operators of small-scale rural enterprises such as artificial flower-making and as managers of more ambitious enterprises, such as dairy farms.

Thailand's traditional matrilineal and matrilocal social structure and the absence of taboos on women's work in the Buddhist religion have led to women taking an active part in financial management and decision making at the household level, as well as permitting increasing numbers of women to

become active as entrepreneurs outside the home. The legal structure has placed greater restrictions on women's involvement in the political sphere at the national and local levels and has tended to undermine women's control over land, however.

Policy Environment for Agriculture

At the macroeconomic level, Thailand's policy regime is dominated by a process of structural adjustment designed to reverse the import-substitution bias of the 1970s and build on Thailand's strong potential for export expansion. This process is also fueled by the government's desire to bring the public sector and balance of payments deficits under control in order to return to the pattern of conservative macroeconomic management and rapid growth achieved in the 1960s and 1970s. The reform process has involved a broadening of the tax base, control over state current expenditures and investments, movement toward a rationalization and unification of the tariff structure, and a more liberal currency regime with a floating value for the baht.

Thailand's management of the agricultural sector has been marked by an approach quite different from that of most other developing countries. Since the 1950s, Thailand has pursued a policy course designed to buffer domestic producers of key products from shifts in international prices. As a result, major export crops such as rice and sugarcane have been alternately taxed or subsidized depending on international market conditions. The price control system is now being dismantled to increase responsiveness to international price signals. The rice program has been replaced with a government loan system, although this has not yet been tested due to the level of world market prices for rice.

With the important exceptions of rice and sugar, government intervention in the marketing of agricultural products domestically has been limited. Price controls on maize, for example, have never been effective, but the government is attempting to introduce a floor price for milk to encourage local production. Other products, including silk and soybeans, receive some import protection. A de facto subsidy is provided to cassava farmers through the distribution of the premium over the world price received from the EEC. A number of state enterprises are involved in the marketing of agricultural products (sugar, tobacco, jute, and other products), some of which enjoy effective monopsony status, enabling them to exercise considerable power in setting prices.

With regard to inputs, the most important interventions are in the area of fertilizer policy, where a tariff to protect a local plant has been complemented by subsidies on fertilizer sales, giving rise to a resale market. The level of protection has been substantially reduced, but the subsidy program continues, financed in part by donations from foreign governments. The government is extensively involved in provision of other inputs, but restrictions on private sector activity are few.

The government provides credit to farmers through the Farmers' Bank, with interest rates well below those in the private moneylender market. Lending to small-scale agriculture by commercial banks is extremely limited, although they do lend to larger estates and agro-industries.

A number of policies have recently been introduced to promote expansion of rural industries and other export-oriented activities. These measures, such as tax exemptions for rural-based firms, are aimed particularly at small- and medium-scale enterprises.

Policy Impacts on Women

Government intervention in the agricultural sector in Thailand is limited and, where present, generally benign in comparison to the situation in other developing countries. Coupled with the prevailing pattern of joint household decision making and shared operation of agricultural operations by men and women, the low level of intervention results in a situation where policies do not, in general, have a strong identifiable impact on women in the agricultural sector, either positive or negative. Women in the rural sector do stand to benefit from the government's shift toward promotion of export-oriented enterprises and rural industry, however, both as laborers and as entrepreneurs.

There is some evidence that government provision of goods and services to the agricultural sector has been skewed toward male farmers and male household members within rural families. Agricultural inputs provided by government agencies, for example, are reportedly distributed through a politicized process that provides greater access to men than women, and assistance such as extension advice is provided primarily to men. Land use certificates issued for newly cultivated land in forest areas are also provided primarily to men, although land ownership traditionally rests with the woman in a broad segment of Thai society. Given the joint operation of most agricultural enterprises, however, it is not clear to what extent the government's practice of dealing primarily with men actually limits married women's access to inputs such as fertilizer and pesticides. Female heads of households would appear to be far more vulnerable.

The picture regarding credit and land ownership, two closely related functions, is somewhat unclear. Some sources indicated that the government credit program does not lend to a woman without her husband's signature, even though the land is nominally held in the woman's name, whereas other

sources indicated that loans are made to women on their own authority. In the limited time available to the team, they were unable to determine which situation prevails. The formalization of land ownership appears to be undermining women's traditional ownership of land, as land passing to married women is legally inherited by the couple jointly, rather than by the women alone, as tradition provides. Additional research is needed to determine whether government titling programs also display this male bias, thus undermining women's access to credit in the future.

The recent policy shift toward promotion of rural enterprise and export-oriented enterprise in general should provide important benefits to rural women. The lack of employment opportunities, particularly in the dry season, is thought to be a problem for women, whose relatively lower wage rates make them attractive as employees in export-oriented firms. The growth of rural industries is especially beneficial to women, making it easier to combine off-farm work with domestic and agricultural responsibilities. Although working conditions in many new firms and in the urban service sector are often poor, the willingness of women to take these positions indicates that they find them preferable to the alternatives available to them.

Areas to Be Considered for Further Action and Analysis

As noted above, additional research and analysis is needed to identify the impact of credit and land titling programs on women in the rural sector. This analysis should extend beyond agricultural credit per se to examine the effect on women entrepreneurs, particularly at the lower end of the scale. Future opportunities for women are more likely to arise in off-farm employment than in the expansion of traditional agricultural activities. Within the agricultural sector, those activities with the greatest promise for expanding income, moreover, such as aquaculture and vegetable production,

177

generally have higher credit and input requirements than traditional crops, such as rice.

Equally important is additional investigation of whether women have sufficient access to agricultural inputs and services, particularly those provided through the public sector, and what can be done to remedy any inequalities found to exist.

A final area deserving further exploration is the impact of policies promoting small and rural industries on women in the labor market, as well as the effect of policies promoting mechanization and, indirectly, displacement of labor or substitution of men's labor for that of rural women.

INTRODUCTION

This paper presents the results of a study undertaken for the Women in Development Office of USAID, to examine the impacts of economic policies on women in the agricultural sector in Thailand. In addition to this study, three other case studies were completed in Guatemala, Yemen, and Malawi. Two researchers undertook each study; four to five weeks were allocated per country, two of them in the field. Given the extremely limited time available and the relatively broad terms of reference, the study relied entirely on secondary data sources as well as interviews with people knowledgeable about the economic policies of the country and the roles of women in the agricultural sector. In view of this, the study should be considered as an overview of the subject matter rather than as a detailed and in-depth analysis.

The paper is organized into five chapters, the first of which provides background information on the country and its recent economic performance. The second and third chapters are descriptive, the former covering the inputs, outputs, and institutions in the agricultural sector, and the latter describing the multiple roles of women in that sector. On the basis of this descriptive material, chapter four summarizes the policies that affect the agricultural sector and attempts to assess the impacts of these policies on women in the agricultural sector. The final chapter provides a summary and a statement of the major conclusions of the study.

I. COUNTRY BACKGROUND AND RECENT ECONOMIC PERFORMANCE

Thailand is widely considered one of the most successful of the developing countries in having achieved steady economic growth and significant reductions in poverty levels. This success is reflected in the fact that the overall incidence of poverty declined from about 57 percent in the early 1960s to about 24 percent in 1981 (although this figure disguises a high level of regional income inequality), and GNP per capita grew at an average real rate of about 5 percent during the same period to reach U.S. $770 in 1981. Furthermore, because of a highly successful family planning program, the population growth rate has been reduced from over 3 percent in the 1960s to an estimated 1.6 percent in 1984. Thailand is now considered to be on the threshold of graduating to the status of a middle-income country.

The society is primarily agricultural; 80 percent of the country's 53 million people live in rural areas. Although this sector still provides a livelihood to more than two-thirds of the population, its relative contribution to production is declining (see Table 1). In 1985, agriculture accounted for 17.5 percent of GDP, while industry contributed 29.8 percent and the service sector 52.7 percent. The principal exports are derived from agricultural and agro-industrial sectors and include textiles and garments (13 percent of total exports in 1986), rice (9 percent), cassava (8 percent), and rubber (6 percent).

Table 1. Estimated Growth Rate

Sector	1986	1987[a]	1988[a]
Agriculture	-0.4	-0.2	5.0
Non-agriculture	4.2	8.3	8.8
Manufacturing	9.0	9.1	10.0
Construction	-3.0	7.0	15.0
Wholesale and retail trade	-1.1	8.0	7.5
Services	4.6	11.4	10.0
GDP	3.6	6.9	8.25

a. Estimated by the Economic Section, Research Office, Bangkok Bank Ltd.
Source: NESDB

During the 1960s and 1970s, the Thai economy grew at an average rate of approximately 7 percent annually, resulting in a GDP of about $40 billion dollars in 1986. During this period of growth, inflation and unemployment were generally maintained at less than 5 percent. (The degree of underemployment, particularly in rural areas, is probably much higher, however.) Progress in the agricultural sector was facilitated by expanding the area of land under cultivation and, particularly in recent years, by expanding export crops such as cassava, pineapples, and rubber as new export markets opened up. Progress in all sectors of the economy has benefitted from the government's provision of economic infrastructure and a policy environment that generally encourages the private sector to expand production without introducing severe price distortions and controls and that, in recent years, has fostered the development of export promotion strategies.

The pace of growth in the early 1980s was, however, considerably slower than in the earlier two decades. The unfavorable external environment, including increasing oil prices, rising interest rates, and declining demand and prices for some of the principal exports, had severe negative effects on the Thai economy. Despite two Structural Adjustment Loans (SAL) from the World Bank and a number of policy changes, structural imbalances remain, including a large current account and budget deficit and an economic growth rate that is among the lowest since the 1960s.

In order to address these imbalances the government has undertaken a series of measures which include

- Cutbacks in government expenditures
- Increases in tax revenues so that taxes will be approximately 15.5 to 16 percent of GDP
- A restrained public investment program

- Export promotion policies including access to duty-free inputs for exporters, improved credit availability, and better physical and informational infrastructure

There is evidence that these measures, in combination with favorable changes in the exchange rate and recent declines in oil prices, have resulted in much more satisfactory economic performance in 1987 and 1988. During the first five months of 1988, Thailand's major economic indicators have shown a growth rate of approximately 8 percent, the highest in a decade. Particularly strong growth is shown in the investment and construction sectors, and export and tourism continue to perform well. Although the current account deficit has increased and inflation is expected to be around 5 percent, the highest in five years, these increases are generally considered acceptable for a rapidly expanding economy.

Agriculture

Production is expected to grow by approximately 5 percent for 1988, compared with a slight contraction in 1987. Both maize and rice production have achieved substantial increases, while cassava has remained stable. Rubber and sugarcane have risen under the stimulus of higher prices, and fruit and vegetable exports continue to expand. One of the major constraints on increasing agricultural production is the shortage of arable land. A detailed description of the agricultural sector is presented in Chapter II.

Manufacturing and Construction

The manufacturing sector is projected to expand by about 10 percent in 1988. Many industries are operating at full capacity and are still unable to meet demand. Among the constraints on further growth are shortages of skilled labor and raw materials and inadequate infrastructure.

Construction is expected to grow by about 15 percent, with strong demand for new housing, manufacturing plants, and hotels, stimulated by promotional privileges from the Board of Investment (BOI), and a high level of public sector construction, facilitated by a sharp increase in the government's capital expenditure budget.

Trade and Services

Domestic trade is projected to grow approximately 7.5 percent during 1988. Prices of agricultural products have risen markedly, increasing the purchasing power of consumers and leading to increases in demand for local products and imports (see Tables 2 and 3). The service sector is also expected to show strong growth, with tourism projected to increase 20 percent over the 1987 level. In the first quarter, arrivals were 25 percent higher than in the same period in 1987.

Foreign Trade

Exports for 1988 are expected to be 27 percent higher than the previous year (see Table 4). Agricultural products are expected to increase 11 percent, with rubber and maize performing particularly well and increasing by over 25 percent. Rice exports have fallen in volume and value because of a poor crop in 1987/88. Among the nonagricultural exports, textiles, gems, jewelry, and footwear are all expected to be up over 30 percent. The current account deficit is estimated to be about B 37 billion, or 2.6 percent of GDP (see Table 5).

Table 2. Percentage Changes in Price Indices from the Same Period of Prior Year

	Whole year	Oct 1987	Nov 1987	Dec 1987	Jan 1988	Feb 1988	Mar 1988	Apr 1988	May 1988
Consumer price index	2.5	2.6	3.4	3.7	3.2	4.2	4.6	4.4	4.1
Food and beverages	2.3	2.1	2.9	3.7	3.2	6.0	6.7	6.6	5.8
Others	2.7	2.8	3.7	3.7	3.2	3.2	3.4	3.2	3.1
Producer price index	5.9	10.4	11.5	11.3	11.3	12.4	11.8	10.6	9.2
Agriculture	12.3	19.9	19.0	20.2	21.4	25.1	25.2	17.6	14.8
Food	5.6	11.1	11.4	11.6	11.5	13.7	11.8	12.7	10.4
Construction materials	4.0	5.8	8.0	7.1	12.3	11.6	11.9	13.3	9.1
Leather and leather products	9.6	27.4	40.1	42.2	38.4	38.9	38.9	37.0	37.0
Chemicals and chemical products	5.0	9.3	10.6	11.1	8.4	8.0	8.1	10.4	9.2

Source: Business Economics Department.

Table 3. Imports
(Millions of baht)

	1986	1987	1988[a]
Consumer goods	24,466 (2.1)	33,782 (38.1)	39,000 (15.4)
Intermediate goods and raw materials	84,333 (11.3)	119,773 (42.0)	166,000 (38.6)
Capital goods	86,116 (6.2)	114,588 (33.1)	163,000 (42.2)
Others	54,243 (-28.8)	79,697 (46.9)	90,000 (12.9)
Fuel and lubricants	32,254 (-43.0)	44,770 (38.4)	43,000 (-4.0)
Total	249,158 (-2.8)	347,840 (39.6)	458,000 (31.7)

Note: ( ) Percentage change from the same period of prior year.
a. Estimated by the Economic Research Section, Research Office, Bangkok Bank Ltd.
Source: Bank of Thailand.

Table 4. Exports

(Volume: thousands of tons, Value: millions of baht)

	1986		1987		1988[a]	
	Volume	Value	Volume	Value	Volume	Value
Agriculture	-0-	79,397 (8.1)	-0-	83,292 (4.9)	-0-	92,400 (10.9)
Rubber	761 (10.3)	15,116 (11.4)	879 (15.5)	20,392 (34.9)	920 (4.7)	26,000 (27.5)
Tapioca products	6,319 (-10.9)	19,086 (27.5)	6,210 (-1.7)	20,674 (8.3)	6,600 (6.3)	21,900 (5.9)
Rice	4,524 (11.4)	20,315 (-9.8)	4,356 (-3.7)	22,230 (9.4)	2,900 (-33.4)	20,200 (-9.1)
Maize	4,013 (5.0)	9,261 (20.3)	1,643 (-59.1)	3,911 (-57.8)	2,300 (40.0)	5,800 (48.3)
Others	-0-	15,619 (6.7)	-0-	16,085 (3.0)	-0-	18,500 (15.0)
Non-agriculture	-0-	152,084 (28.6)	-0-	214,908 (41.3)	-0-	287,600 (33.8)
Textiles	-0-	31,268 (32.6)	-0-	48,400 (54.8)	-0-	63,000 (30.2)
Gems and jewelry	-0-	13,165 (54.6)	-0-	19,738 (49.9)	-0-	26,000 (31.7)
Integrated circuits	-0-	12,818 (55.4)	-0-	15,179 (18.4)	-0-	17,600 (15.9)
Canned seafood	206 (56.1)	10,931 (28.7)	226 (9.7)	13,169 (20.5)	250 (10.6)	14,600 (10.9)
Frozen shrimp and squid	87.6 (25.7)	8,152 (46.6)	95.4 (8.9)	9,908 (21.5)	110 (15.3)	11,650 (17.6)
Footwear	-0-	3,185 (34.5)	-0-	5,915 (85.7)	-0-	10,000 (69.1)

(continued)

Table 4 (Continued)

	1986		1987		1988	
	Volume	Value	Volume	Value	Volume	Value
Sugar	1,961 (13.7)	7,271 (16.4)	1,991 (1.5)	8,416 (15.7)	2,000 (0.5)	8,800 (4.6)
Frozen chicken	64.8 (71.1)	3,121 (112.4)	81.9 (2.64)	4,023 (28.9)	98.0 (19.7)	4,900 (21.8)
Canned pineapple	226 (17.1)	3,183 (-3.3)	260 (15.0)	3,728 (17.1)	280 (7.7)	4,050 (8.6)
Tin	18.9 (5.0)	3,097 (-45.2)	16.8 (-11.1)	2,459 (-20.6)	17.0 (1.2)	2,550 (3.7)
Others	-0-	55,893 (21.4)	-0-	83,973 (50.2)	-0-	124,450 (48.2)
Total	-0-	231,481 (30.7)	-0-	298,200 (28.8)	-0-	380,000 (27.4)

Note ( ) Percentage change from the same period of prior year.
a. Estimated by the Economic Research Section, Research Office, Bangkok Bank Ltd.
Sources: Bank of Thailand; Customs Department; Business Economics Department.

Table 5. Thailand's External Position
(Millions of baht)

	January - April			
	1987[a]	1988[b]	1987	1988[c]
Exports	298,200	115,800	88,020	380,000
Percentage change over same period in prior year	(28.8)	(31.6)	(16.7)	(27.4)
Imports	343,900	135,800	97,235	455,000
Percentage change over same period in prior year	(39.9)	(39.7)	(21.6)	(32.3)
Trade balance	-45,700	-20,000	-9,215	-75,000
Net services and unrequited transfers	30,700	15,500	12,571	38,000
Current account balances	-15,000	-4,500	3,356	-37,000
Net capital movements	20,284	11,400	3,438	
Private	(17,389)	(13,100)	(3,264)	
Public	(2,895)	(-1,700)	(174)	
Errors and omissions	12,899	5,778	-291	
Balance of payments	18,183	12,678	6,503	
International reserves[d] (US$ million)				
Official reserves	5,211.7	5,761.3	4,386.8	
Net reserves	5,372.1	5,757.7	4,660.8	

a. Preliminary.
b. Estimated.
c. Estimated by the Economic Research Section, Research Office, Bangkok Bank Ltd.
d. End of period.
Source: Bank of Thailand.

II. THE AGRICULTURAL SECTOR

Thailand's total land area of 51 million hectares comprises four distinct geographical regions. About one-third of the total land area is in the North, an area dissected by mountain ranges running in a north-south direction, which have traditionally been the main source of supply for forest products. These resources are being depleted as cultivation encroaches on the forest lands, and the government recently introduced a ban on teak exports in an attempt to address this problem. The upper part of the valleys are well irrigated, and rice, soybeans, tobacco, fruits, and vegetables are cultivated. In the lower regions, rice, soybeans, and maize are grown. This area has been experiencing rapid growth in combination with a much higher level of diversification among crops.

The Northeast, which also accounts for approximately one-third of the total land area, consists of a sandstone plateau, sloping from the South and West down to the Mekong River on the Laotian border. Because of lower rainfall and sandy soils, this area is considerably less fertile, and rivers irrigate only a small area. Major crops produced are cassava, glutinous rice, maize, sorghum, and kenaf, a fibre crop. Productivity is low in this region, which is the poorest in the country and also one of the most rapidly growing areas in terms of population and area under cultivation. Most of the new land brought under cultivation has been planted with cassava, which now accounts for approximately two-thirds of total farm income in the region. Declining yields, particularly of rice, and stagnant livestock and

forestry sectors resulted in lower growth in agricultural value added in this region than in the North.

The Central Region is characterized by regular rainfall, clay soils, and flat terrain, which make it ideally suited for rice cultivation as well as a number of other crops including fruit, sugarcane, maize, and cassava. Increases in production in this area have mainly been achieved through extension of irrigated areas and double-cropping of rice and other crops.

The southern part of Thailand experiences an equatorial climate and produces primarily tree crops including rubber, oil palm, and coconuts. Agricultural growth in this region has resulted mainly from favorable economic conditions for rubber and forestry products. The principal food crops produced are rice and vegetables.

The structure of agriculture has traditionally been dualistic, with relatively low-yielding subsistence farming found throughout the country but concentrated in the North and Northeast, and market-oriented irrigated farming found mainly in the central plains area. This dualism is being broken down as subsistence farmers are increasingly entering the market economy, and there has been considerable diversification in land use and crop production during the past decade.

The shift out of agriculture itself has been slower than in many other countries at a similar level of development in part because of the relative abundance of land. This situation is changing, however, as the increasing scarcity of fertile land limits the potential for further expansion. Land shortages have reportedly led to the encroachment of public lands, including forests, and to an increased incidence of land conflicts. Given that the secondary and tertiary sectors have relatively small proportions of total employment, there will be a continued dependence on agriculture to absorb much of the increased labor force. The lack of land, in combination with

the need to provide rural employment and the existence of large, though somewhat diminishing urban-rural income differentials, clearly makes it imperative that the agricultural sector be given priority.

Agricultural Inputs

Credit

The principal official source of credit to farmers is the Bank for Agriculture and Agricultural Cooperatives (BAAC), which has 62 branch offices throughout the country. In addition, numerous informal sources exist, including traders and input suppliers, who supply very short-term credit at considerably higher rates, usually around 5 percent per month. It was reported that in the informal market in particular, creditors insist that women be involved in credit transactions because they are considered more reliable in terms of repayments. Aside from informal money lenders, one source of finance for women entrepreneurs is the Friends of Women's World Banking Group, which has been very successful and has an extremely good repayment rate. Overall, lack of credit does not appear to be a major constraint for most crop production, but it may be a disincentive for longer-term investments in tree crops, livestock, and farm machinery.

Fertilizer

The level of fertilizer use in Thailand is among the lowest in Asia in terms of average consumption per unit of cultivated area. It is used primarily on rice and sugar in irrigated areas and areas where rainfall is generally reliable. The low level of use in Thailand is attributed to the low value of incremental production compared with the increased cost. Plans to construct a plant for the local production of fertilizers have been under way for a number of years. The economic viability of this enterprise is doubtful,

however, and it appears that if it is constructed it will be a public-sector enterprise. Furthermore, in order to make fertilizer production viable, high tariffs would have to be introduced to protect it, making it more expensive for farmers, or it would have to be subsidized by the Government, an expensive option, which often results in a reduced supply, relative to the market-determined level of inputs.

Pesticides, Insecticides, and Herbicides

Crop losses to insects and diseases are substantial. It has been estimated that losses due to paddy stemborer are as much as 10 percent, and losses due to rats amount to a further 7 percent. The majority of farmers rely on the Department of Agricultural Extension (DOAE) mobile units, which teach farmers how to spray, lend them sprayers, and provide spray material free of charge. Only about 25 percent of farmers have their own equipment and buy pesticides.

Employment in Agriculture

The level of employment in agriculture is to a large extent a function of the seasonal nature of production. Only 20 percent of cultivated land is irrigated, and most of the irrigated system is designed for flood and water control during the rainy season. Only 3.8 percent of all cropped area had irrigation facilities for a dry season crop in 1982. Production on non-irrigated land depends on the monsoon rains (May to October), and during the rainy season, agricultural employment is on average more than 50 percent higher than in the dry season.

The surplus employment in the dry season is partially absorbed by migration either to other rural areas or to urban areas. A significant component of intrarural migration takes place within the Northeast, where

there is a drift after the harvest from paddy areas to cassava areas in the East, and jute areas in the South and West. A second flow of labor goes from the Northeast to the central plain, to the sugarcane areas of the West or the orchards of the North and East.

In addition to intra-rural migration, there is a significant seasonal flow of labor into employment in services, construction, or industry in urban areas, and the Thai government actively encourages temporary migration to the Middle East. Since only about 20 percent of those who are made redundant in the dry season find employment elsewhere, there would appear to be a serious waste of human resources. This situation may be exacerbated if sugar prices continue to decline, because harvesting of this crop has been one of the most important sources of dry-season employment.

Land Tenure and Use

A study on land use and development sponsored by the National Economic and Social Development Bureau (NESDB) reported that of the 24 million hectares of land cultivated, only 1.5 million (6 percent) were fully titled, while 10.3 million (43 percent) were held under permanent possession rights or "Nor Sor Sam," which are often not recognized as collateral for bank loans, and 1.2 million (5 percent) were held under preemption certificates, the legal status of which is questionable. The remaining 45 percent of farmland has no legal status under the land code. Approximately half of this land consists of illegal forest encroachments, and the rest is public domain, communal land, or undocumented state land.

Approximately 700,000 families have settled in the forest reserve areas, some of them for several generations. Since these settlements are illegal and since these areas are under the jurisdiction of the Royal Forestry Department, other government agencies have been reluctant to provide them with social

and economic infrastructure and services. The Agricultural Land Reform Office (ALRO), which was established by the Land Reform Act of 1975, has responsibility for land reform and development on these forest lands, and issues "Sor Tor Kor" or "right to farm" certificates.

The government has established a set of policy guidelines on land use which are intended to increase security of tenure for farmers and promote better land management practices, including soil erosion prevention, and forest land protection. In addition, a major land registration and titling program is being undertaken in order to increase tenure security and encourage a higher level of investment in agriculture. Legislation has been enacted in the form of the Land Consolidation Act and the Irrigation Act.

Agricultural Research and Extension

The Department of Agriculture has primary responsibility for agricultural research through its 10 technical divisions and 85 research stations. The effectiveness of the research program has reportedly been limited by the lack of funding and of well-trained personnel. The agricultural extension service, which comes under the aegis of the Department of Agricultural Extension, has suffered from political pressure to promote or implement government programs such as those for price supports, rural income generation, or communist suppression, and from inadequate coordination with the Department of Agriculture.

III. THE ROLE OF WOMEN IN AGRICULTURE

The role of women in agriculture must be viewed in the context of the household situation, since tasks and decision making in Thai households are generally highly integrated. In order to take account of this fact and the significant regional differences that exist in rural Thailand, the following discussion of women's roles commences with an examination of the salient characteristics of households in each of Thailand's main geographic regions. The discussion then continues with an examination of women's participation in various production and consumption activities and concludes with an assessment of women's access to productive resources, such as land and credit.

Characteristics of Agricultural Households

Nearly 90 percent of Thai agricultural households are self-employed farm units, and the great majority of these (77 percent) are occupied by the owner rather than operated by a tenant (World Bank, Ministry of Agriculture, Land Holding Study). Average income per household increased in the 1960s and 1970s at a rate of approximately 3 percent per year, owing to larger land holdings and perhaps better prices for agricultural products, not better crop yields. Those households with annual surpluses in food stocks and those households relying entirely on the production of cash crops, such as maize, cassava, or sugar, experienced a growth in real income. Most other households experienced little change in real-income levels.

Household cash income levels from agricultural sources vary by region: approximately B 11,500 in the northeast; B 20,500 in the north; B 38,500 in the center, and B 17,000 in the south -- for a national average of B 19,500 in 1982-83 (Ministry of Agriculture and Cooperatives).

The Northeast Region accounts for about 40 percent of agricultural households, most of which subsist primarily on the cultivation of rainfed glutinous rice; surpluses are saved against the possibility of drought in subsequent seasons. The cultivation of upland cash crops such as cassava and kenaf permits the movement of households away from subsistence into the non-rice cash economy, but is circumscribed by generally poor access to marketing channels, erratic rainfall patterns, poor soils, and the need for expensive cash inputs (fertilizers and pesticides). In addition to farming, households may engage in fishing, animal husbandry, or charcoal, silkworm, lime, and salt production, almost all destined for domestic or local consumption. As early as 1975-76, nonfarm cash income was proportionately higher in the Northeast than in other regions (World Bank, 1983), and in recent years an increasing number of women between the ages of 16 and 20 migrate to earn wages as construction workers and domestics.

The North Region contains 25 percent of the agricultural households. The scarcity of arable land along the mountain ranges in the upper North has prompted migration to the deep narrow valleys in lower areas. Holding size tends to be small (averaging, for instance, 5 rai in irrigated areas in Chiangmai). Villages are densely populated, with high tenancy and a significant share of off-farm employment. Handicrafts, livestock, sawmilling, and fishing are traditional sources of cash income. Handicraft industries in the region are currently linked to national and international markets and offer employment opportunities in both daily and piece work.

The Central Region accounts for 20 percent of the nation's agricultural households and generates high levels of employment in agricultural production. Public investments in irrigation and water control systems have increased and stabilized wet-season rice production in the delta and have made the demand for hired labor high throughout the year. Though the incidence of landless households is rising, seasonal and permanent migration to greater Bangkok has greatly reduced the local supply of labor. Crops other than rice, maize, cassava, and sugar include fruits and vegetables grown for home consumption and the local market.

The South, a mountainous area largely unsuitable for farming, holds approximately 15 percent of the agricultural households. Twenty-five percent of its population is Muslim, accounting for more than 80 percent of the Muslims in Thailand. Most households grow rice for food and rubber for cash income.

Women's Participation in Agriculture

The official labor-force participation rate of women in Thailand is comparatively high, both within Southeast Asia and among developing countries worldwide (Chitranukroh). Between 1977 and 1983, when the total labor force was expanding annually at rates ranging from 3 to 4 percent, the growth rate of the female labor force exceeded that of the male largely because of the high rate of absorption of women in urban labor markets, especially within the service sector. The participation rate of women in urban areas jumped from 39 to 51 percent, while that of women in rural areas remained close to 70 percent (Tonguthai, 1987).

It should also be noted that in contrast to many countries where stricter definitions are employed, the Royal Thai Government (RTG) counts all

unpaid family workers as part of the economically active population. This affects most estimates subsequent to the 1980 census, which reported 70 percent of the economically active women as unpaid family workers; 65 percent were unpaid family workers in agriculture. The high level of involvement of women in the labor force in Thailand is partially due to the positive attitude of Buddhism towards women working outside of the home and partially due to the proximity of markets to households (facilitating the combination of domestic and production activities).

The share of the female labor force employed by the agricultural sector, however, has been declining gradually over the past two decades, from approximately 85 percent in 1970 to 61 percent or a total of 6.65 million women in 1987 (Thai Ministry of Agriculture and Cooperatives). Other figures that mark the trend more precisely: 87 percent in 1960 (1960 Census); 76 percent in 1978 (International Labor Office); 74 percent in 1980 (1980 Census); 70 percent in 1985 (Labor Force Survey); and 67 percent in 1986 (Labor Force Survey). This decline in the primary sector's share of the labor force reflects its proportionately smaller contribution to GDP. In 1986, the service and industry sectors absorbed 23 percent and 10 percent of the female labor force respectively, as compared to 9 percent and 3 percent in 1960.

The Thai female participation rate is also relatively stable across age groups above the age of 18, varying only slightly over the life of the individual. Unlike the participation patterns found in China (which peak at a very young age group), Indonesia (which peak at a middle age group), and Korea (which exhibit an M curve), the participation pattern in Thailand reveals that women do not withdraw from the labor force during childbearing years. This tendency to remain active has a notable negative impact on the health status of new mothers and their children, especially in rural areas, and has become a concern of Thai policy makers, as evidenced by repeated reference to women and public health in the Third National

Economic and Social Development Plan (1972-76), the Fifth Plan (1982-86), and the Long Term Women's Development Plan (1982-2001).

Literacy rates have improved markedly for women in rural areas in the past two decades; as of 1980, close to 80 percent of rural women between the ages of 24 and 44 could read and write, compared with 90 percent of the women in urban areas in the same age categories and 92 percent of the men in rural areas, and most significantly, compared with only 11 percent of rural women over the age of 60 (1980 Census). Despite primary education being compulsory since 1921, however, there continue to be significant differences in educational levels attained by men and women, especially in non-municipal areas, as indicated by Tables 6 and 7.

In rural areas, more women remain uneducated, and successively fewer women receive secondary and higher levels of education. The highly centralized, largely urban-based secondary school system is in part responsible for this phenomenon (Knodel et al., 1987), as is the tendency of rural parents to send boys to school and require girls to stay home to assist with the household chores (Shinawatra et al., 1987). The tendency may be due to the belief that men, and not necessarily women, should augment household income through wage/off-farm employment during agricultural slack seasons.

Women play important economic roles in the agricultural sector. As will be discussed below, they provide labor for crop production, produce a sizable portion of total household cash income through farm and off-farm employment, and control household finances. Women's efforts in household crop production and animal husbandry are addressed in the next section; women's employment opportunities, self-employed or otherwise, are discussed in subsequent sections. This is followed by an examination of women's decision-making roles.

Table 6. School Enrollment Rate in Urban and Rural Areas, Thailand, 1970 and 1980

(Percent)

	Female			Male		
	1970	1980	Percent change	1970	1980	Percent change
Urban	43.3	43.7	0.9	49.0	48.1	-3.6
6-11 years	80.8	82.2	1.7	83.5	82.5	-1.2
12-15 years	60.5	72.7	20.2	72.8	79.8	9.6
16-23 years	23.5	32.0	36.2	30.2	36.1	19.5
Rural	27.8	35.3	27.0	32.1	38.6	20.2
6-11 years	65.4	73.4	12.2	67.9	73.8	8.7
12-15 years	19.8	45.2	28.3	29.0	52.0	73.3
16-23 years	2.9	10.7	69.0	5.1	13.4	162.7

Source: National Commission on Women's Affairs, *Women's Development in Thailand*, 1985:115, Bangkok.

Table 7. Educational Levels of Population 11 Years and Over, Selected Rural Areas of Thailand, 1980

	Central region		Northeast region		Northern region	
	Percent of total	Percent female	Percent of total	Percent female	Percent of total	Percent female
No education	10.6a	70[b]	7.5	68	16.0	64
Less than 4 years	7.1	47	5.5	51	9.3	48
Up to 4 years	67.4	49	79.3	50	65.4	48
4-7 years	7.0	40	3.9	41	5.3	40
Lower secondary	3.7	36	2.3	33	2.2	33
Upper secondary	0.8	40	0.2	40	0.4	39
Above upper secondary	3.3	41	1.2	42	1.3	40
Unknown	0.1	32	0.1	45	0.1	50
Total	100.0	50	100.0	51	100.0	50

a. This reads 10.6 percent of population (11+) in rural areas of the Central Plain had no education in 1980.
b. This reads 70 percent of population (11+) in rural areas of the Central Plain who had no education were female in 1980.
Source: National Statistical Office, Thailand, *Labor Force Survey*, Round 2, July-September 1980.

Household Agricultural Production Activities

On average, women's labor input in productive areas is 1.7 times that of men (Shinawatra et al., 1987; Dulyapach, 1985). This labor is divided between household or domestic activities and farming or income-generating activities, the proportion between the two groups of activities varying according to the season. The overall contribution of women towards crop production is approximately two-thirds that of men (Shinawatra et al., 1987).

Crop activities consist primarily of the following tasks: seedling preparation (restricted to crops of rice and chili); land preparation; planting; tending (application of fertilizers, chemical inputs, weeding, and irrigation); and harvesting. Heads of households traditionally allocate the tasks between men and women along gender lines, with men undertaking the tasks requiring the greatest physical strength. According to one study (which reflects the observations of other time-use and farming system studies), women provide very little labor input for land preparation, slightly more than men for planting and weeding, and approximately the same as men for transplanting, harvesting, and post-harvesting rice and cash crops. According to the same study, women's labor input is almost equal to that of men for all tasks in the case of vegetables and fruits (Palmer et al., 1983). And though field tasks are generally assigned by gender, it should be noted that they are complementary, part of the same production process.

This joint nature of production affects all agricultural activities, as indicated in Table 8, with the notable exception of silkworm production.

Small-scale aquaculture is dominated by women, as is the raising (daily feeding, pen cleaning, vaccination) of small animals (hens and ducks for household consumption and pigs for cash sales). Draught animals, cows and buffaloes, are typically cared for by men.

Table 8. Women's Participation in Agricultural Activities

Activities	Participation (percent)
Rice cultivation	38 - 65
Field crop cultivation	40 - 75
Horticulture	50 - 79
Vegetable growing/home	95
Rubber production	35 - 50
Sericulture	100
Bee keeping	20
Animal raising	50
Small-scale aquaculture	90

Source: Department of Agriculture Extension (the Farm Home Improvement Section); Chiang Mai University (Multiple Cropping Center).

Overall, however, the division of labor remains flexible. Farming methods are predominantly traditional and labor-intensive, requiring assistance from all members of the family. When the demand for labor is high, especially during the planting and harvesting seasons, the same field activities may be undertaken by either men or women. Neither social nor cultural taboos prohibit women from assuming a traditionally male task, such as plowing to prepare land for rice, and women clearly assume a prominent role in accomplishing cultivation tasks and allocating agricultural chores when men are absent. In low-income families, men and women often work side by side.

Employment Options

It is clear that as agricultural households are becoming increasingly integrated into the cash economy, wages and income-generating activities have

growing utility to the economic well-being of the household. In most rural areas, wage- and self-employment are important sources of household income, contributing an average 20 to 50 percent to total income. In rainfed areas, such employment can contribute more than agricultural production to household income. For example, a sample survey conducted in 1980-81 near Chiang Mai in the Northern Region revealed that 35 percent of household income was derived from wages, 33 percent from self-employment, and 20 percent from farm activities (Chalamwong et al., 1982).

Total income levels, however, can be low, especially in the rainfed areas. The incidence of poverty for the Center, North, and Northeast has been calculated on three occasions, twice based on 1975/76 consumer price indices, once on 1980/81 indices, with the following results:

Table 9. Percentage of Households (H) or Population (P) Below Poverty Lines

Study		Center	Northeast	North
Islam	(H)	12.2	42.4	31.8
Meesook	(P)	15.0	48.0	36.0
Phongpaichit	(H)[a]	8.2	48.7	26.4

a. Small sample

Women's contribution to household income tends to be equal to, and in some instances greater than, that of men. Women will work on average more days than men, primarily to compensate for lower wage levels. Women will also seek off-farm employment opportunities with the prospect of higher returns. A study covering off-farm occupations in the Chiang Mai area

revealed that women were willing to stay three to four months away from home to work in the tobacco industries, where the return was 37 percent higher than other non-farm occupations and 54 percent higher than any farming tasks in the area (Shinawatra et al., 1987).

The availability of employment opportunities for women, however, appears to be limited. Women's unemployment and underemployment rates are higher than those for men. In 1986, approximately 10 percent of the female labor force in non-municipal areas was unemployed -- the national average being weighed down by the relatively high rates of the Northern and Northeast Regions (10 and 15 percent), as compared to the more acceptable rates of the Central and Southern Regions (5 and 1 percent). Comparable unemployment rates for men were 3 percent lower than that of women nationally and between 2 and 5 percent lower regionally (Report of the Labor Force Survey).

Underemployment is more difficult to measure because few workers leaving the labor force in the dry season "claim to be either looking for work, or not looking for work because it was thought to be unavailable" (World Bank, 1978). It is estimated that underemployment (i.e., not having work while waiting for the agricultural season) affects approximately one-quarter of the rural labor force, and of this number, approximately 68 percent are women (Thai National Statistical Office).

Agricultural Wage Labor

Farm wage labor provides seasonal and transient employment for up to two-thirds of the agricultural labor force seeking wage work during the slack agricultural seasons. Work may be found on other farms growing cash crops and on plantations devoted to the cultivation of pineapple, tapioca, sugarcane, and dry-season paddy. Wage rates vary according to type of crop, type of

employment (daily hiring versus contract), type of activity (planting, tending, weeding, harvesting), and other external factors (climatic conditions and domestic and foreign price levels). Dry-season paddy harvesting and sugarcane cutting appear to bear the highest returns for the laborer, especially if performed under contract. In 1981, the daily wage rate of migrant labor was approximately B 35; the daily wage under contract was B 60 (Panayotou, 1985).

Wage rates are marginally different for men and women during periods of high demand for labor. Work conventionally allocated to men, such as seed plucking in paddy cultivation, tends to carry slightly higher wage rates than work assigned to women, such as resetting plucked seeds. Additionally, a given task may also carry different rates when performed by men or women. For example, male sugarcane cutters received B 50 to 55 per day in 1980-81, whereas female sugarcane cutters received B 45 to 50 (Panayotou, 1985).

Earning differences can be substantial when gender-specific field tasks and seasonal variations in the demand for labor are taken into account. Wage discrimination against women has been as high as 40 percent during the dry season, when the overall demand for labor is reduced, as demonstrated by a survey covering three villages in the Northern, Central, and Northeastern Regions (see Table 10).

The limited opportunities for women in the agricultural wage force have an important effect in channelling women's income-generating efforts elsewhere.

Table 10. Variation of Wage Rates[a] between Operations and Seasons

(Baht per person per day)

	Land preparation		Transplanting		Weeding		Harvesting		Post-harvesting activities	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Baan Rai										
Wet season	(217)[b]	(181)	(836)	(1,449)	(255)	(449)	(1,624)	(1,485)	(201)	(270)
	40.8	25.2	33.4	31.9	28.2	25.3	47.0	35.4	37.2	31.1
Dry season	(113)	(58)	(530)	(581)	(88)	(141)	(680)	(762)	(100)	(78)
	47.9	32.1	32.5	29.2	25.0	26.3	42.1	37.0	77.0	30.6
Wer										
Wet season	(623)	(577)	(974)	(968)	(270)	(174)	(1,175)	(989)	(87)	(73)
	23.8	22.4	23.8	22.4	27.2	22.6	22.9	22.4	24.2	22.7
Dry season	(86)	(20)	(33)	(93)	(152)	(227)	(1,278)	(836)	(114)	(87)
	27.2	16.4	22.3	20.7	21.0	20.0	21.1	19.8	16.7	14.8
Mae Kue										
Wet season	(128.5)	(65.5)	(319.5)	(411.5)	(35)	(69)	(358.5)	(374.5)	(100.5)	(137.5)
	40.2	36.5	29.7	27.1	34.3	30.8	30.0	30.4	42.6	27.2
Dry season	(5)	-0-	-0-	-0-	-0-	-0-	-0-	(35)	(55)	(30)
	30							22.9	34.5	25.0

a. Wage rates are actual earnings per 8-hour day.
b. Figures in parentheses are person days recorded in each operation.
Source: Phongpaichit, 1982.

Home Industry and Marketing

Income-generating activities owned and operated by households or by single individuals within the household constitute an estimated one-fifth to one-third of total household income. Women play an important role in stabilizing household income and clearly add to total household income levels their marketing and non-farm activities. Such activities are important alternatives to migrant wage employment for women constrained by child care and, possibly, by farm management responsibilities due to the absence of a male head of household.

Marketing activities generally entail low-volume selling or reselling of agricultural commodities, often on a part-time basis (one morning a week, for instance) throughout the year.

Unlike marketing, home industry or small enterprises are often undertaken sporadically at moments of low agricultural activity to raise the production and, consequently, the consumption level of the household. Such enterprises cover a broad range of production activities from silk production and weaving to dressmaking, livestock raising, and small-scale peanut or garlic cultivation.

Agricultural activities predominate amongst the entrepreneurial ventures. In 1987-88, loans received by women from Friends of Women's World Banking to expand existing enterprises or start new ones fell under the following categories: small-scale agriculture (87 percent), home industry/handicrafts (3 percent), and marketing (10 percent).

Women generally become involved in one activity at a time and rarely, it seems, engage in the same activity for many years in a row. The

exception is typically an activity entailing relatively high start-up costs, such as dressmaking, or one initiated with credit (as opposed to personal savings). The commercial orientation of these activities tends to increase their longevity.

Off-Farm Work and Migration

Large-scale seasonal migration occurs intraregionally and interregionally, following both rural-rural and rural-urban patterns. Most of the interregional migration originates in the Northeast, since it is the poorest and most populous region (accounting for 35 percent of the population in the country since 1947). Rural areas, especially the labor-short agricultural areas in the irrigated upper North Region and in the Central Thai Chao Phraya flood plain, appear to absorb the greatest number of migrant workers throughout the year since the cultivation pattern, and hence the need for labor, differs for different crops (see Table 11 on the cultivation pattern of four crops for an example).

Employment opportunities in sectors other than agriculture tend to be ancillary to agricultural production, such as agro-processing and transportation. Construction is an important source of employment during the dry season. Until a few years ago, employment opportunities for male migrants included long-term jobs in Saudi Arabia and the Gulf States. This option absorbed up to a third of all male migrants and offered more limited opportunities to women who were hired as cooks and domestics.

Migration generally occurs during the agricultural slack seasons, after transplanting (for two to three months) and after harvesting (for five to six months). Migrants are usually between 13 and 25 years old and single, with four years of education. Migrants are also generally from food-deficit or barely subsistence-level households with a high number of workers.

Table 11. Cultivation Pattern for Different Crops

Crop and activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Dry season paddy[a]											
Harvesting, threshing, loading[b]						XXXX	XXXX				
Up-keeping			XXXX	XXXX	XXXX						
Transplanting[b]											
Preparation of feeding bed		XXXX									
Preparation of land		XXXX									
Pineapple[c]											
Harvesting[b]		XXXX	XXXX	XXXX							
Weed clearing[b]			XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX		
Fertilizer applicating			XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX		
Planting	XXXX										
Preparation of land											XXXX
Tapioca[c]											
Harvesting										XXXX	XXXX
Fertilizer applicating			XXXX	XXXX	XXXX	XXXX					
Weed clearing[b]			XXXX	XXXX	XXXX	XXXX					
Planting	XXXX										
Preparation of land											XXXX
Sugarcane[d]											
Cutting	XXXX	XXXX	XXXX	XXXX							
Up-keeping				XXXX	XXXX	XXXX	XXXX	XXXX	XXXX		
Planting				XXXX	XXXX						
Preparation of land		XXXX	XXXX	XXXX							

a. Waurawan Supachanya and Prayong Netayarak, Pattern and Result of Off-farm Work, Faculty of Economics, Thammasat University, Bangkok, July 1979.

b. Activities which required high labor.

c. Cultivation of these 2 crops derived from the cropping pattern of most farmers in the provinces of Chon Buri and Prachu[illegible]han based on the field study, Development Studies and Information Division NESDB. In other are[illegible]g pattern may differ.

A sample of households in the upper Northeast in 1980-81 revealed that 39 percent of the households furnishing migrant labor produced just enough rice for domestic consumption, another 39 percent produced insufficient amounts, and only 22 percent produced rice surpluses for sale (Panayotou, 1985).

Migrant workers tend to receive lower wages than permanent or local workers because the quality of their work is perceived as inferior. In addition, they may receive shelter and transportation from their employer, especially when work is contracted in advance. This points to the importance that middlemen (generally trusted employees sent to locate labor in their home villages) play in transmitting information about the labor market in other parts of the country. The decline in family size (from an average of more than six to four) may reduce the number of migrants in the near term.

Women participate in all migration streams and, since 1983, they have dominated the rural-urban migration (ADB, 1986). The rural-urban migration appears to be cyclical and seasonal: cyclical since migrant women between the ages of approximately 11 and 19 tend to remain away from home for several years, sending remittances when possible to compensate for their absence during the peak agricultural seasons; seasonal, since women migrants between the ages of 20 and 29 or so appear to return to the farm for the harvest, if not the planting season (Blanc-Szanton et al., 1987). Remittances provided by women migrants may amount to as much as half of the household's income.

Domestic Activities

Research conducted on the amount of time spent in housework in rural areas indicates an average weekly input of 35 to 43 hours by women, regardless of social status or income level, compared with 5 hours by men

(Dulyapach, 1985; Shinawatra et al., 1987). Men may perform in limited amounts any of the household chores undertaken by women, ranging from child care, laundry, and food preparation to shopping and fetching water. Firewood collection is undertaken almost exclusively by men as wood becomes an increasingly scarce commodity.

Decision-Making Functions

Household Structure and Financial Management

In much of Thailand, particularly the Northeast and North, there is a tendency towards matrilocality (groom takes residence in the bride's home and village) and matrilineality (the household compound is passed from mother to daughter). Both practices vary by region, but generally, a newly married couple resides with the bride's parents for a year or two, until the first child is born or until another (typically) younger daughter marries. The couple may reside temporarily with the groom's parents. Separate houses are often built near the parent's compound, and the younger household continues to farm with the parents. The last daughter to marry resides permanently with the parents. She and her husband assume the decision-making function for the family unit as the physical and mental strength of her parents decline. Family units evolve, therefore, from nuclear to stem (vertical extension) and then cycle back into nuclear. Joint or joint stem (horizontal extension) families are rare.

As a result of these matrilocal and inheritance practices, women enjoy a comparatively strong economic position within the household. This is perhaps best reflected in the control women retain over household cash income, including earmarking the income for different household purposes, from food purchases and clothing expenditures to, if necessary, credit repayment of "shared" (informal-sector) loans. Men determine the rate and

amount of capital expenditures for durable items, home repairs, education, social functions, and agricultural inputs (seeds, fertilizers, machinery, and hired labor).

The sharing of household decision making by men and women is made possible by the tendency to distinguish sources of household income. Income from selling surplus rice (a food staple) is generally pooled, while income from cash crops (traditionally viewed as being male crops) and from vegetable and livestock production (traditionally viewed as being female activities) is divided by the earner for personal and household use. The amount set aside for personal use (including garment purchases) varies according to the standards set within the household, and the personality and sibling status of the earner. The youngest daughter may be more inclined to give a larger share of her wages to the household than the oldest daughter or a son, since she is likely to inherit the house and compound, and hence identifies more closely with the household unit (Potter, 1977). Men, in general, spend 50 percent more than women on personal items. This pattern is also found with respect to wages earned off the farm and income earned from marketing or home industry.

Women's influence outside of the household, however, appears to be negligible.

Political Participation at the Local Level

Women's participation in local politics was curtailed until 1982, when the Administration Act (in effect since 1914) was modified to allow female heads of households to hold the position of village head, and therefore participate actively in the village council. The number of women elected as village head is still relatively small (120 out of some 50,000), and it is unlikely that women will have much of an impact on the direction of rural development programs

in the near future, a fact recognized but not resolved by the 1982-86 Thailand Development Plan (the Fifth Five-Year Plan). The Plan established a system of development committees for women parallel to those for men. But, because of limited funds and the gender orientation of the respective committees (with women's groups focusing on vocational training, health, and education), the parallel system has not yet succeeded in moving women into the mainstream in the decision-making process.

Political Participation at the National Level

Women were given the right to vote and to run for office in the House of Representatives by the Thai Constitution of 1933. The number of women actually elected into the House has been consistently small, though, amounting to less than 10 percent of the total number of representatives elected in any one election. And, consistent with political traditions worldwide, these women tend to be members of influential families with well established political affiliations.

Women's Social and Legal Status

A clause prescribing equal rights for both sexes (Section 28, Chapter III of the 1974 Constitution) was in effect for only two years (from 1974 to 1976), but it set the parameters for subsequent legislative efforts on behalf of women, and paved the way for the passing of laws providing for

- Equal rights for spouses, with men and women supporting each other according to their ability
- Women's rights to occupy most professional positions
- Women's rights to equal wages for equal work
- Women's rights to an equal share of community property

Unfortunately, many clauses of existing laws (some of which sponsor the rights mentioned above) continue to discriminate against women. Examples include adultery being sufficient cause for divorce for men and not for women and sex-biased quota systems for admission to many public academic institutions.

Efforts to modify customs and the existing legal code are underway at several levels. At the local and regional level exist a small but articulate women's movement. At the national level is the National Commission on Women's Affairs, established by the Prime Minister in 1979 as part of the National Economic and Social Development Board (NESDB). To date, the commission has advised the government on policies affecting women in development and has established a task force to formulate the Long-term Women's Development Plan, 1982-2001. It currently lacks an executive capacity.

Women's Access to Resources

Land

Women's access to land can be restricted by legalities. In spite of the tendency towards matrilocality and matrilineality in Thailand, particularly in the North and Northeast, land is legally considered to be community property unless otherwise provided in the ante-nuptial agreement. If land is bequeathed to a woman after her marriage, for instance, it becomes automatically the joint property of the woman and her husband.

Credit

Difficulty in obtaining the husband's permission to use jointly held land as collateral for a bank loan presents one important obstacle to obtaining

formal credit. Other obstacles (some of them shared by low-income men) include the bank's insistence on collateral (such as land, savings in a deposit account, government bonds, or company stock), the bank's system of assessing collateral at less than its market value (for example land at 30 percent of market value; stock, at par value), the bank's preference for dealing with men, and the bank's insistence on minimum loan amounts of B 10,000. All of these are institutional constraints.

Technology

Such access for women is restricted because of political and social factors. The social factors include the tendency to direct training, inputs, and the dissemination of agricultural information to "farmers," a word that appears to be synonymous with "men" in rural areas; and in the case of appropriate technology, the tendency of women to rely on men to maintain the devices in proper working order. Political factors, such as the role played by the village head in allocating inputs at the local level, particularly affect women from low-income families. These and similar barriers are discussed at greater length in Chapter V.

IV. THE POLICY ENVIRONMENT IN THAILAND

Macroeconomic Policies and Structural Adjustment

Thailand faced considerable economic difficulties in the early 1980s, partly as a result of increases in the prices of imported oil, on which the country depends, and partly because of higher interest rates and declining demand for its major exports. As a result of these difficulties, in 1980 the government undertook a program of policy reform and received Structural Adjustment Loans from the World Bank in 1982-83 and 1983-84. The new policies, which included sectoral reforms and fiscal policy changes, were designed, inter alia, to promote growth in the export sector, to reduce levels of protection for import substitutes, and to reduce energy price distortions.

Trade Policies

The emphasis in trade policy has switched from a promotion of import- substitution industries in the 1970s to the development of a diversified export base in the 1980s. Remnants of former policies still remain, however. Although some improvements have been made in tariff structures, the level of nominal tariffs on exports is still among the highest of the major market economies of East Asia, and there is a wide dispersion of rates between and within sectors.

Import Tariffs

The import-substitution policy pursued by the government in the 1970s resulted in high levels of tariff protection, price controls, domestic content requirements, and a host of quantitative restrictions. A series of measures to reduce and rationalize these tariffs and increase competitiveness was implemented in 1982. The net effect of these measures, which included a 10 percent surtax on almost all imports, was to reduce overall variability of rates and to reduce average nominal rates on finished consumer goods slightly while increasing them on most other goods. Agriculture and agro-processing exhibited increases in both levels and variability of effective rates of protection. Between 1982 and 1984, few changes were made in the tariff structure other than a reduction in the export duty on rice from 5 to 2.5 percent. In 1984, following a devaluation of the baht, further steps were taken, including the abolition of the special surtax, resulting in further reductions in the variability and levels of effective protection. This was effectively reversed in 1985, however, when the effect of the reforms on revenues was felt, and the net result was an increase of 5 percent in effective rates of protection over and above the 1984 rates.

Export Promotion and Tariffs

Since the late 1970s, the government has given priority to improving the incentive structure for exporters. Specific measures that have been undertaken include reductions or exemptions from duties on inputs for exported goods and preferential credit to exporters by the BOI and the Industrial Finance Corporation of Thailand. In addition, the levels of export duties have been reduced on a number of crops, including rice, which is a primary source of foreign exchange.

Impacts on Women

The promotion of exports has had a number of positive effects on women's income and employment opportunities. One of the most direct impacts is the expansion of the textile industry, which is an important source of foreign exchange and which is dominated by women entrepreneurs. Textiles and ready-to-wear garments have been one of Thailand's principal export industries and a major source of foreign exchange during the past five years. Current government policy is to expand export industries, including textiles, still further. A note of caution should be introduced, however, insofar as the undoubted gains in income and employment may be offset to some extent by the reportedly poor working conditions, long hours, and relatively low wages in some of the textile plants.

Monetary Policies

Until about 1975, monetary policies under the guidance of the Bank of Thailand were extremely conservative, and the nominal exchange rate of the baht against the dollar was fixed for a remarkable period of 26 years (1955-81). The real value of the baht depreciated significantly in the late 1960s and early 1970s, when the Thai consumer price index lagged behind inflation rates in most industrial countries. Since 1971, however, the real value of the baht in relation to a market basket of most major currencies has remained remarkably stable. In the late 1970s, a relative fall in the baht was associated with a fall in the dollar, but when the dollar began rising sharply between 1979 and 1985, the baht was prevented from rising by two devaluations against the dollar, one in 1981 and the other in 1984. The primary objectives of monetary policy have clearly been external stability and balance-of-payments equilibrium.

Since 1984, the baht has been pegged to a basket of currencies. The composition of this basket is not published, but it is generally felt that the U.S. dollar accounts for 80 to 85 percent of the total. This hypothesis is supported by the fact that since 1984-85, the baht has moved quite closely with the dollar, leading to an estimated decline in exchange rates with other major currencies of about 30 percent for the period.

The more active monetary policy pursued by the government after the mid-1970s was also more liberal than previous policies. More liberal credit policies gave rise to extremely rapid growth in non-bank financial institutions, many of which subsequently ran into dire straits and had to be bailed out by the central bank. These developments, in combination with increased access to credit from foreign commercial banks as well as inappropriate fiscal policies, contributed to increases in the current account deficit in the late 1970s and 1980s. Since 1982-83, a return to more conservative policies appears to be reversing this trend successfully.

Impacts on Women

There would appear to be little reason to suggest that the effect of the government monetary policies would benefit either men or women differentially. To the extent that exchange rates are maintained at levels that encourage exports, those women involved in the production and sale of tradables will be beneficiaries, as will the men. Since commerce is a major source of employment and income for women, one could reasonably hypothesize that the expansion of overseas markets would be particularly beneficial. However, the data to support or refute this hypothesis are lacking.

Fiscal Policies

Fiscal policies have also traditionally been extremely conservative, the main objective being the avoidance of excessive foreign indebtedness. Government revenues remained at 12 to 14 percent of GDP throughout most of the 1960s and 1970s and are currently about 15 percent. The fiscal deficit has fluctuated between 2.5 and 5 percent of GDP for most of the past two decades, with a large part of the deficit attributable to State enterprises.

Until quite recently, government fiscal policies have tended to be commodity specific and undertaken without a thorough assessment of the total effect and long-term impacts on the economy. This has partially been a result of political factors such as the strength of the sugar growers associations. Recently, however, the government has taken a number of steps, with limited success, to rationalize the tax system while increasing government revenues and reducing the growth rate of government spending. These measures include the tax increases on interest earnings, vehicle registration, and businesses, which were introduced in January 1986. Current government expenditures have been slowed by the freezing of civil service salaries since 1980, and efforts are being made to curtail the rate of growth of capital expenditures at 2 percent. These measures have been somewhat offset by a reduction in income tax rates for persons in the highest income brackets and, more severely, by the many evasions and exemptions, including an exemption for paddy farmers.

Impacts on Women

No gender-disaggregated data were found that could be used to analyze whether the greater tax burden falls on women or on men. Furthermore, the numerous changes that have taken place over the past few years and the

high instance of evasion would make such an analysis extremely difficult to accomplish with any degree of confidence. One can assume, however, that reductions in the rate of growth of the government budget that were achieved at the cost of welfare or medical programs could be particularly detrimental to the poor, of whom women heads of household tend to be a relatively large proportion.

Agricultural Sector Policies

During the past 15 years the emphasis of public investment in agriculture has been on irrigation (64 percent of total capital expenditure on agriculture during the Fifth Plan period). These investments have led to substantial economic growth, reductions in rural poverty, and a rice export surplus that accounted for 15 percent of total exports in 1984. The proportion of central government investment allocated to agriculture has been increasing in recent years, and investments have been diversified to include extension, research, and training and to focus on updating irrigation systems already in place, rather than expanding the area irrigated. In addition, the government has implemented programs to encourage crop diversification, to improve domestic and export marketing, and to develop new products.

Agricultural Price Controls

One of the most significant policy changes to be undertaken in recent years has been the dismantling or reduction of price controls for several crops, including rice.

Rice

The Rice Pricing Policy Committee, headed by the deputy prime minister, is responsible for developing price policy for this crop. In 1986,

after a long and complicated series of interventions in rice marketing, including quotas, ad valorem export duties, and rice reserve requirements on the export side and, somewhat paradoxically, price subsidies to farmers on the production side, the government finally discarded these various instruments and introduced a paddy mortgage scheme. It provided credit to farmers at very low interest rates (3 percent for the first six months and 7.5 percent thereafter) against rice as collateral. This was no longer necessary in 1987 because drought conditions throughout Asia caused significant price increases, and in early 1988, the government was reportedly considering releasing up to 600,000 tons of rice from stocks in order to stabilize the domestic market.

Sugar

Government policies on sugar prices have been aimed at protecting growers and millers without expending budgetary resources to support the industry. The instrument by which they have achieved this is a form of cross-subsidy between domestic and world prices. The precise procedure for implementing this subsidy has varied only slightly since it was first introduced in the 1950s. The system in place in 1984 was enacted into law by the Sugar Act of 1984, which legislated a revenue-sharing method known as the 70/30 system. Under this system, sugarcane prices are calculated by first calculating the revenue from all sales, in both the domestic and export markets. This sum is then divided by the amount of cane delivered to all mills. Of the resulting quotient, 70 percent is the price millers must pay to growers for each ton delivered to the mill. Since this procedure requires central control over the distribution to various markets, a quota system was introduced whereby quota A is assigned to the domestic market, quota B must be supplied to the Thai Cane and Sugar Trading Corporation, and quota C is a residual that can be exported freely.

The direction in which the cross-subsidy between consumers, producers, and growers will flow depends on world prices and domestic production levels. In recent years, sugar prices have been low, and consumers have subsidized sugar exports.

Maize

Controls on maize marketing, which were never very effective, have recently been removed. Until very recently, there was generally an oversupply of maize on world markets, a fact which, in combination with the relatively low quality of Thai maize, limited market opportunities. Local maize is used almost exclusively for animal feed.

Rubber

Export duties on rubber were first introduced in 1935 and still exist today. The system is progressive, so that when the world market price rises the tax level increases proportionately. The consequence is that at times rubber is the most heavily taxed of agricultural commodities. There have not been any quantitative restrictions on production or exports since 1960, and no licenses are required. Under the Rubber Replanting Fund Act of 1960, a cess was introduced to provide funds to subsidize replanting of rubber trees. The Office of the Rubber Replanting Fund administers this program.

Cassava

The government has entered into a voluntary export restraint agreement for cassava to the EEC. These exports obtain a higher price than non-EEC sales, and the excess is redistributed to farmers as an incentive to increase production.

Soybean

Imports of soybeans, soybean oil, and soybean meal have been subject to import tariffs since the 1960s. Import licenses have also been required since 1982, and importers of soybean oil and meal are obliged to present evidence of purchases on the domestic market from the Marketing Organization of Farmers (MOF) or from soybean meal producers before they are granted a licence.

Silk

The import taxes levied on the warp threads used for weaving silk fabric are intended to encourage the use of local silk.

Milk

The government is aggressively pursuing a policy of expanding the dairy industry. Traditionally, Thailand imported dried milk from Europe and reconstituted it. Incentives provided by the government to encourage local production include the duty-free import of cattle and dairy equipment and a floor price on milk.

Impacts of Price Policies on Women

Since rice is produced by about 98 percent of Thailand's 4 million farming families and accounts for 40 percent of the country's gross domestic product, the impact of the rice policy was widely felt. Farms that were net surplus producers of rice have undoubtedly benefitted, at the expense of urban consumers. Those farmers who have been net purchasers -- about a quarter of all rice-producing farms -- have probably been affected adversely

by the increase in price. It can be hypothesized that these deficit farms are generally the poorer farms and that a higher proportion of them are headed by women; however, data were not available to test this theory. In order to compensate farmers partially, the government introduced a program (with SAL funding) to reclassify the forest land that farmers were cultivating illegally and grant them "right to farm" certificates. These certificates do not confer ownership and apparently could not be used as collateral for loans. A recent study by the World Bank (Feder, forthcoming) indicated that these farmers had lower productivity, used fewer inputs, and made fewer land improvements than farmers who had legal title to their land. On the basis of these findings, it would appear that the granting of legal title, rather than simply the "right to farm" certificates, would serve not only the interests of equity (since these farmers are generally among the poorest) but also the interests of growth, by enabling greater investments in the land and therefore greater productivity. Gender-disaggregated data on the recipients of the land certificates were not available to assess the relative benefits derived by women farmers.

Women appear to be deriving considerable gains in the dairy industry. A number of women entrepreneurs are starting up dairy herds and operating successful dairy operations. In addition to benefitting from the increased income and employment, women are also likely to be primary beneficiaries as consumers, since they and their children are responsible for the greater part of consumption.

The gains from dairying may be somewhat offset by the costs that are paid by livestock breeders who use soya products as a protein source, because soya production is protected, to the benefit of soya producers and the detriment of breeders.

Overall, it may be expected that the reduction in tariffs would render export crops more competitive and thus eventually lead to increasing

employment in production of these crops. The protection of domestically produced crops would be expected to lead to inefficiencies in production and higher costs to consumers. Unfortunately, few data were available to verify this hypothesis.

Agricultural Input Policies

Tariffs on the importation of nitrogen fertilizers were first introduced in the 1960s to protect a domestic plant that produced nitrogen. As an indirect result of this policy, high-cost compound fertilizers were promoted rather than the more inexpensive single-nutrient fertilizers. Subsequently, the level of protection has been reduced considerably and currently is relatively low. An analysis carried out by the World Bank concluded that value/cost ratios could be more than doubled for rice, corn, sorghum, and cassava in all areas except those with high risks of flood and drought, if cheaper fertilizers were used. The principal area of government intervention in fertilizer use has been the subsidization of total fertilizer sales (at a rate of approximately 20 percent in 1982) and the distribution of fertilizer, an increasing amount of which consists of donations from Korea, Japan, and other nations, through the Ministry of Finance.

Prices of fertilizer supplied by the MOF have remained stable since 1987, but since these supplies are inadequate most farmers are obliged to purchase from retailers, who sell at a higher price since, unlike MOF supplies, the costs of inland transport and storage are not subsidized. Some 40 to 60 percent of private sales are credit-financed by local merchants charging about 4 percent a month.

The Government has had a longstanding policy of providing subsidized credit to rural areas. A principal instrument used is the requirement that a certain percentage of loans from private banks must be provided to the

agricultural sector, either directly or through the Bank for Agriculture and Agricultural Cooperatives (BAAC), which was established in 1966 with the explicit purpose of providing credit to farmers. In addition to the commercial banks, this institution receives funds from the Bank of Thailand, the Government budget and foreign aid donors. Data were unfortunately not available on the extent to which the BAAC loans are actually used for agricultural production activities, rather than commerce or consumption, as is commonly found with such rural credit programs.

The government is also extensively involved in the provision of other inputs, including pesticides, herbicides, improved seeds, and silkworm cocoons. Research and extension services likewise are provided mainly through government channels, although increasingly the private-sector is becoming involved. One particularly successful example of private-sector involvement is that of the Charoen Pokaphan Company (C.P.), which is engaged in broiler production and which provides farmers with chickens as well as training and extension services. It is not uncommon for farmers to receive several hundred chickens, which are repurchased by C.P. two to three months later, providing a steady and significant source of income to these farmers. The major beneficiaries of these activities, in terms of both increased employment and income, have been women farmers. C.P. reportedly prefers dealing with women, because they have proven generally more efficient and reliable.

Impacts of Government Input Policies

Although the use of fertilizers is very low by Asian standards, it is rising rapidly, and the reduction in tariff protection has undoubtedly contributed to this trend. Fertilizer is applied to all the major crops other than cassava and maize and presumably is of benefit to men and women farmers alike. The use of pesticides and herbicides is mainly confined to the

central plains, but it is increasingly extending in other regions. Since these chemical inputs are applied almost universally by men, there would appear to be female labor displacement. For example, weeding previously was performed largely by women. Tractors are driven exclusively by men; in this case the labor displacement is of men, since they generally undertook land clearing and heavier land preparation activities.

The impact of the credit requirement policy would appear to be beneficial for men or women who have title to land. It is, however, partially at the expense of credit seekers in urban areas -- who may very well be women. A recent decision by BAAC to grant loans to groups of villagers, with one person being responsible for guaranteeing the loan, may provide a useful additional channel for men and women with few assets to acquire agricultural credit.

State Enterprises in the Agricultural Sector

Under Thai law, a state enterprise is one in which more than 50 percent of the capital is contributed by a government branch or other state enterprise. It may be created by an act of Parliament, royal decree, Cabinet resolution, or under the commercial code as a limited liability company. Limited liability companies pay corporate income and sales taxes and can be traded privately. In the agricultural sector such companies include the Cholburi Sugar Corporation, the North-East Jute Mill Company Ltd., and the Thai Plywood Company Ltd. Among the agricultural enterprises created by Cabinet resolution are Sugar Factories Inc., the Thailand Tobacco Monopoly, and the Paper Mill. These companies are tax exempt and have, in theory, the least independent status. Other state enterprises include the Rubber Estate Organization, the Dairy Farming Promotion Organization of Thailand, and the Tanning and Textile Organizations. In addition to these official state

enterprises, the government is a minority shareholder in a large number of other enterprises, including the Thai Farmers Bank.

Pricing policies are generally the responsibility of state enterprise boards, although the parent ministry can set floor and ceiling prices. Salaries in these enterprises are on average more than 50 percent higher than civil service salaries, and in some cases are also higher than private-sector salaries. One study found that female manual workers with a less than tenth grade education earned 33 percent more in state enterprises than in the private-sector, and female clerical workers earned 25 percent more. Executives in state enterprises, however, earned about 6 percent less than their private-sector counterparts. In addition to higher salaries, fringe benefits are often more generous in state enterprises, and possibilities for overtime are greater. The strength of labor unions in these industries undoubtedly has been a contributing factor to the relatively privileged positions of their employees.

Impacts on Women

These enterprises appear to have an important beneficial impact on the women employed, providing increased employment opportunities and relatively high wages. The cost, however, comes in the form of government subsidies, from funds that could have been used for other programs sorely needed by poorer men and women.

Government Rural Development Programs

The Rural Employment Generation Program is a government intervention designed to raise rural economic activity primarily by financing rural public works during the agricultural off-season. These programs suffered from administrative inefficiencies and were not targeted at the poorest areas.

Because of the limited success of this program, the Fifth Development Plan has introduced a new Poverty Districts Program, which has selected 286 poverty districts or subdistricts and identified their primary needs, including agricultural production support services, water supplies, and health and nutrition programs. Agencies involved in the provision of these services have been instructed to redirect current programs to concentrate on these regions.

Impacts on Women

The Rural Employment Generation Program was of limited overall success, and reportedly most of the jobs created were obtained by men. The Poverty Districts Program, which is receiving funding from the World Health Organization (WHO), promises to be more effective in providing services to those in most dire need, who will certainly include a large percentage of women.

Other Policies Indirectly Affecting the Agricultural Sector

Industrial Policy

The formulation and implementation of industrial policies is principally the responsibility of the NESDB, the Ministry of Industry (MOI), and the Board of Investment (BOI). The NESDB has overall responsibility for developing and coordinating policies, while the BOI traditionally has engaged in relatively large investment activities, and the MOI, through the Department of Industrial Promotion, provides technical and financial assistance to small and cottage industries in rural and urban areas.

Two important trends in industrial policy over the past two decades are discernible and noteworthy for their impact on agriculture. The first is a shift in emphasis, somewhat tentative in the 1970s but far more forceful in

the 1980s, from the development and protection of import substitutes to the promotion of export enterprises. For example, previously the tariff protection and other promotional privileges offered by the BOI were not available to most agricultural enterprises, which were generally small or medium scale; thus, the policy had an implicit bias against agriculture. Under the new policy, the BOI is diversifying and engaging in employment-creation and export-promotion activities, both of which benefit the agricultural sector. A second, related trend is the encouragement of rural industry and employment generation. A number of economic incentives exist, including the granting of three-year tax exemptions for firms that locate in rural areas.

On the negative side, the government has enforced a number of restrictions on industrial development, including a 25 percent limit for foreign shareholdings in Thai firms, a limit which at least 28 companies have already reached. Foreigners can purchase shares only on the foreign board of the Securities Exchange of Thailand. Despite premium prices, trading apparently has been brisk since the inception of this facility in September 1987.

Impact of Industrial Policy

To the extent that the BOI is supporting export promotion, production of agro-industrial tradeables should benefit and employment and incomes in the sector should be increased. Women engaged in activities such as broiler production and the manufacture of artificial flowers are clearly beneficiaries of policies that promote the export of these items. MOI activities, through the Department of Industrial Promotion, targeted at rural enterprises should have a positive effect on small and cottage industries, in which many women are involved. Unfortunately no data were available on the effectiveness of these programs.

V. CONCLUSIONS AND RECOMMENDATIONS

It is clear that the economic status of women in Thailand compares extremely favorably with that of women in many other developing countries (and indeed with many women in more developed countries). Women in the agricultural sector are involved in virtually all aspects of production and marketing, both in decision making and performing tasks, and have a substantial degree of control over the household finances. Furthermore, there appear to be few impediments to women succeeding in business, as evidenced by the number of women who own large enterprises, including some major exporting firms.

In the political sphere, however, the situation is quite different. Although a woman recently was appointed to the cabinet, there are very few women in high-level government positions. In fact, right down through the hierarchy of local governments, women are greatly under-represented. This under-representation is undoubtedly due in part to the fact that until recently there were legal restrictions on women holding local administrative posts. Since the abolition of these regulations, more women have been elected and appointed to government positions, and it is to be hoped (and indeed seems likely) that this trend will continue.

The lack of political power has a number of important implications for women in the agricultural sector. In the first place, it limits their access to certain essential resources, when these are provided through government channels rather than through the private sector. For example, when

agricultural inputs such as silkworm cocoons are provided to a village, either freely or at subsidized rates, the principal recipients tend to be those persons who are influential in the village. This system is detrimental to less influential men and women, but to the extent that women have less opportunity to gain political power, it is arguable that they are relatively more disadvantaged. Furthermore, they are rendered more dependent on men, and women heads of households would appear to be particularly vulnerable.

In sharp contrast to the situation described above, when agricultural inputs and services have been provided through the private sector, women have been major beneficiaries. One example of this phenomenon, cited earlier in this paper, was the provision of chickens for broiler production by the C.P. Company. A number of women farmers are engaged in broiler production and receive extension services as well as 10,000 to 20,000 chickens from the company, which repurchases them after seven weeks, allowing production of up to six batches per year. This has been a major source of income and employment for women in some areas.

Another example of the benefits women have gained from private-sector involvement in agro-industry is artificial flower manufacturing. Although this trade was initially taught by government extension services, the techniques and marketing arrangements were never commercially viable. In recent years, however, a very successful cottage and small-scale industry has developed as private firms have begun to provide the parts for the flowers as well as specific training, resulting in a more specialized and commercially viable production. This industry involves primarily women and, as in the case of broiler production, has increased their income and employment opportunities while allowing them to stay on the farm and combine domestic and childcare responsibilities with income-generating activities.

One clear implication of all this is that women are in some cases better able to exploit opportunities provided by the private sector than those

provided through government channels, as a result of their relative strength in the economic sphere and weakness in the political. Although the government must, of necessity, continue to be the largest provider of services to the rural areas for the foreseeable future, there appears to be a strong case for encouraging the involvement of the private sector in agricultural extension and marketing.

A second, closely related area in which women are relatively disadvantaged is the provision of services by the government agricultural extension services. Relatively few women are direct recipients of the training courses that are provided, or indeed of any extension assistance. A number of reasons have been proposed, the most prevalent being that only one person per family is allowed to attend, and social custom dictates that the man attend as the representative of the family. It is also claimed that when courses for farmers are advertised, it is understood that "farmer" refers to a male farmer, and hence women generally do not attend. The small number of female extension agents may also be a limiting factor, although it was not clear why so few women choose this career. There appeared to be no obstacles to women receiving training, and in a country where women are commonly seen on construction sites, social taboos would seem to be unlikely. The lack of direct access to extension services and the need for women to rely on their husbands or others to obtain agricultural extension services clearly constrains their productivity.

A relatively cost-efficient method of ameliorating the situation is the use of television for extension training, advertising the availability and correct usage of inputs, and disseminating marketing information and indeed any other information that could contribute to the productivity of farmers. Such information would be equally available to all, since even in the most remote and poorest villages, farmers generally have access to a television set. Although there would still be a clear need for the individual advice on specific problems that extension workers can provide, television broadcasts

could provide basic information to women whose current access is limited, and since it would be available in the home, conflicts between domestic responsibilities and attendance at training sessions would be reduced or eliminated.

The third and final area of concern that has been identified relates to the combined effects of two specific government policies. The first of these is the policy of encouraging rural industrialization, and the second is that of encouraging agricultural intensification, in part through mechanization. Although there are no data on changes in the overall demand for labor or the composition of labor that these policies will induce, there appears to be a danger that the mechanization of agriculture will lead to labor displacement, particularly of women, since the new techniques such as tractor driving and application of herbicides and pesticides are undertaken almost universally by men. To the extent that women are displaced, they may be forced to seek off-farm employment in rural industries, and to the extent that the informal-sector industries are the least controlled in terms of health and safety provisions and frequently pay wages below the legal minimum, the potential for the exploitation of these women is evident. The task of regulating small industries, of which there were some 17,000 registered outside the greater Bangkok area in 1980, is clearly enormous, but one that deserves high priority.

APPENDIX A.

OPPORTUNITIES FOR ASSISTANCE TO WID

Although the situation of rural women in Thailand compares very favorably with that of women in other nations at a similar stage of development, there are nonetheless a number of areas where targeted interventions could improve their productivity and thus their income levels. A few of these are noted briefly below.

Increasing the number of women in agricultural extension, research, and administration would help to ensure that all aspects of the farming system are understood and beneficially affected by agricultural projects and programs. The current information chain of research from the research station through the extension agent through the male head of household and eventually to the woman farmer seems to be particularly weak and to leave room for considerable improvements in information dissemination. As mentioned earlier, the use of the media for disseminating agricultural information could have a large beneficial impact on women.

Increased provision of on-farm employment, particularly activities that can be combined with a women's domestic responsibilities (such as the chicken and artificial-flower production), contribute to increasing women's productivity and income without involving the possibly high social costs involved when women must leave the farm. Flexibility in the time requirements of such activities would appear to be crucial, since many women are already over-burdened during peak agricultural seasons.

In addition, a number of studies that would provide information essential to a clearer understanding of the problems of women in development could usefully and economically be undertaken by Thai researchers, including students at local universities. Because of the very different characteristics of different regions of the country, these studies should be desegregated by region, and should include

- An examination of the impacts of new agricultural technologies on the overall demand for men's labor and women's labor, as well as changes in the type of jobs and the levels of remuneration that accompany these new techniques. This should be done for all major crops and for the principal technologies.

- The degree of underemployment of women in the agricultural slack season. There is much controversy as to the time availability of rural women and the degree to which they are actively seeking employment in the slack season.

- A study of labor employment in rural industry to ascertain what opportunities are available to women, and whether job creation is keeping pace with growth in the labor force. A comparison of what jobs are open to (and filled by) men and women, as well as the remuneration and other conditions of work is required. Disaggregation by type of industry and by size of enterprise would be important in this study.

- An assessment of women's access to land through inheritance, purchase, rental or other arrangement, and changes in the degree of access associated with the government's land titling program. This study could further examine the correlation between size of holding and male/female household head, as well as soil fertility and male/female household head.

APPENDIX B. PEOPLE CONTACTED

LIST OF PEOPLE CONTACTED

Supanee Artachinda, Economist, Program Office, USAID/Thailand

Sudchit Bhinyoying, Director, Friends of Women's World Banking Association in Thailand, Bangkok

Rosalind Coleman, Director WID Programming, Canadian International Development Agency, Bangkok

David Delagado, Agricultural Officer, USAID/Thailand

Puengpit Dulyapach, Associate Peace Corps Director, Nutrition/PVO Program, Bangkok

Anamaria Viveros-Long, Social Science Analyst, Human Resources Division, Office of Technical Resources, Bureau for Asia and Near East, USAID, Washington, D.C.

William Nance, former Thai Desk Officer, USAID, Washington, D.C.

Edward Ploch, former Program Officer at USAID/Thailand

Amara Pongsapich, Director, Chulalongkorn University Social Research Institute (CURSI) and Member, National Commission on Women's Affairs, Bangkok

Robert A. Ralston, Projects Division, Office of Permanent Secretary, Ministry of Agriculture and Cooperatives

Napat Sirisambhand, Women's Studies Program, Chulalongkorn University Social Research Institute (CURSI), Bangkok

Craig M. Steffensen, Economist, USAID/Thailand

Somsak Srisontesuk, Faculty of Humanities and Social Sciences, Khon Kaen University

O.M. Surajh, Office of the Economic and Financial Counselor, Royal Thai Embassy, Washington, D.C.

Gary Sawannarat, WID Officer, USAID/Thailand

Khun Ternpol, Head Agricultural Extension Office, Khon Kaen

Suteera Thomson, Thailand Development Research Institute, Bangkok

Peter Thormann, Programs Officer, USAID/Thailand

Pawadee Tonguthai, Associate Professor, Faculty of Economics, Thammasart University, Bangkok.

Juree Vichit-Vadakan, National Institute of Development and Administration, Bangkok

Sansanee Yamasmit, Financial Director, Friends of Women's World Banking Association in Thailand, Bangkok

Twatchai Yongkittikul, Director, Planning and Development, Thailand Development Research Institute, Bangkok

APPENDIX C. BIBLIOGRAPHY

BIBLIOGRAPHY

Anchan, Tongroj. *Farm Mechanization Policy in Thailand.* Working Paper No.104, The Consequences of Small Rice Farm Mechanization Project, Contract No. TAC-1466, 1983.

Asian Development Bank. *Women in Development: Thailand.* A Country Briefing Paper, August 1986.

Blanc-Szanton, Christina M., Anamaria Viveros-Long, and Nongluck Suphanchainat. *The Northeast Rainfed Agricultural Development Project in Thailand: A Women in Development Assessment.* Draft submitted to the U.S. Agency for International Development, Washington, D.C., September 1987.

Bremer-Fox, Jennifer, Rekha Mehra, and Laurene Graig. *The Policy Inventory: A Manual for Rapid Appraisal of Policies Affecting the Agricultural Sector with Disaggregation of Impacts by Gender.* An Agricultural Policy Analysis Project Report submitted to the Office for Women in Development, U.S. Agency for International Development by Robert R. Nathan Associates, Inc., Washington, D.C.: Abt Associates Inc., June 1988.

Chalamwong, Yongyuth and Kanok Khatikarn. *Study on Land Availability and Labor Absorption in Agricultural Sector as Consequences of Demographic Change in Thailand.* A Population Policy Background Paper, Bangkok: Thailand Development Research Institute Foundation, 1987-1992, December 1985.

Chalamwong, Yongyuth and Richard Meyer. *Farm Household Income Levels, Sources, and Patterns in Selected Thai Villages.* Kasetsart: The Center for Applied Economics Research, Kasetsart University, July 1982.

Chalamwong, Yongyuth, Richard Meyer, and Leroy Hushak. *Allocative Efficiency of Part-Time and Full-Time Farms: The Case of Thailand.* Columbus: Department of Agricultural Economics and Rural Sociology, The Ohio State University, February 1983.

Chalamwong, Yongyuth, Merwyn Nelson, and Wayne Schutjer. *Variation in Land Availability and Human Fertility Among Thai Rice Farmers.* Paper prepared for presentation at the Meeting of the Population Association of America, Philadelphia, April 26-28, 1979.

Chitranukroh, Suvannee. *The Female Labor Force Participation Rate in Thailand: An Interim Report*, n.d.

Chulalongkorn University. *Farmers: An Annotated Bibliography.* Bangkok: Academic Resource Center and Social Research Institute, Chulalongkorn University, August 1983.

Dulyapach, Puengpit. *Thai Women in Agriculture and Rural Development.* Bangkok: FAO Regional Office for Asia and the Pacific, 1985.

Economic Intelligence Unit. *Thailand, Burma.* Country Report No. 4, 1987.

Gordon, Alec and Napat Sirisambhand. *Thai Rural Women and Agricultural Change: Approaches and A Case Study.* Publication No. 2 (New Series), Bangkok: Women's Studies Programme, Chulalongkorn University Social Research Institute, 1987.

Kasetsart University and Oregon State University. *A Workshop on Research on Women's Roles in Agriculture in Thailand.* August 1985.

Knodel, John, Aphichat Chamratrithirong, and Nibhon Debavalya. *Thailand's Reproductive Revolution: Rapid Fertility Decline in a Third World Setting.* Madison: The University of Wisconsin Press, 1987.

Lim, E.R. et al. *Thailand: Toward a Development Strategy of Full Participation.* A World Bank Country Study, Washington, D.C.: The World Bank, 1980.

Narendran, Vasantha, ed. *Agricultural Marketing in Khon Kaen Province, Northeast Thailand.* Bangkok: Chulalongkorn University Social Research Institute, 1980.

Meesook, Oey Astra. *Working Women in Thailand.* Paper presented at the Conference on Women in Development at Wellesley College (June 2-6), May 1976.

National Economic and Social Development Board. *The Sixth National Economic and Social Development Plan (1987-1991).* Bangkok: Office of the Prime Minister, Government of Thailand.

Palmer, Ingrid, Sukaesinee Subhadhira, and Wilaiwat Grisanaputi. *The Northeast Rainfed Agricultural Development Project in Thailand: A Baseline Survey of Women's Roles and Household Resource Allocation for a Farming Systems Approach.* Study No. 3, Case Studies of the Impact of Large-Scale Development Project on Women, New York: The Population Council (International Programs), September 1983.

Panayotou, Theodore, ed. *Food Analysis in Thailand.* Bangkok: Agricultural Development Council, 1985.

Phongpaichit, Pasuk. *Employment, Income and the Mobilization of Local Resources in Three Thai Villages.* Geneva: International Labor Organization, 1982.

Pongsapich, Amara, ed. *Women's Issues: Book of Readings.* Bangkok: Chulalongkorn University Social Research Institute, 1986.

Ponggsapich, Amara and Jacques Amyot. *Women in Rural Industry in Thailand.* Paper submitted to USAID/Thailand, Bangkok: Chulalongkorn University Social Research Institute, October 1984.

Pongtanakorn, C., A. Sussangkarn, K. Khatikarn, and Y. Chalamwong. *The Impact of Agricultural Product Price Changes in Labor Absorption in Thai Agriculture: A Non-Linear Programming Approach.* Paper No. 6 presented at the Macroeconomic Research Conference at the Regent Cha-Am Beach Hotel, October 17-18, Bangkok: Thailand Development Research Institute Foundation, July 1987.

Potter, Sulamith Heins. *Family Life in a Northern Thai Village: A Study in the Structural Significance of Women.* Berkeley and Los Angeles: University of California Press, 1977.

Sarkar, N.K. "Industrial Structure of Greater Bangkok." United Nations Asian Institute for Economic Development and Planning: Bangkok, 1974.

Seetisarn, Manu and Deborah E. Lindsay. *Mid-Term Evaluation Report: Accelerated Development for Women in Small Business Project.* USAID Grant No. 093-0342-G-SS-5085-00, August 1987.

Shah, Nasra M. *Women of the World: Asia and the Pacific.* Washington, D.C.: Bureau of the Census, U.S. Department of Commerce, and Office for Women in Development, U.S. Agency for International Development, February 1985.

Shinawatra, B., B. Tongsiri, and J. Pitackwong. *Differential Roles of Men and Women in the Farming Systems of Amphoe Phroa, Changwat Chiang Mai, Thailand.* Chiang Mai: Multiple Cropping Center, Faculty of Agriculture, Chiang Mai University, October 1987.

SVITA Foundation. *Advocacy Strategy for Women in Thailand.* Paper prepared for USAID/Thailand, Bangkok: SVITA Foundation, November 1983.

Thandee, Damrong. *Politics of Policy Implementation: A Case Study of Rural Development in Thailand.* Bangkok: Chulalongkorn University Social Research Institute, 1985.

Thomson, Suteera, Orapin Sopchokchai, Daranee Charoen-Rajapark, and Twatchai Yongkittikul. *A Concept Paper: The Role of Thai Women in Development.* Bangkok, Thailand Development Research Institute, April 1988.

Thosanguan, Vatchareeya. *The Position of Women and Their Contribution to the Food Processing Industry in Thailand.* Paper presented at the Workshop on TCDC and Women at the Asian and Pacific Center for Women and Development, Tehran, Iran, April 24-26, 1978.

Tonguthai, Pawadee. "Women and Work in Thailand and the Philippines," in *Women's Economic Participation in Asia and the Pacific.* Bangkok: Economic and Social Commission for Asia and the Pacific, United Nations, 1987.

World Bank. "Thailand, Managing Public Resources for Structural Adjustment." Washington, D.C., 1984.

The Impacts of Economic and Agricultural Policies on Women in Agriculture in the Yemen Arab Republic

February 28, 1989

Phillip F. Warnken
University of Missouri

Charles F. Nicholson
Cornell University

Robert R. Nathan Associates, Inc.
Economic and Management Consultants
Washington, D.C.

EXECUTIVE SUMMARY

The Yemen economy has undergone rapid change in the past quarter century. Before 1962, smallholder subsistence agriculture based on family labor was the predominant economic organization; agriculture absorbed 90 percent of the country's labor force. While agriculture remains the largest sector, the retail trade, transport and communication, and manufacturing sectors each now contribute more than 12 percent to GDP.

A substantial portion of the economic growth that occurred in the 1970s and early 1980s was the result of a large inflow of remittances from workers abroad and foreign economic aid. Worker remittances peaked at about US$ 1.1 billion in 1983, then declined rapidly due to decreased employment opportunities in neighboring oil producing countries. Foreign aid, particularly from Saudi Arabia, amounted to more than Y Rls 2 billion in 1982, but declined with the oil price fall. Rural areas have supplied most of the emigrating labor and have been the primary beneficiaries of remittance wealth.

The rapid growth of income brought about sharp increases in imports in the late 1970s and early 1980s. The largest category of imports has been food and live animals. Imports have declined in recent years because of a shortage of foreign exchange and ensuing government restrictions. Yemen exports small quantities of coffee and cotton. The value of all merchandise exports amounts to less than 1 percent of imports.

The agricultural sector plays an important role in Yemen's economy. It accounts for about 40 percent of the GDP and employs 70 percent of the population. Farms are small and fragmented, and agricultural technologies are highly traditional. Grain crops occupy 80 percent of the land, but qat production generates the majority of value added from the sector. Sheep and

goats are raised primarily for meat production. Cattle (house cows) are kept for milk production to make cheese, yogurt, ghee, and butter. Rural households raise small flocks of chickens for meat and eggs, but commercial poultry farms dominate in the nation's poultry production.

The agricultural economy has been undergoing significant structural change since 1970. One reason for the change is an increase in labor costs resulting from labor migration to neighboring oil-exporting countries, primarily Saudi Arabia. Higher wage rates have contributed to making low productivity grain production less profitable, while increased remittance incomes have allowed investment in alternative means of production for higher value crops such as qat and fruits and vegetables.

Women's roles in agriculture are derived from women's roles in the social structure as defined by customary rules, norms, and Islamic law. Yemeni women contribute a substantial amount of labor to agricultural production. Various studies report that because of male emigration, women constitute one-half to two-thirds of the total rural labor force.

The household is the basic agricultural production unit, and all household members contribute labor to crop and livestock production. Men take the primary responsibility for cash crops and women the responsibility for egg and dairy production, but neither men nor women engage in production activities independently of the household unit.

The specific agricultural production tasks undertaken by women reflect regional variations in cropping patterns, water resources, rates of male emigration, and individual household differences. In crops, women are generally responsible for field maintenance activities such as weeding and contribute to the harvesting and processing of grains. Most small farms in Yemen are integrated crop and livestock operations, and women have significant responsibilities in livestock production. In addition to providing animal care and feeding, women also have a good deal of autonomy in making livestock production decisions. Women may also be involved in wage labor, especially in the Tihama, where seasonal demands for hired labor are high.

Male emigration and structural changes in agriculture resulting from increased remittance income has probably increased women's roles in agricultural production and marketing.

Direct central government interventions in the internal Yemen market economy are limited, but government influence on the economy through macroeconomic policy instruments is highly important. The national government professes adherence to the capitalistic economic model, and it is not deeply involved in domestic resource and output markets. Yet the government exerts strong authority over key macroeconomic policy instruments that have profound effects on the nation's economy. Government policies directed specifically to the agricultural sector are few in number, have relatively limited effects, and absorb few national resources.

Yemen's macroeconomic policies have had generally negative impacts on the economy and agricultural sector. The country maintained a foreign exchange policy that significantly overvalued the rial relative to the dollar. This same policy resulted in the rial being overvalued relative to currencies of Yemen's major trading partners. This policy encouraged and stimulated labor emigration from the rural areas, depressed domestic agricultural production incentives, slowed growth of agricultural incomes, reduced agricultural exports, and activated rapid growth of agricultural imports.

Monetary and fiscal policies exacerbated the negative effects of exchange rate policy by adding to inflationary pressures in the general economy and agricultural sector. Central Bank commercial banking policy discouraged bank lending to agriculture, and interest rate policies discouraged both agricultural lending and rural savings. The limited investment in agriculture not deterred by negative banking policies was diverted to inflation-induced land speculation. Macroeconomic polices have had quite negative impacts on nearly every aspect of the nation's agricultural economy.

Women in agriculture are affected by macroeconomic policies as a direct function of their proportional involvement in the agricultural sector. Because women make up a majority of the rural population and the agricultural labor

force, women have been more affected than men by these policies. Although women have been affected negatively by macroeconomic policies, it cannot be said that these policies have discriminated specifically against women. Women in Yemen have very little independent agricultural production, and that small part of production controlled by women appears to have been no more or no less affected by macroeconomic factors than all other output.

Sector policy impacts on agriculture and rural women are of limited importance. Subsidized agricultural credit lowers costs for commercial poultry operations, which depresses the competitive position of household poultry and egg production. The effect of agricultural taxes is minimal and appears to favor women. Yemen has no identifiable public policies relating to natural resources; land and water usage follows tribal customary laws and Islamic law. Parastatal activity in output markets is not extensive. One poultry and egg producing parastatal receives favorable government treatment, which puts women's household poultry and egg production at some competitive disadvantage. Trade and production input policies have contributed to increased uncertainty in agricultural production and have raised consumer food costs. Agricultural research and extension polices have had little, if any, impact on agriculture or women in agriculture.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

I. INTRODUCTION

This study examines the impacts of national economic and agricultural policies on women in Yemen's agricultural sector. Of central concern are the effects of macroeconomic and sector policies on rural women's agricultural production and income and, in turn, the significance of these effects on the agricultural and the general economy.

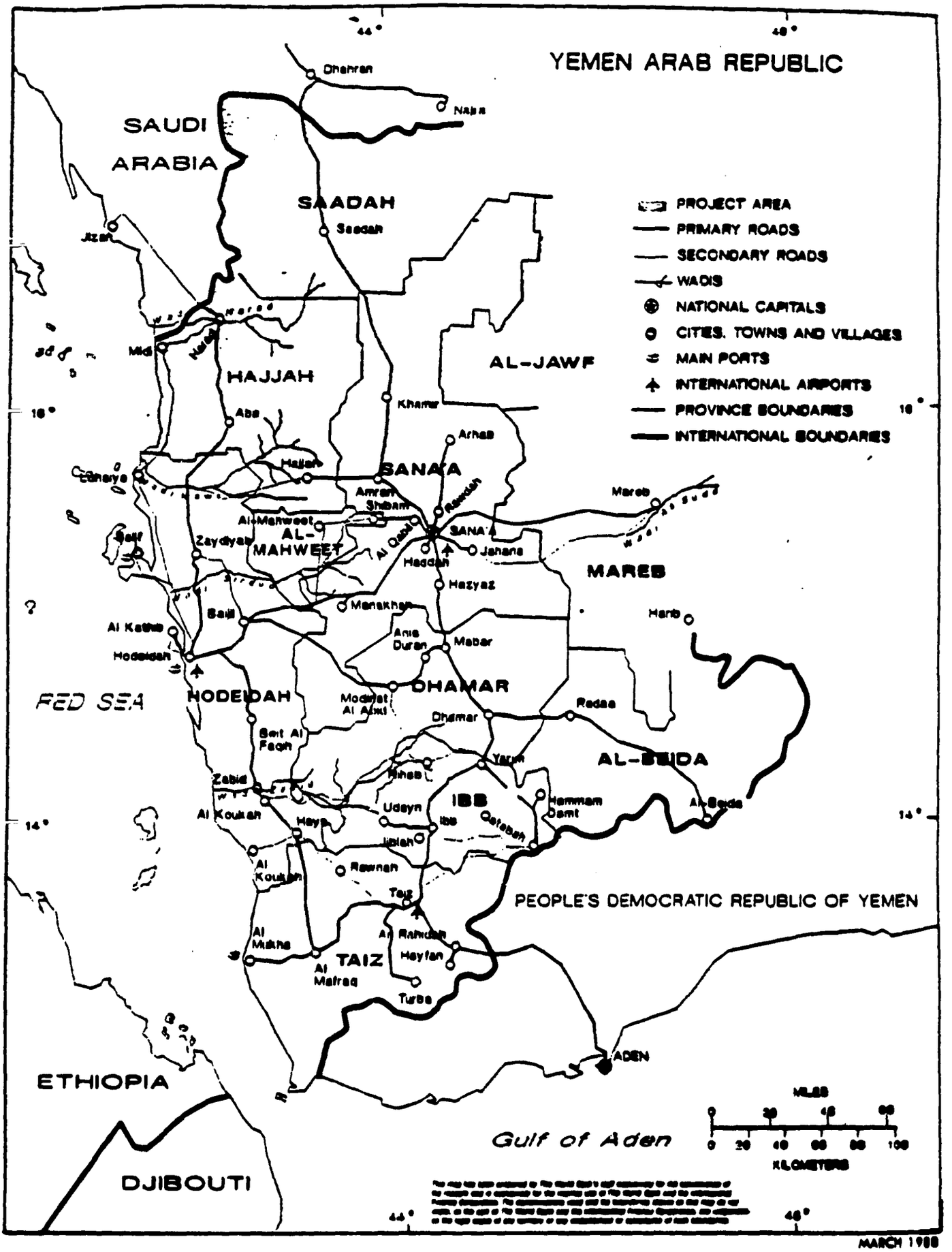
This is one of four country case studies examining the impacts of national public policies on rural women (the other three countries are Guatemala, Thailand, and Malawi). The selection of Yemen as a case study has no particular regional significance or *a priori* implications for anticipated findings. Yemen cannot be considered a representative nation in terms of the array of policies or the effects of the policies on rural women. As a case study, the findings apply only to Yemen.

The study is organized in four main sections. The first section reviews Yemen's economic and agricultural setting, the second examines the role of women in the agricultural sector, the third describes the role of the government in the economy and agricultural sector, and the fourth -- the principal analysis section -- describes and assesses policy impacts. The last section is a brief summary of findings and conclusions.

Overview Of The Yemen Economy

The Yemen Arab Republic (YAR) occupies approximately 194,250 square kilometers and borders on the Red Sea on the west, the People's Democratic Republic of Yemen on the south, and Saudi Arabia on the north and northeast (Figure 1). According to the census completed in 1986, the total population of

emen Arab Republic



251

the YAR was 9.3 million, but more than 1.1 million persons were classified as migrants working outside of the country. Table 1 summarizes demographic characteristics of Yemen. Of note are the high population growth rate (3.3 percent annually during the period 1975-86), low percentage of urbanization, and high infant mortality and illiteracy rates.

Structure of Gross Domestic Product

Before 1962, smallholder subsistence agriculture based on family labor was the predominant economic organization in Yemen; agriculture absorbed more than 90 percent of the country's labor force. Dramatic changes in the structure of GDP in the past quarter century are indicative of an economy that was making a rapid shift from a basically subsistence agricultural economy to one in which modern economic factors were playing an increasing role.

The current structure of the Yemen economy is described in Table 2, which presents Gross Domestic Product data for the period 1981 to 1986. Agriculture remains by far the largest sector, accounting for more than 20 percent of GDP in 1986. The transport and communications sector has grown rapidly during this period, accounting for 12.6 percent of GDP in 1986. Wholesale and retail trade also made up 12.6 percent, and manufacturing (mostly value-added food processing) was 12.2 percent of GDP in that year. High rates of growth for most sectors other than agriculture since 1970 have produced a pronounced shift in the structure of the economy during this period.

Work Remittances and Foreign Aid

A substantial portion of the economic growth that occurred in the 1970s and early 1980s was the result of a large inflow of foreign economic aid and remittances from workers abroad. Worker remittances peaked at about US$ 1.1 billion in 1983, then declined rapidly in dollar terms because of decreased employment opportunities in neighboring countries with the decline in oil prices and a weakening of the Yemeni rial versus the dollar. Table 3 shows

the value of officially recorded remittance flows (those channeled through the commercial banking system) for the years 1982 to 1987. If non-recorded transfers of cash and goods were accounted for, remittances would have been substantially higher than the officially recorded transactions. Rural areas have supplied most of the emigrating labor and have been the primary beneficiaries of remittance wealth.

Foreign aid, particularly from Saudi Arabia, was another key to rapid economic growth. Such aid amounted to more than Y Rls 2 billion in 1982, but declined significantly with the oil price fall in recent years.

International Trade

Yemen's relatively poor natural resource base, its early development stage and negative export policies have limited exports. The discovery and exploitation of oil reserves recently will change this somewhat in coming years, but exports during the first half of 1987 (the latest year for which data were available) amounted to only 112.5 million Yemeni Rials. Agricultural products, such as fruits and vegetables, animal hides and coffee, accounted for the majority of exports, although significant re-exports of imported goods were reported in the mid 1980s.

Officially recorded imports, at 4.5 billion Yemeni Rials for the first half of 1987, dwarf the value of the country's exports. The largest category of imports during 1981 to 1987 was food and live animals (especially grains), followed by machinery and transport equipment, manufactures, and chemicals. Sharp increases in food imports in the late 1970s and early 1980s occurred as agricultural production growth lagged behind growth in food demand. Table 4 summarizes overall trade from 1982 to 1987, and Table 5 presents official exports and imports by category for 1981 to 1987.

Total imports have declined in recent years due to a shortage of foreign exchange and ensuing government restrictions. In addition to official trade, a substantial amount of unrecorded trade (goods smuggled or unofficially allowed entry) has also occurred, especially before 1983.

Government Revenues and Expenditures

The structure of government revenues and expenditures for the period 1981 to 1985 is summarized in Table 6. Import duties and grants from abroad were the principal sources of revenue, accounting for more than 50 percent of total government revenues in all years. Government expenditures on defense, general public services, and education have constituted more than 75 percent of all expenditures in recent years. Despite falling remittances and foreign aid, government expenditures in nominal terms have remained roughly constant since 1982.

Budget deficits, caused in part by rapidly increasing expenditures in the late 1970s and early 1980s, reached crisis proportions in 1982, when the deficit equaled 33 percent of GDP. Although the rise in current expenditures was halted in 1983, budget deficits have remained large (between 15 and 25 percent of GDP) since that time.

The Agricultural Sector

The agricultural sector of Yemen plays a fundamental and critical role in the economic development of the country. Although it is declining in relative terms, it still contributes more than 20 percent of GDP, and provides employment for roughly 70 percent of the population. If qat production is included, agriculture's share of GDP increases to approximately 40 percent. Agriculture has provided and continues to provide nearly all exportable commodities.

The arable land area of the Yemen Arab Republic is about 3.5 million hectares. Land continuously cultivated and most suitable for agricultural production is estimated at 1.35 million hectares. The nature of agricultural production in Yemen varies substantially from region to region, primarily because of climatic and topographic diversity. Five regions are commonly delineated, usually distinguished by differences in cropping patterns and water

sources. These regions are summarized in Table 7, which presents key characteristics and crops grown.

Agricultural practices and methods are highly traditional, with minimal application of modern technologies. The agricultural population has made the best use of scarce land and water resources using a system of terraced cultivation in mountainous areas. Seasonal rainfall from March to May and from July to September provides the main source of water for irrigation.

Farm Characteristics and Land Tenure

Farms in Yemen are characterized by small size, owner cultivation, and subsistence production. According to the 1983 Agricultural Census, more than 50 percent of land holdings were smaller than 1 hectare, and an additional 31 percent of holdings were between 1 and 5 hectares. More than 60 percent of the total cultivable hectares were contained in holdings of less than 10 hectares. Table 8 presents data on the size distribution of agricultural holdings. Larger landholdings are generally found in the arid Tihama and Eastern regions. Even small holdings are significantly fragmented; the average number of plots per farm was estimated at 4.6 in 1983. According to the 1982 Agricultural Sector Assessment,

> the current pattern of land distribution, ownership, and use has largely been determined by the close interrelationship of land and water rights, Islamic inheritance laws, endogamous marriage patterns, the relative scarcity of available land . . . and emigration and remittances. (p.77)

Table 9 summarizes tenure arrangements in six of the eleven governorates of Yemen in 1981. In each governorate, a high proportion of holdings were owned entirely by their cultivators, and a significant additional percentage of holdings cultivated were owned in part by their cultivators. Lands totally sharecropped or cultivated by farmers owning no share in them generally constituted less than 20 percent of holdings.

Agricultural potential in Yemen is constrained by limited water resources. Differences in water sources and availability have created important differences in cropping patterns and land tenure in different regions of the country. Rainfed land accounted for more than 75 percent of cultivated area in 1982, although this has probably declined since then. The principal types of irrigation, including spate, pump well, and spring water, constitute the main water sources for the remaining lands.

Table 10 shows cultivated land classified by principal source of irrigation in 1982. The World Bank reports that 90 percent of the value of agricultural production occurs on 40 percent of the cultivable area (irrigated land and land receiving more than 600 millimeters of annual rainfall). Table 11 summarizes the value of agricultural production by type of water resource.

Crop and livestock production in Yemen (excluding qat) is primarily for household consumption, especially in the rainfed areas, where limitations to production of cash crops prevail. In the Southern Uplands, one of the more productive agricultural regions, a 1984 survey found that nearly three-quarters of families grew crops for family consumption only (Table 12). Only 3 percent of families grew crops exclusively for the market.

Crops

Grain crops occupy 80 percent of cultivated area. Following grains in decreasing order of importance are fruits, vegetables, dry legumes, and other crops. The major grain crops cultivated are sorghum, millet, wheat, barley, and maize. Sorghum and millet, the staple food cereals in Yemen, occupy about two-thirds of the cultivated area. Fruits and vegetables have expanded recently in both area cultivated and volume produced, aided by an import ban imposed on these products by the government in 1983.

Crop specialization is rare, and most holdings are devoted to a grain-fodder-livestock cycle used for subsistence and regional marketing of limited surplus. Landholders continue to devote some of their holding to subsistence crops, even in areas where cash cropping is important.

Coffee and cotton have been the traditional export crops, but the production of both stagnated in the late 1970s and little improvement has occurred in recent years. Qat, a mild stimulant, is cultivated on an estimated 50,000 hectares, yet it generates the majority of value added in the agricultural sector. Other crops grown include potatoes, sesame, grapes, dates, tobacco, and sugarcane.

Crop statistics published by the Ministry of Agriculture and Fisheries have been described as "unreliable and inadequate" but do provide some indication of relative magnitudes and trends in crop production. Table 13 contains FAO crop production data for the years 1975 to 1986.

Livestock

Small farm holdings in Yemen are typically combined crop and livestock operations. According to reports on the livestock industry, 96 percent of farm holdings in the country are classified as such operations. Table 14 summarizes the estimated farm animal population of Yemen from 1980 to 1985, which consisted mainly of sheep and goats, cattle, asses, and chickens.

Sheep and goats are kept primarily for meat production. Little use is made of wool, but milk from both species is commonly made into cheese. The animals are generally grazed on crop residues in harvested fields and on native vegetation on open land. Alfalfa fodder is sometimes given as a supplemental feed, and leftover food and grains may be given to lactating animals.

Zebu is the main cattle breed. Cattle are commonly fed crop residues supplemented with cultivated fodder (mainly alfalfa) and are often hand fed by the women of the household. Oxen are used for draft purposes, especially for land preparation. Cows are frequently kept in the home for milk production and for sale of replacement stock. Little liquid milk is consumed; most is processed into cheese, yogurt, ghee, and butter. Cattle manure is used for fuel and fertilizer, or as a construction material.

Many households keep small flocks of chickens, usually cared for by women. These flocks provide a significant percentage of eggs for local consumption and contribute to rural meat supplies as well. Usually, the chickens range freely, and few supplemental feeds or other inputs are used. Commercial poultry production has been growing more rapidly than any other subsector of agriculture in the past decade. Virtually all of the purchased inputs for the commercial poultry farms (chicks, hatching eggs, and feed) are imported, and the industry has benefited from government restrictions on poultry imports.

Although many of the caveats concerning crop production data are applicable to livestock production data as well, the data again provide some indication of relative magnitudes and trends. Table 15 presents FAO livestock production data for 1975 to 1986.

Marketing, Storage, and Transportation

The 1985 Agricultural Sector Assessment concluded that market channels in Yemen are "basically transport oriented." The country has achieved substantial growth in highway networks since the late 1960s (see Table 16). This expanded road network has contributed to more efficient transportation of goods within the country and the opening of new markets in the rural regions. Many rural areas remain isolated, however, because of the lack of additional road systems.

Agricultural produce transactions at the assembly and wholesale market levels within the distribution channels normally take place through intermediaries, who negotiate prices and help maintain an orderly market flow of products. Such intermediaries are paid commissions by the sellers and under normal circumstances do not take title to the products.

The flow of food products from local food processors or importers to consumers is channeled through regional branches or agents of the processor/importers, wholesalers, and retailers. In a few cases, especially in

urban areas, food processors sell directly to retailers and institutional consumers.

The prevailing system lacks many of the facilities covering packaging, uniform measuring systems, storage and handling facilities, and market information. High losses and waste occur. These problems have contributed to higher market prices and larger price fluctuations.

With the recent development of commercial plantations, especially in fruits (banana and citrus), new marketing facilities are emerging. For example, banana ripening and packaging is now performed in Yemen

Research and Extension

Research at the national level started in 1973 with FAO/UNDP assistance. Research at the regional level has been undertaken by a large number of agencies and donor countries, as well as by the government itself (see technology policy discussion). In 1983, the Agricultural Research Authority (ARA) was established in an attempt to coordinate all applied research in the country.

Yemen has no national extension service; all extension activities are carried out within projects or groups of projects (such as those conducted by the Regional Development Authorities). This situation is the result of an incremental project-based development approach adopted because central management capacity within the government is severely limited. Such disaggregated extension service has led to inefficient linkages between extension and research, particularly where local project managers have established themselves as strong leaders or where they control local project-related activities.

Agricultural Credit

The Cooperative and Agricultural Credit Bank (CACB) is nearly the only source of institutional credit for agriculture. Established in 1982, its mandate is to provide credit for on-farm development and to promote and support agricultural and cooperative associations. Investments in farm machinery and on-farm irrigation (mostly pumps) absorbed the majority of medium- and long-term loans in the mid-1980s. The bank has not been able to collect a substantial portion of its matured loans in recent years, partly because of drought conditions in 1981, 1983, and 1984.

The involvement of commercial banks in financing investment in agriculture has been minimal. The Central Bank of Yemen currently fixes interest rates, and most banks consider the available margins inadequate to cover operational and risk costs. In addition, the government partially finances its budget deficit by offering banks a guaranteed margin over cost of funds with no risk. A situation thus prevails where banks may have surplus funds but are unwilling to finance investment in agriculture.

Much of the funding for investment in agriculture appears to come from remittances. In addition, the magnitude of qat transactions in the agricultural economy, nearly all of which involve cash, means that more than 60 percent of the money supply is outside of the banking system.

Local Development Associations

Local Development Associations (LDAs), created by the government in 1963, are attempts to establish local groups to build basic infrastructure in their respective areas and to encourage self-help rather than central government dependence. More than 500 LDAs existed in 1986, with coordination at the national level under the Confederation of Yemeni Development Associations (CYDA). LDAs represent a decentralized mechanism for meeting basic infrastructure needs (most importantly roads, water supply, schools, and health facilities) based on priorities determined at the local level in the rural areas. Although they are potentially important in evaluating the

agricultural sector, the impact of the LDAs has been described as "uneven." Women have little or no representation in the LDAs.

Recent Sector Performance

In recent years, the total value of agricultural production has grown at rates significantly lower than those of other sectors in the economy. The share of GDP contributed by agriculture has fallen to about one-half of 1970 levels. Viewing the sector as a whole, however, masks large differences in subsector growth rates. According to the draft Third Five-Year Plan, increases in the value of agricultural production were concentrated in vegetables, fruits, and poultry production. This was the outcome of the adoption of productivity-enhancing modern technologies by these subsectors. In contrast, a considerable decline in the production of cereal grains, legumes, cotton, tobacco, and sesame has occurred since 1980. The overall performance of the various agricultural subsectors is presented in Table 17, which shows percentage changes in production during the period of the First and Second Five-Year Plans (1977-81 and 1982-86).

The agricultural economy of Yemen has been undergoing significant structural change since the mid-1970s. One reason for the change is an increase in labor costs resulting from labor migration to neighboring oil-exporting nations, primarily Saudi Arabia. Higher wage rates have contributed to making low productivity grain production less profitable, while increased remittance incomes have allowed investment in alternative means of production for higher value crops such as qat, fruits, and vegetables. According to the 1985 Agricultural Sector Assessment:

> In response to growing income-elastic demand, recent major shifts in land use were caused by productivity differences between crops. Marginal cereal areas went permanently out of production, especially on tenant-operated farms in low rainfall areas. In the meantime, a substantial substitution of very profitable fruit, vegetable, and qat production for cereals took place in high rainfall and irrigated areas. (p.52)

The large flow of remittance funds in the last decade has thus reduced reliance on subsistence agriculture and allowed farms with remittance income to experiment with new crops, new sources of water, and new methods of cultivation.

The high level of population growth coupled with the general economic growth fueled by remittances has given rise to a rapid increase in demand for foodstuffs not met by a corresponding increase in domestic production. Consequently, food imports have risen rapidly during the last decade. This trend was enhanced by the overvaluation of the rial, which considerably reduced the price of imports relative to domestic production.

Numerous studies of the role of women in Yemeni agriculture have been conducted in recent years. Although they are largely descriptive, these studies nevertheless document the crucial role of women, particularly in agricultural production and household maintenance.

Women In Yemeni Agriculture

Women's roles in agriculture are derived from women's roles in the social structure as defined by customary rules (*'urf*), norms, and Islamic law. In evaluating the contribution of women in agriculture, the following are particularly relevant:

- When a women marries, the "property rights" to her, more importantly to her labor, are transferred from her father to her husband.
- Women may inherit land in accordance with Islamic law (although their shares are smaller than those of male siblings), but the extent of women's landholding in Yemen is undocumented.
- A woman's wealth, usually obtained through bridewealth, inheritance or, more rarely, earned income, is in principle hers to dispose of as she desires. In general, it is not used to support the household; this is considered a male responsibility.

In addition, women are expected to behave with a certain decorum, particularly in public. Modesty in dress, quiet polite speech, and submissive behavior are ideals. A severe problem for most rural women is their lack of mobility. They are often restricted to field work and visits to other women within a certain distance.

Adra (1983) points outs the ambivalence with which women's roles in agriculture are perceived:

> Rural women do participate actively in many agricultural tasks, and they value their participation and the mobility this gives them. Simultaneously, women's work in agriculture is sometimes thought to conflict with the prevailing ideology that the man as head of household should be the sole provider for all household members. (p.17)

Roles In Agricultural Production

The household is considered the basic production unit for much of the agricultural activity in Yemen. All household members -- men, women, and children -- will generally contribute labor to the cultivation of the household's fields and to the care of its livestock. The division of labor among household members is in keeping with roles established within the household, but is influenced by societal norms. Although men may take almost total responsibility for the cultivation of certain cash crops (e.g., qat) and women the primary responsibility for eggs and dairy production (some of which enters market channels), most products are destined for household consumption. While exceptions undoubtedly occur, it appears that relatively few women participate in production activities independent of the household unit, i.e., few women cultivate their "own" fields or raise their "own" livestock for sale in the market.

Contribution To Labor

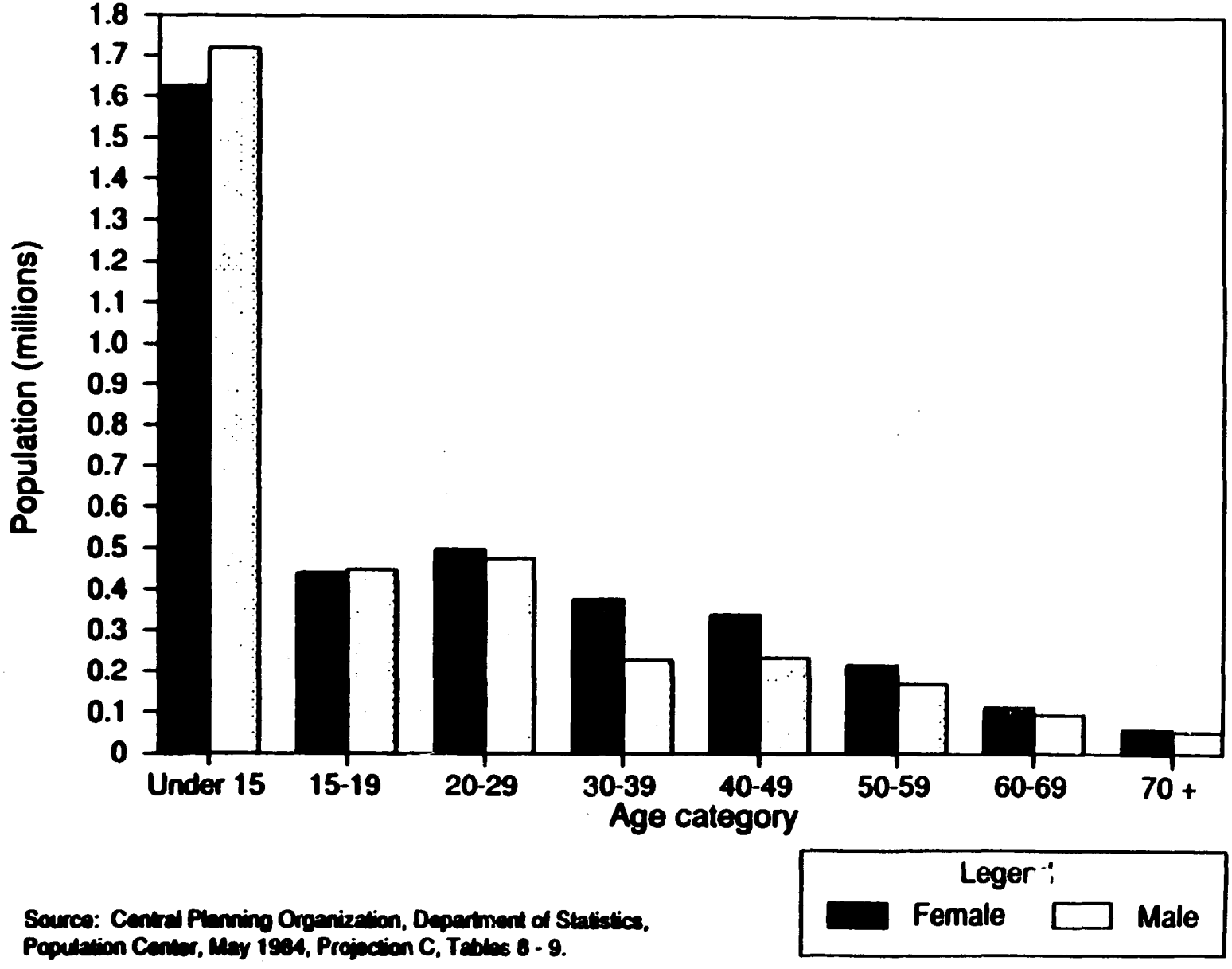
Yemeni women contribute a substantial amount of labor to agricultural production. Various estimates of the proportion of total agricultural labor provided by women have been undertaken in the past decade. For example, Carapico and Hart (1977) quote statistics citing women as "66.5 percent of the total available manpower." Howe (1985) stated that because of male migration "women represent considerably more than half of the resident rural population and perhaps already contribute at least half of the full time adult labor supplied to the agricultural sector." (Figure 2 shows the age distribution of the total Yemeni population by gender. The significant difference in the numbers of men and women of working age is attributable to male migration.) Howe cites "official statistics" that show as many as 45 percent of all women engaged full-time in agricultural production.

A Dutch report published in 1979 stated that between 70 and 80 percent of rural women over the age of 11 were actively engaged in agricultural production in the Rada' area. A more definitive four-province survey of women's participation in the rural labor force was conducted in 1983. The preliminary results of the survey indicate that between 60 and 70 percent of rural women over the age of 10 are either employed or actively seeking work. In the southern regions of the country, 95 percent of the working women are in the agricultural sector, nearly all working as unpaid family laborers. The survey calculated that the average woman works in crop agriculture four to five hours per day, seven days per week, for four months a year. (Because the large majority of land holdings rely on seasonal rainfall, few women work in crop agriculture for the entire year.)

Division of Labor in Crop Production

The specific agricultural production tasks undertaken by women or men reflect regional variations in cropping patterns, water resources, rates of male migration and, of course, individual household differences. For example, Table 18 summarizes the traditional division of labor on spring-irrigated lands. Men are primarily responsible for most production decisions, land preparation,

Figure 2. Age Distribution of the Population by Sex, 1985



Source: Central Planning Organization, Department of Statistics, Population Center, May 1984, Projection C, Tables 8 - 9.

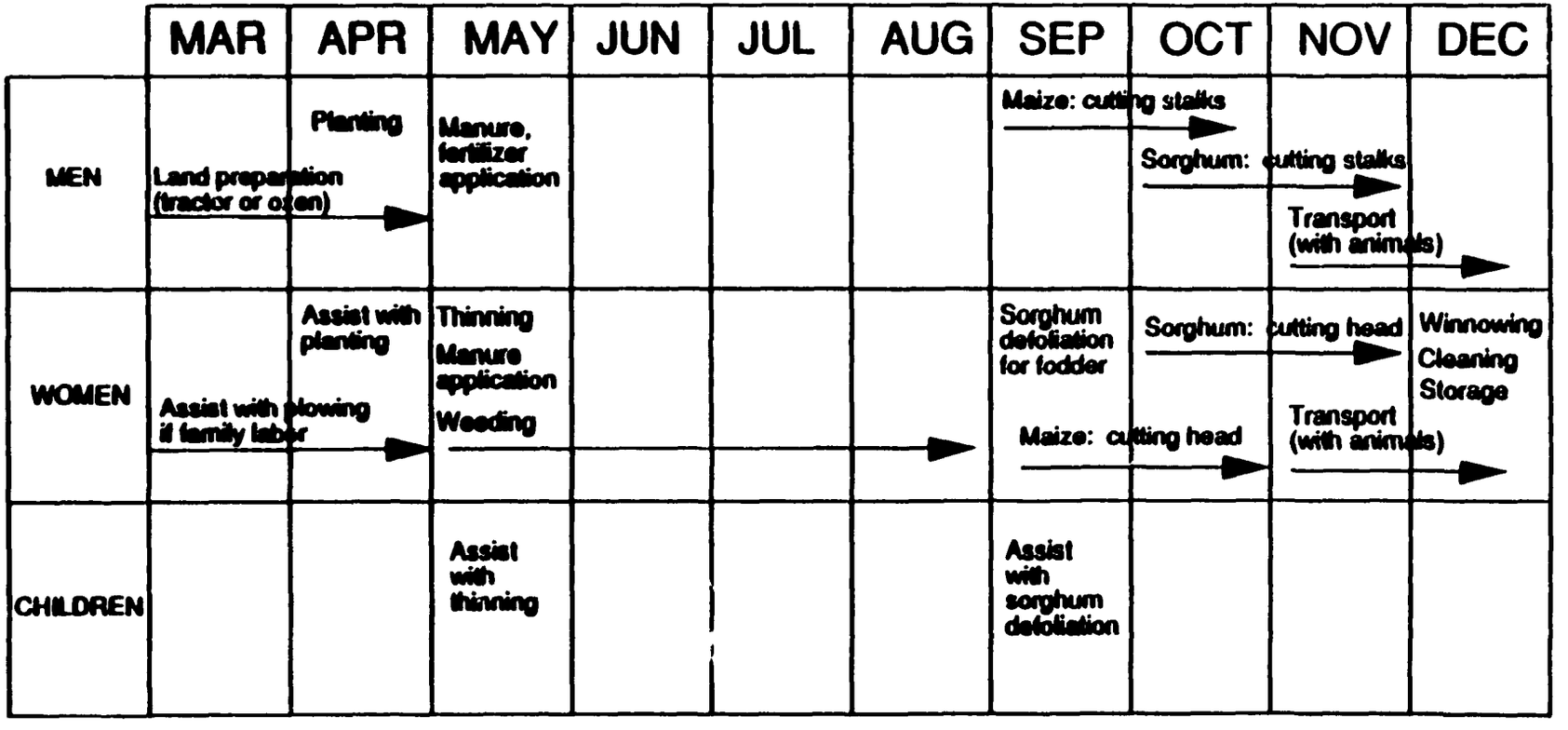
terrace maintenance and repair, and irrigation activities. They are also more heavily involved in production of cash crops such as fruit, vegetables, qat, and coffee. Women are responsible for field maintenance activities such as weeding and contribute to the harvesting and processing of grain crops.

In rainfed areas, where the most commonly grown crops are grains and legumes, women may be responsible for a greater share of agricultural responsibilities. (Figure 3 presents the seasonal division of labor in the grain production common on rainfed lands.) On rainfall-dependent lands, the rate of male emigration has tended to be higher. Women have had to arrange for plowing and terrace repair if they do not take on those tasks themselves. With the introduction of tube wells in many areas, cash crops have been introduced on land that was formerly devoted to grain or legume production. Such lands, which were once marginal or uncultivated, are transformed into intensively cultivated fields. Because this occurs in regions where the majority of agricultural tasks were traditionally considered women's work, women's workloads have increased substantially.

Women may also be involved in wage labor, especially in the Tihama, where seasonal demands for hired labor are high. Women of the Tihama regularly work for wages in crop harvests, and some migration of women from rainfed upland areas for wage labor also occurs. The overall importance of such labor in crop production has not been sufficiently documented.

The role of women in agriculture is not homogeneous, even within agricultural production regions; it is influenced by a number of factors, which are summarized in Table 19. It should also be noted that the gender division of labor is flexible; men will perform "women's" tasks, and women perform "men's" tasks as necessary for successful production.

Figure 3. Seasonal Division of Labor in Grain Production



Source: Yemen Arab Republic Southern Uplands Rural Pioneer Women Development Project Formulation Mission Document, March 1986.

Table 19. Factors Affecting Women's Roles in Agricultural Production

Factor	Comments
Income	Poor women spend more time on domestic tasks, especially water and fuel gathering; they may also spend more time in agricultural activities because they cannot afford hired labor.
Land tenure	Women's role is greater in rainfed holdings of less than 1 hectare; on bigger holdings and irrigated land, women contribute less to field crops, but keep more animals; women in towns may not participate in agricultural activities.
Male migration	Women's workloads increase most among poorer smallholders on rainfed land; there is little change for households that can afford to hire male labor.
Rainfall	Higher rainfall generally implies higher total labor inputs, including women's.
Age	Young girls collect water and fuel, graze and water animals, feed chickens, and carry crops; older girls may prepare meals; older women typically feed and milk cows, process dairy products, and manage household grain stores.
Stage in household	Women with small children may be too busy with domestic work to perform much agricultural labor.

Source: Yemen Arab Republic Southern Uplands Rural Pioneer Women Development Project, Formulation Mission, March 1986.

Division of Labor in Livestock Production

Most of the small farms in Yemen are integrated crop and livestock operations, and women have significant responsibilities in livestock production. In addition to providing animal care and feeding, women as the principal caregivers also have a good deal of autonomy in making livestock production decisions.

The average Yemeni household owns one cow, which is largely fed by-products from cereal production such as sorghum leaves, sorghum stalks, maize stalks, or wheat and barley straw. Often these by-products will be wrapped in leguminous forage such as alfalfa or lucerne. Cows in areas with fewer forage resources are frequently housed on the lower floor of the family dwelling (house cows) and are hand-fed (force fed) to insure feed intake and to conserve scarce forage. House-cow care is perceived by both sexes as a female task and can consume four or more hours a day in gathering fodder, feeding, milking, and milk processing (Dubok and Ytages, 1988). Women assume full responsibility for care and feeding of the cow but often expect their husbands to bear any financial costs related to the cow's well-being. Decisions concerning disposal of an unproductive cow are typically made by women, but it is a male responsibility to market the cow in this event.

In regions of greater forage availability, cows may be led to pasture by young boys, unmarried girls or old women and men. In an extended household in which several women share in domestic agricultural tasks, care of the cow and processing of milk is the responsibility of the old women of the house. Oxen used in animal traction may be fed by women during plowing. Women and children are also primarily responsible for manure collection. Manure is used to make dung cakes for fuel, as fertilizer, or in construction.

Sheep and goats are important sources of meat and dairy products, particularly in the Tihama. On irrigated lands they are also largely tended by women and girls, who water and graze them in addition to processing the milk and wool. These animals are more important on rainfed lands than on

irrigated lands, where they are led to pasture by children or unmarried young adults, although women are still responsible for processing animal products. Donkey care is also provided largely by women, but men traditionally care for camels.

Household poultry is also almost entirely controlled by women. A survey conducted in Mahweit in 1978 found that all women surveyed had been involved in poultry raising at some time in the six months prior to the survey, and two-thirds were doing so at the time of inquiry. Flock size is generally small (four to eight birds), with minimal use of inputs such as feed supplements or veterinary supplies. Nonetheless, the contribution of household production to national meat and egg production is substantial. Table 20 shows total supplies of eggs in Yemen available for consumption from 1982 to 1987. *Baladi* (local) flocks, assumed to represent production for women-controlled household flocks, produced nearly half of the eggs produced in country and more than one-third of all eggs consumed. Although the trend in recent years is toward increased commercial production of both eggs and poultry meat, demand for *baladi* production will continue because of perceived quality differences between commercial and household products. Income received by women from the marketing of poultry products is more likely to be used for household expenses and may be incorporated in the monthly allowance the husband provides his wife.

The Effects of Male Migration and Remittances

Male migration has had a considerable, if ambiguous, impact on the role of women in agriculture. For the country as a whole, decision making by women and the number of female-managed farms have undoubtedly increased with high rates of male absence, but regional and land tenure differences are again important. In principle, migrating males assign a male (usually a relative) the task of "managing" the farm in their absence, but the extent to which such assignees (*wakil*) participate in daily decision making is undetermined. In the Southern Uplands, for example, when no men are

available, "women make the decisions and contract out the difficult tasks to hired labor or even sublet the farm entirely" (SURPWDP, 1986). Myntti (1978) states, however, that for areas of high grain production, women "are not moving into male jobs vacated by out-migration in as much as they have always had a bigger share than men in agricultural work."

Remittance income may give some rural women the choice between engaging in agricultural work or allowing changes in the extent of their involvement, allowing laborers to be hired. The structural changes in agriculture resulting from increased incomes have also affected women's roles. Adra (1983) reports that "wherever qat has replaced grain crops, women's work has declined considerably since their traditional role in qat production is minimal." Associated with the decline in grain production is a decrease in the amount of fodder available for livestock, which may have resulted in a decline in the number of household animals, decreasing women's workloads.

On rainfed lands, the rate of male emigration is generally higher. Women's share of agricultural responsibility has therefore increased because the lower profitability of such lands means that hiring labor is less possible. Women working rainfed lands may not have a higher total workload, however, because fewer fields are cultivated and because time-consuming domestic tasks have been eased by adoption of new technologies.

Role in Agricultural Marketing

In general, the marketing of agricultural produce is considered men's work, although important exceptions occur. Weekly markets are considered a place not only for the exchange of goods but also for exchange of information and tribal decision making. Because markets are a "public" place, many women are excluded from more than minimal involvement in them. In some parts of the country, however, (the Central Highlands and the Tihama, for example) women form a substantial proportion of those present at weekly markets, selling items of their own production such as collected fodder, chickens, eggs, or dairy products. At such markets men sell surplus grain and cash crops. Adra (1983) states that "Women of Jabal Sabir [south of Taiz] in the southern

highlands realize important profits and gain a great deal of economic independence from harvesting and marketing qat." Male emigration has probably also increased the participation of women in marketing activities. At present, few data on the overall importance of women in the marketing system are available.

Role in Household Maintenance

Women's participation in agricultural production and marketing activities can be considered supplementary to their important role in household maintenance. Nearly all household maintenance tasks are traditionally considered theirs, including water and fuel collection, cooking and food preparation, child care, housecleaning, and clothes washing. These activities can consume a considerable amount of time, especially for women in poor households, as is shown in Table 21. These activities may also impose a limit on the amount of female labor available for agricultural activities.

Water collection may involve carrying water up steep mountain trails, when no household cistern or village well exists. Fuel provision includes gathering firewood (especially for the baking of *tannur* breads) and the making of dung cakes, although the use of kerosene and butagas stoves is increasing as incomes rise. Cooking and food preparation are shared by the women and girls of the household. Myntti (1978) described Yemeni cooking as "frugal and less time-consuming than food preparation in other parts of the Arab world," estimating that a maximum of three woman-hours per day would be spent in the kitchen.

Another impact of male migration and remittances has been the adoption of labor-saving technologies (such as gas stoves that reduce or eliminate the need for fuel collection) and investment in infrastructure (such as village water systems that reduce time spent in hauling water). Such technologies could significantly affect women's time allocations, especially in the absence of male household members.

The Policy Setting Role of Government in the Economy

Direct central government interventions in the internal Yemeni market economy are limited, but government influence on the economy through macroeconomic and investment policy instruments is highly important. The national government professes adherence to the capitalistic economic model and is not deeply involved in domestic resource and output markets. Yet the government controls key macro variables that profoundly affect the nation's economy.

Contemporary Yemeni economic policy may be as much a reflection of the government's administrative capacity and structure as it is of the nation's ideology. The central government is still evolving as a national force; public administration and economic institutions are present but nascent. The institutional foundations of a modern nation are established, but government administration, management, and control of all but basic macroeconomic policy measures generally remain quite weak. Whether because of administrative incapacity or because of ideology, the government maintains a low level of domestic marketplace intervention but exerts exceptionally strong authority over key macroeconomic policy instruments.

Since the early 1970s, the government has emphasized development of the nation's human resources and physical and institutional infrastructure. Starting in 1973, four different economic plans have guided development. The first plan (1973/74-1975/76) was little more than a listing of some priority public investment projects. The next three plans were for five-year periods (1976-80, 1981-86, and 1987-92) with each being successively more comprehensive and detailed. Public, private, and foreign investments have been channeled to government-established priorities through these plans. Consequently, the government has played a major role in guiding development investment.

The government's control of foreign monetary grants and financial and technical assistance has been and continues to be a potent policy tool. Foreign financial grants accounted for nearly 25 percent of total government

revenues during the 10-year period from 1976 to 1985. Foreign assistance has been critical in the financing of budget deficits, including current expenditures and public investment. Foreign aid has not been provided only for budget support; a sizable part of total assistance has been channeled through food aid, technical assistance, and foreign training. Although foreign assistance dropped sharply after 1982, one source estimates that total financial assistance, not including other forms of assistance, exceeded US$ 3 billion during the 1962-84 period.

Government and International Monetary Fund (IMF) data indicate that government revenues, excluding foreign grants, averaged 18.5 percent of GDP from 1982 to 1987. The same data also show that total government expenditures averaged 42 percent of GDP during this period. Both figures appear to be somewhat high for a nation at Yemen's state of development and may be overstated because of GDP underestimation. If accepted at face value, these ratios imply that the government's role in the economy is by no means insignificant.

According to IMF and Central Planning Office data, Yemen's gross capital formation ratio averaged nearly 30 percent of GDP during the 1970s and early 1980s. The ratio fell starting in 1983, but still averaged more than 20 percent in the 1983-86 period. These data indicate that the public and mixed sectors accounted for close to half of gross investment during the First Five-Year Plan and nearly two-thirds of the investment in the Second Five-Year Plan. While the investment ratios may be overstated because of GDP under-reporting, the relative contributions to gross investment by the public and private sectors appear reasonably realistic. If this is an appropriate interpretation, it suggests that the government's direct investment role in the economy is substantial.

Although revenue/GDP ratios are perhaps overstated, the relative shift in sources of government revenue over the past decade or so implies an increasing role played by the government in the economy. In the mid-1970s, import taxes were about two-thirds of total government revenues excluding foreign grants. Ten years later, less than half of non-grant government

revenues were derived from import taxes. While import taxes remain the most important source of tax revenue, the enhanced revenues from other sources indicate a growing government administrative capacity to influence economic activity.

Yemen's economy is highly dependent on remittances for foreign exchange earnings and acutely dependent on imports of food, consumer, intermediate, and capital goods. Foreign exchange plays a critical role in the economy, and the exchange rate is undoubtedly the country's most important price. Since establishment of the national currency in 1964, the government -- directly or indirectly -- has maintained control over this price. Control of the exchange rate (and access to foreign exchange) is a powerful policy instrument and a tool the government has not hesitated to use in attaining its economic and political objectives.

Yemen's international import trade operates under foreign exchange access restrictions, quantitative and qualitative restrictions, selling margin restrictions, investment approval restrictions (for intermediate and capital good imports), and the restrictions (or liberties) of political favoritism. The type, degree, and magnitude of restriction invoked varies as a general function of foreign exchange availability. Exports are relatively unrestricted and are quite unimportant; total merchandise exports have averaged less than 1 percent of aggregate merchandise imports over the past decade.

Intervention of the public sector in the domestic input and resource markets is limited. Publicly owned concerns manufacture cement, textiles, matches, medicines, and printed matter. Parastatals produce, import, distribute, and retail foodstuffs and consumer goods; purchase and export all raw cotton; and control petroleum product refining and wholesaling. These entities apparently do not constitute a major operational drain on the public treasury; operating costs are not visibly subsidized, although capital establishment costs are borne by the government.

Yemen has a free market for labor. There are no minimum or maximum

wage controls in the domestic market and no restrictions on labor migration or foreign wage remittances.

There is some question as to whether price controls at the retail level are imposed by the government. A USAID/Yemen official claimed that retail establishments were occasionally closed temporarily because of price control violations. This was contradicted by a Yemeni government official who contended that retail price controls did not exist and were never imposed. The issue was further confused by another respondent's contention that the government's only action at the retail level was the requirement that retail prices be posted for consumer information (the authors did not observe any indication of price controls or retail price posting in any retail establishment).

A number of observers have characterized Yemen as the epitome of a laissez-faire economy. This characterization does not appear valid. Compared with many developing nations, there is certainly a general absence of direct government intervention and participation in the domestic marketplace. But to conclude that governmental influence in the economy is minimal because of the absence of internal market activities is to ignore the government's extensive and commanding role in the control of key macroeconomic policy instruments. The effects of these policies are immensely more powerful than the impacts of all market regulation instruments combined.

Government and Agriculture

Government policies directed specifically to the agricultural sector are few, have relatively limited effects, and absorb few national resources. Without question, government policy actions profoundly affect the nation's agricultural economy, but (apparently) not by deliberate intent. Agriculture appears to benefit or suffer from government policy by a sort of "ricochet effect" -- the effect occurring when a policy action aimed toward resolution of a specific economic problem "ricochets" off the intended target and unintentionally or unexpectedly affects another economic activity. In the case of Yemen's agriculture, the ricochet effects of certain macroeconomic

policies appear to be more pervasive and consequential than the aggregate effect of all sector-oriented policies.

The magnitude of national and international resources allocated to Yemen's agricultural sector is difficult to determine. Official financial data are highly aggregated and obscure the generally common indicators of public resource allocations -- budget of the Ministry of Agriculture, government investment in agriculture, and Ministry wage and salary expenditures.

Available data coupled with staffing pattern information of the Ministry of Agriculture and semi-autonomous agricultural entities suggest that the public agricultural sector is very small. Including national contributions to all foreign-assisted programs and projects, agriculture probably accounts for considerably less than 5 percent of total government current expenditures. Public investment in agriculture is a matter of conjecture, but it may be relatively more important than current expenditures, given government support for rural roads and irrigation project development.

The critical and most important manifestation of the government's role in agriculture is not the level of budget support to the sector. Rather, it is the impact of government-articulated goals on foreign assistance to the sector. Sector and national goals are explicitly articulated in the Five Year Economic Plans. In operational terms, these goals are reiterated frequently in the development and implementation of foreign assistance projects. The Ministry of Agriculture has no notable action projects or programs; essentially all Ministry development activities are tied to and carried out through foreign-assisted projects and programs.

The Ministry of Agriculture is just one of several development entities in the public agricultural sector. The great bulk of the nation's agricultural development activities is assumed by Regional Development Authorities (RDAs, also known as Regional Development Projects). These semi-autonomous public entities are responsible for integrated rural development activities carried out with bilateral or multilateral foreign financial and technical assistance. In principle, directors of these authorities report to the Minister of Agriculture.

The budgets, however, come directly from the Ministry of Finance. The total resource base of the RDAs appears to be considerably greater than that of the Ministry of Agriculture.

The autonomy of the RDAs, the heterogeneous regional tribal identities, and the relatively impotent Ministry of Agriculture make it very difficult -- virtually impossible -- to develop and implement national agricultural policies and programs. These difficulties are compounded by the diverse development approaches of the various bilateral and multilateral assistance entities, projects, and programs attached to the RDAs and to the central Ministry of Agriculture. The somewhat limited coordination of international assistance seems to complicate further a very difficult and complex national agricultural policy milieu.

Scope and Limitations of Analysis

The following sections describe and assess recent and current macroeconomic, sector and, when relevant, subsector government policies. The theoretical basis for the analysis is neoclassical economics. The analysis concentrates on the effects of policies on the agricultural sector and more specifically on women's agricultural production, income and employment, and trade and consumption within the context of sectoral or subsectoral impacts.

It is important to note what is <u>not</u> addressed in the analysis. Very specifically, the analysis does not assess the tertiary impacts of policies even though these may be as important -- perhaps in some cases more important -- than the more evident primary and secondary effects. Thus, the analysis does not examine the nature, magnitude, and distribution of policy impacts within the family or household. Although this would be an interesting area of inquiry, the data available do not support testing of the hypotheses that might be advanced on this subject.

Time and resource limitations severely constrained the collection of information and data and the analysis of policies and their impacts on rural women. Logistical support from USAID/Yemen during the authors' eight

working days in country was excellent, but this could not compensate for the paucity of reliable data and information. Policy descriptions and analyses are therefore somewhat brief and often incomplete, but, it is hoped, not erroneous or misleading.

II. AGRICULTURAL AND ECONOMIC POLICIES DESCRIPTION AND ASSESSMENT

Macroeconomic Policies

Economic and policy-implementing institutions are as new to Yemen as the modern state. Prior to 1963, the country issued no national currency, and the first paper currency did not circulate until 1964. Although Yemen became a member of the World Bank-IMF system in 1970, legislation authorizing the creation of a Central Bank was not passed until 1971 and the Ministry of Finance was not established until 1974.

The practice of macroeconomic policy making is as new as the institutions, and the roles and responsibilities of different institutions appear neither constant nor transparent. Key institutional players in the macroeconomic policy milieu are the Central Bank, the Central Planning Office, the Ministry of Finance, the Ministry of Economy, Trade, and Supply and, depending on the issue and conditions, other public and private entities as well as influential individuals.

Institutional policy-making roles are inconstant, but the execution and implementation of policies are even more mutable. Observers of the national scene frequently note the "absence" of policies and tend to characterize policy actions as "reactions to current economic realities" rather than as the implementation and guidance of established policy instruments. Indeed, some of the measures employed in response to recent economic realities facing the nation have been somewhat less than subtle (e.g., total import bans, closing of moneychangers). Of course, it must be recognized that the nature of the Yemen economy precludes the use of many policy instruments employed by industrial economies.

The following review and assessment of macroeconomic policies is somewhat superficial and incomplete. Only limited information was available regarding the nature of policies, and, almost universally, data were not in sufficient abundance or form to assess -- even partially -- the effects of policy actions.

Monetary Policy

An estimated two-thirds of the nation's liquidity is held as cash outside the banking system. Therefore, relative to the size of the economy, the formal Yemen banking system is small. It consists of the Central Bank, three publicly controlled specialized banks (housing, industry, and agriculture), and nine commercial banks. One of these, the publicly controlled Yemen Bank for Reconstruction and Development (YBRD), controls three-fourths of all the banking sector's loans and holds all government deposits, and consequently functions as a major vehicle in Central Bank policy actions. Other financial institutions include three pension funds, an investment and finance company, and three insurance companies. There are no organized credit unions, savings or lending associations, or credit cooperatives. There is no formal capital market.

In principle, the Central Bank is vested with full authority to execute a complete array of monetary policies. In practice, however, the Central Bank has only a few employable instruments with which to implement policy. Money supply is "controlled" through statutory reserve requirements and voluntary liquidity requirements; interest rates are established by decree; foreign exchange is (currently) rationed through various direct or indirect import controls; and activities of the informal financial system are controlled by law.

A cursory review of the Central Bank's policies reveals a policy matrix that could perhaps most kindly be termed confusingly perverse. Certainly, the underlying policy objectives do not appear clear unless it is assumed that the objective is to minimize the banking system's role in the economy. Perhaps this is the objective, but if so, reasons for the intention are puzzling. A

brief examination of four elements of Central Bank policy illustrates the confusion.

The Central Bank controls institutional interest rates (Table 22) by decree. Interest rates on time deposits held by the public currently range from 10 percent for short-term deposits to a maximum of 13 percent for deposits held more than one year. These rates were established in 1987; they had previously been fixed at 9.5 and 12 percent. With inflation running at 25 to 40 percent during the past three years, the penalty for savers is (potentially) onerous; the average negative interest rate has been more than two times the nominal interest rate.

Banks face equally (potentially) onerous penalties in extending credit. The highest interest rate allowed on bank loans is currently 15 percent, about half the inflation rate. By loaning money at this rate, banks would "pay" a sizable interest rate premium to borrowers. It is not surprising that banks are reluctant to lend money under such conditions.

In addition to the negative interest rates, the cost of funds to banks for periods of more than about three months exceeds deposit interest rate ceilings. Cost of funds is estimated to exceed minimum required deposit rates by 10 percent (not 10 percentage points). Needless to say, banks do not accept deposits other than for very short terms.

As if the negative interest rate and cost disincentives were insufficient to discourage bank loans, the Central Bank stands ready to purchase excess deposits from the banking system at a 2 percent spread over the banks' cost of funds. Banks can lend to the Central Bank without risk, without administrative costs, and without concern; the funds are readily available at any time.

The effect of any one of these elements obviously strongly discourages commercial banking activity. The combined effect -- coupled with a commercial code that seriously discriminates against lenders -- is essentially to

limit the banking system's economic role to that of holding current demand transactions deposits.

Until late 1986, the large informal financial system was permitted to operate without government or Central Bank control. This system has long played an important banking role in the economy. Dominated by large moneylenders handling transactions amounting to perhaps US$ 1 billion a year, the system transacted foreign exchange, handled the bulk of remittances from abroad, held deposits, and made and received loans.

The Central Bank closed large moneylender operations in November 1986 (small moneylenders were not affected). The decision eliminated a significant part of the informal internal banking system and permitted the Bank to seize monopoly control of legal foreign exchange transactions. Although it was unregulated, the informal system served a functional and critical role as financial intermediary in the economy -- a role not permitted commercial banks by Central Bank policy.

The Central Bank rationale for restricting commercial bank financial activity and the informal banking activities of large moneylenders is presumably to reduce liquidity in the economy. The policies appear to be ineffective because much of the economy's cash lies outside the control of the Bank. Not only do these policies seem ineffective in achieving intended objectives, domestic saving incentives are undoubtedly destroyed while direct capital outflows or "outflows" in the form of unreceived remittances, speculation in real assets, and hoarding of wealth (as foreign currencies or liquid assets such as gold) are encouraged. At best, the Central Bank's monetary policies appear counterproductive. At worst, the policies probably contribute significantly to unproductive and negative economic activity.

Fiscal Policy

As in the case of monetary policy, Yemen's fiscal system is also relatively new. Most of the existing taxes were enacted during the period between the late 1960s and mid-1970s. Previously, the principal tax levy was the religious

tax, or *Zakat*, payable in accordance with Islamic law. Starting from a low base, government revenues soared during the 1970s and 1980s with the introduction and collection of "modern" taxes; that is, income, expenditure, and production taxes. In 1970, tax revenues were just over 4 percent of GDP; by the mid-1980s, this ratio averaged 18.5 percent.

Government expenditures have significantly outpaced revenues, and the government has run a budget deficit since national account data were first collected in the early to mid-1960s. The deficit did not become a concern until the early 1980s, when the magnitude of foreign grants dropped sharply and became insufficient to cover the rapidly growing expenditure-revenue gap. Consequently, the government turned increasingly to the Central Bank for financing the deficit.

A high proportion of the government's budget deficit has been financed domestically, and, given the absence of a financial market and the presence of inflexible, restrictive banking controls, virtually all of the financing has derived from the Central Bank. The direct effect has been to increase the money supply. The expansionary effects of borrowing from the Central Bank have contributed to inflation, further widened the government deficit, and exacerbated the widening gap in the balance of payments.

Revenue Sources

In the past decade, taxes have accounted for about two-thirds of total government revenues. Taxes on international trade -- more specifically, import duties -- constitute the most important source of government revenue. Customs revenues currently make up more than half of total government revenue, excluding foreign grants, down from a level of 60 to 70 percent in the mid- to late 1970s. Dependence on such revenues reflects not only the relative administrative ease of collecting border taxes, but also Yemen's dependence on imports.

Since 1983, a drop in imports and improvements in tax administration have shifted revenue sources. A combination of direct and indirect taxes

(income, profits, goods, and services) as well as non-tax revenues (government oil profits) is now nearly as important as import duties.

Export taxes are unimportant and a negligible source of government revenue. An item-by-item review and assessment of government tax and revenue sources is beyond the scope of this analysis, but it is useful to examine briefly the nature of import taxes. The structure of import duties appears to reflect a variety of different objectives, including raising revenue, protection of domestic industry, maintenance of "low" prices for important consumer goods, political favoritism for certain socioeconomic elements/groups, and the discouragement of smuggling.

Four types of taxes are imposed: a customs duty at various rates as specified in the customs tariff; a "defense tax" levied at 5 percent on all nonexempt imports; a "statistical tax" of 2 percent levied on all nonexempt imports; and a 2 percent "tax on tax" surcharge that is collected and transferred not to the central government but to the Confederation of Yemeni Development Associations for distribution to the Local Development Associations.

Determination of the effective tariff rate is difficult. Certain types of goods are exempt from the "defense" and "statistical" taxes, and computation of the duty charged has been based on an artificially pegged exchange rate rather than on the official or market exchange rate. The calculation is further compounded by false declarations in order to shift imports to categories that are taxed at lower rates. Although there are exceptions (see production input policies), in general it appears that intermediate and capital goods have relatively lower tax rates than consumer goods, especially finished consumer goods and those goods considered nonessential.

Expenditures

Published government expenditure data provide gross indications of expenditure trends and magnitudes but little insight into government policy orientation. From the mid-1970s to the mid-1980s, more than 35 percent of all

public expenditures were for capital investment. The bulk of current expenditures goes to wage and salary payments. Interest on public debt has been a relatively minor item, never reaching more than 8 percent of annual total expenditure levels through FY 1987.

International Trade Policy

The Yemen economy's performance over the past two decades has been heavily dependent on worker remittances. Estimates of the number of workers abroad during the 1970s and early 1980s range from 500,000 to 1 million, or somewhere between one-quarter and one-third of the male labor force. Recorded remittances amounted to about two-fifths of GDP in the late 1970s and currently account for about 30 percent of GDP. Some sources estimate that an amount at least equal to recorded remittances has been brought back into the country in the form of cash and goods.

The average real rate of growth of Yemen's economy since the mid-1960s is officially estimated at 6 percent per year. This is an exceptionally high growth rate over an exceptionally long period of time. Such rapid and sustained growth brings about demands few economies can meet. Certainly, the Yemeni economy was not in a position to satisfy these demands even partially. Food demand alone was growing at estimated annual rates of 5 to 7 percent. Few nations have sustained agricultural growth of this magnitude over two decades. Similarly difficult conditions prevailed in other key sectors such as housing, education, and health.

Until five years ago, the government's policy response to this rapid demand growth was to permit it to be satisfied -- virtually unchecked -- through imports. Import growth exploded. According to IMF data, value of imports was more than 50 percent of GDP from 1975 through 1986. Food and live animal imports made up close to one-third of total imports during this period.

Earnings of the Arabian peninsula petroleum producers peaked in 1981, and the effects were quickly transmitted to the Yemeni economy. Remittances

and Arab donor aid dropped dramatically between 1981 and 1983. With the decline in foreign exchange inflows, the government attempted to maintain demand levels by increasing spending (see fiscal policy discussion above). The domestically financed deficit jumped from 10 percent of GDP to 28 percent of GDP between 1981 and 1982. With the stimulus of deficit spending and an unchanged rial-dollar exchange rate, imports reached a record level of US$ 2.6 billion in 1982. Although the country borrowed to finance imports, foreign exchange reserves fell rapidly, dropping from US$ 1.3 billion at the end of 1980 to US$ 600 million by the end of 1982.

The year 1983 marked the end of one era for Yemen's international trade policy and the beginning of the current one. By 1983, fiscal and external imbalances had increased to such a magnitude that the government had to make major policy adjustments. For the first time in the nation's recent history, foreign exchange was no longer plentiful; demand for foreign exchange had to be curtailed and/or foreign exchange had to be rationed.

Initially, both types of measures were implemented by tightening import license and investment project approvals, establishing import quotas, reducing or eliminating custom exemptions, increasing tariffs, and banning certain imports. These measures were insufficient to halt balance-of-payments deterioration. By late 1983, the government had no choice but to abandon the rial-dollar exchange rate that had been fixed for a decade. With the abandonment of the pegged rate, the rial fell from an official rate of 4.5623 per dollar in late 1983 to 5.86 in 1984, to 8.10 in 1985, and reached 12.25 per dollar in late 1986, a 170 percent depreciation in less than three years.

The very significant modifications to international trade policy that started in 1983 continue to the present. Some of the changes taking place over the past five years are modifications of degree, some are new policy implementing actions, and still others seem to be quite fundamental shifts in doctrine. A variety of the measures currently used to ration foreign exchange, that is, import licenses and investment project approvals, were "on the books" prior to 1983; these measures are currently more rigidly enforced. Import bans are new but could be considered the equivalent of an infinitely

high duty. Clearly, however, the closing of large moneychangers' operations and the consequent seizing of monopoly control of foreign exchange sales by the government are policy shifts of a different order, signaling a fundamental shift in the government's economic doctrine.

Investment Policy

A review of Yemeni public policies reveals few, if any, policies that are directly and specifically oriented to influencing private investment. Clearly, the official policy of the government is to encourage private sector development. This is doctrine. But doctrine and the operational application of doctrine may be quite different. This appears to be the case for Yemeni investment policy.

Weidemann and Sharif note that Yemeni "businesses do not operate in the policy environment, they operate in the regulatory environment" (p. 54). This is a valid observation, but it is perhaps incomplete. Investment decisions certainly are very much influenced by the existence of government regulations. But in Yemen these regulations are conditioned by a macroeconomic policy environment commandingly controlled by the central government. Yemeni businesses must thus operate in both a regulatory and a (macroeconomic) policy environment.

Many of the current regulatory measures that influence Yemen's private investment decisions derive from the "new era" conditions of foreign exchange scarcity. Hence, regulatory measures are directed less to the control of investment than to the control of foreign exchange access. To the investor, of course, this is academic; the effect is to constrain business activity. Indeed, import license requirements, import bans, investment project approvals, restrictions on foreign currency credits, foreign exchange access restrictions, and government attempts to control certain profit margins obviously constrain business activity. These constraints no doubt concern the investor. But for the economy, the central issue is how regulations and macroeconomic policy actions affect the type, nature, and direction of private investment.

The limited information available indicates that among the various investment categories, real estate captured the largest volume (46 percent) of private investment between the mid-1970s and mid-1980s. Manufacturing investments made up only 12 percent and investments in agriculture some 8 percent of the total. Regarding investment in agriculture, Weidemann and Sharif note,

> Investments in agriculture were concentrated in agricultural machinery, and with the exception of broiler farms, investment in commercial farming was minimal. The pattern of investing in real estate has led to high land values, which has implications for agriculture as a land-intensive business. If a return on investment in land is calculated, the returns to agricultural production *per se* are minimal. (p. ii)

Yemen's private investment has been concentrated in real property -- a traditional investment refuge. Government regulations relating to real estate investments are far less bureaucratically burdensome and less costly in terms of initial foregone returns, baksheesh, and so on than are "project" capital investments. But longer term returns to "project" capital investments are generally much higher than to land investments. The fact that real estate investments are capturing such a large magnitude of new investment when returns are minimal strongly implies that investors are seeking refuge from inflation or from policies that presage future inflation. This sort of response by investors is not a reaction to business regulatory measures; it is a response to wealth-ravaging macroeconomic policies.

Assessment of Macroeconomic Policy Impacts

Yemen's monetary, fiscal, trade, and investment policies are inseparably interlinked. But because trade -- the export of labor and the import of goods and services -- plays such a critical role in Yemen's economy, it is appropriate to focus the macroeconomic policy assessment on the effects of trade policy and, more specifically, of exchange rate policy.

As noted previously, the exchange rate is undoubtedly the most important price in the Yemen economy. Policy makers maintained the nominal dollar price of the rial without change from 1973 to late 1983. This was an economically turbulent period that saw the dollar depreciate and then rapidly appreciate to unprecedented heights relative to major international currencies. Nations that fixed the value of their currencies to the dollar during this period received all of the benefits and paid all of the consequences of the fall and rise of the dollar. Because the rial was pegged rigidly to the dollar, Yemen participated fully in the dollar's exchange rate fluctuations.

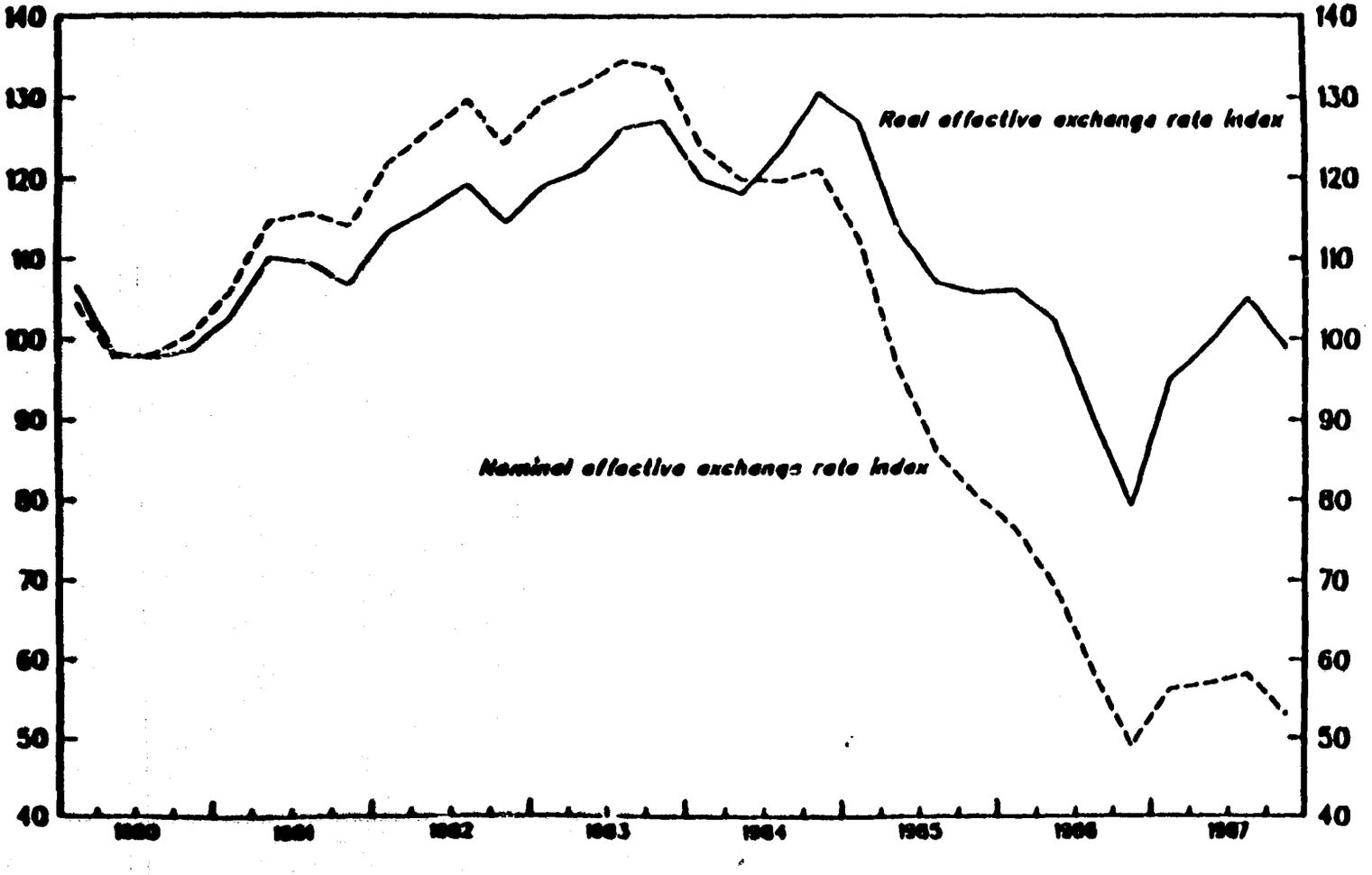
There can be little question that the rial was clearly overvalued relative to the dollar beginning in the early 1980s, and probably before then. The magnitude of overvaluation and the period when significant overvaluation first became apparent cannot be estimated accurately from the data available.

The degree of the rial's overvaluation relative to other currencies is also a matter of conjecture. Most of Yemen's imports come from nations that are not part of the dollar block. In light of the dollar's relative position during the past two years, the conclusion could be reached that the rial was significantly overvalued -- relative to other currencies -- even after it had been allowed to depreciate relative to the dollar in late 1983. This conclusion is supported by the data of Figure 4, which show the 1980-87 real exchange rate index of the rial relative to trade-weighted currencies.

The most obvious effects of an overvalued currency are to encourage imports and discourage exports. Indeed, the volume and value of Yemeni imports exploded during the 1970s and early 1980s, while exports, except for labor, collapsed. Labor exports (emigration) continued at high levels because income opportunities in next-door Saudi Arabia were so many times greater than in Yemen, even with the high implicit tax of an overvalued rial. Rial overvaluation stimulated emigration. Yemeni workers were willing to emigrate because the value of their labor -- after taking into consideration all emigration transactions costs -- was far greater abroad than it was in domestic (mostly agricultural) production.

Figure 4. Yemen Arab Republic Nominal and Real Effective Exchange Rates, 1980-87

(1980 = 100)



Sources: Data provided by the Yemen Arab Republic authorities and IMF, International Financial Statistics.

The common primary effect of currency overvaluation is usually the price effect on output markets; a nation's domestic production is unable to compete in international markets because the domestic output price is too "high." Factor market price effects are usually fairly unimportant because nations can and often do compensate by subsidizing imported inputs. Domestic labor prices typically do not reflect international wage rate disequilibriums because of the relative immobility of labor.

The case of Yemen is unusual. Yemeni labor is highly mobile across the nation's borders; there are no notable barriers to emigration, and emigration transactions costs are relatively low. In Yemen's case, therefore, international wage rates are as important as international product prices in determining the competitive position of the nation's domestic production. With rial overvaluation, Yemen producers face the double disincentives of "low" international product prices and "high" international input prices -- high input prices for all of their inputs including labor.

For Yemen, currency overvaluation yields a double whammy. The economic costs and penalties of overvaluation are much greater and far more pervasive in their effects than for nations in which labor mobility is limited.

Because a large proportion of Yemen's production is agricultural production, agriculture has borne the brunt of the costs and penalties. According to many analysts, agricultural exports have stagnated because of labor shortages. This is an incomplete and misleading explanation. A more accurate explanation is that because of rial overvaluation, Yemen's export producers have not been able to compete in either world output or world input markets. On the one hand, they face low rial prices for their outputs. On the other hand, they face high rial prices -- international wage rates -- for labor, a key input in the production of the nation's traditional exports of coffee and cotton.

The effect of rial overvaluation on Yemen's coffee and cotton production is apparent. But it is not just the production of exported goods that is negatively affected; the production of any good facing international competition is negatively affected. Currency overvaluation overvalues domestic production and undervalues internationally traded production. Relative to the price of domestically produced goods, currency overvaluation makes imported goods inexpensive relative to domestic substitutes.

That is precisely what occurred in Yemen; imported food became inexpensive relative to domestically produced food and substituted for it in the market. This drove down the price of domestic food and the value of labor used to produce it.

Baladi products -- in the eyes of the discerning local consumer -- are totally different from "similar" imported goods. In aggregate food demand, imported foods obviously substitute for domestically produced foods: no other conclusion can be reached given the dramatic rise in food imports since the early 1970s. These imports have certainly not been fed to animals.

Yemen's macroeconomic policies have had generally negative impacts on the economy and the agricultural sector. The country maintained a foreign exchange policy that significantly overvalued the rial relative to the dollar. This same policy resulted in the rial being overvalued relative to currencies of Yemen's major trading partners. This policy encouraged and stimulated labor emigration from the rural areas, depressed domestic agricultural production incentives, slowed growth of agricultural incomes, reduced agricultural exports, and activated a virtual deluge of agricultural imports.

Monetary and fiscal policies exacerbated the negative effects of exchange rate policy by adding to inflationary pressures in the general economy and agricultural economy. Moreover, Central Bank commercial banking policy

discouraged bank lending to agriculture, and interest rate policies discouraged both agricultural lending and rural savings. The limited investment in agriculture not deterred by negative banking policies was diverted to inflation-induced land speculation. In sum, macroeconomic polices have had quite negative impacts on virtually every aspect of the nation's agricultural economy.

The impacts of macroeconomic policies on women in agriculture are a direct function of their proportional involvement in the agricultural sector. Because women make up a majority of the rural population and the agricultural labor force, women have been more affected by these policies than men. Because the effects of macroeconomic policies are so broad and pervasive, distributional impacts within the agricultural sector cannot be assessed. Although women have been affected negatively by macroeconomic policies, it cannot be said that these policies have discriminated against women. Women in Yemen have very little independent agricultural production and that part of production controlled by women appears to have been no more or no less affected than all other output.

Sector Policies

Taxation Policies

Excluding taxes on international trade (see international trade policy discussion), Yemen agriculture is subject to only two types of taxes. The basic tax is the *zakat*, a religious tithe sanctioned by Islamic law. The other tax is an excise tax on qat.

The *zakat* is not specific to agriculture. Applied to agriculture, however, it corresponds to 5 percent of gross value of production from well-irrigated areas and 10 percent of the production value from all other lands. Collection and administration of the *zakat* is apparently shared by the church and the government in ways not fully understood by the authors. Revenue from the *zakat* is utilized by the local mosque and community.

The tax on qat is, in principle, a 10 percent (some sources report 12 percent) ad valorem tax collected at central urban markets and highway check points. One Yemeni source contended that qat trees are also taxed at a fixed rate of Y Rls 10 per unit, but this was not confirmed by any other source. It is generally acknowledged that revenues from the qat ad valorem tax fall far short of the potential. While revenues have increased (see Table 6a), only part of the urban consumption and virtually none of the rural consumption of qat is taxed.

One other tax, a 2 percent surcharge on gross production value from publicly financed irrigation projects, is on the books, but has not been levied. There are no taxes on privately pumped irrigation water.

As a religious tithe, assessment of the *zakat* is outside the scope of this analysis. The qat tax, as currently enforced, appears to have quite limited effects either on qat production or on consumption. Price elasticity of demand for qat is most likely highly inelastic, and any effect of the tax on consumption is undoubtedly minimal. Qat production profit margins are reported to be much greater than for any other agricultural enterprise. Thus it seems improbable that the tax notably reduces production incentives. Possible impacts of the qat tax on women appear to be of little consequence; women are less involved in qat production than in virtually any other crop, and women's average per capita qat consumption is considerably below that of men.

Credit Policy

The Cooperative and Agricultural Credit Bank (CACB) is essentially the only source of institutional credit for agriculture. Commercial banks are not prohibited from making agricultural loans, but agricultural loans do not constitute even a tiny fraction of commercial bank assets. Some credit is extended through bilateral and multilateral regional development projects and a parastatal entity (see output market policies below), but the magnitude is apparently quite small. Information is not available on the informal credit sector.

The CACB is the largest of the three specialized banks (see monetary policy discussion above) and operates from 3 regional offices and 21 branches. It is authorized to function as a commercial bank but, except for minor security guarantee activities at the Sana'a headquarters, it does not accept deposits or engage in commercial banking activities. Deposits are derived from cooperatives, the IDA, the IFADF, and a number of bilateral funding sources.

The CACB makes short- and medium-term loans to farmers and cooperatives. The volume and number of loans has increased since its founding in 1982 (Tables 23 and 24), but at a pace barely equal to economic growth plus inflation. In 1986, over three-fourths of loan volume was for medium-term loans, but almost 60 percent of the total loans were short term. The average loan was Y Rls 9,000 for short-term and Y Rls 56,000 for medium-term loans. From 1982 through 1986, the CACB extended a total of 32,855 loans for all purposes. Given the high percentage of repeat clientele, it is unlikely that CACB loans reached more than perhaps 3 percent of the nation's farms.

The CACB has experienced a number of difficulties. The loan collection rate was 60 percent in 1982 and has since deteriorated. Lack of qualified and trained staff is a serious problem and a major obstacle in bank operations. Perhaps the greatest problem is the deficiency in technical and administrative expertise; few of the bank's employees have knowledge of either agriculture or credit policy. Links with technical staff of the MAF and regional development projects are at best poor and, as a result, loan project development and supervision are deficient. Inflation, a low loan collection rate, and the CBY policy-induced negative interest rates, in addition to the policy of not accepting deposits, result in a continuous decapitalization of the bank's assets.

The CACB is a victim of its own policies and the policies of the CBY. It is an ineffective agricultural development entity that requires a continuous subsidy to operate. Without multilateral and bilateral financial support, it would probably collapse. With the exception of the subsidized credit it provides to modern poultry operations, the CACB's impact on agriculture is virtually invisible.

The entity's subsidized financing of commercial poultry operations lowers the cost of poultry and eggs produced by these operations relative to the cost of women's *baladi* poultry operations. It is estimated that *baladi* production accounts for about one-third of Yemen's total egg consumption. Many observers contend that commercial and *baladi* eggs do not compete in the marketplace. This is ludicrous. Indeed, consumers may well perceive eggs coming from the two production sources as very different products. But at some point in the market, consumers purchase commercially produced eggs instead of *baladi* eggs because of the price difference. When this occurs, the two products are competing. That this is occurring is obvious; no other explanation can account for the growth in commercial poultry and egg sales.

There will be a specialized market in Yemen for *baladi* eggs and chickens for the foreseeable future. But there can be no question that if credit subsidies favor commercial poultry production, women's competitive position in *baladi* poultry production suffers. In sum, while CACB operations are quite inconsequential in terms of the total agricultural sector, the bank's subsidized lending to the commercial poultry industry directly and negatively affects women's *baladi* chicken and egg production.

Natural Resource Policies

Islamic law and local tribal customary laws, not government policy, govern land and water resource use. The role of the government in land and water resources involves the development of irrigation projects, but not the use of irrigation water or the irrigated land deriving from these projects.

Varisco has made extensive study of land and water customs of Yemen. His findings relating to land are relevant to this analysis:

> Islamic jurists treat inheritance issues with the same mathematical display as life insurance salesmen in the U.S.A. While Islamic law stipulates the rules of inheritance, tribal customary law is often applied in parts of Yemen. Ideally, children inherit equally, with males receiving twice the share of females. One traditional justification for the female receiving less is the fact that she will

have a husband to look after her, while the male will have to provide for his wife. This arrangement also tends to keep the land in the male descent line. The latter point, often stressed in patrilineal societies, is reflected in a Yemeni proverb: "If land changes hands within the family, there is not regret."

Under Islamic law women are entitled to a share of inheritance, although this right has sometimes been denied in tribal law. Yemeni jurists, to their credit, have made some blistering attacks on the un-Islamic aspects of some tribal laws and customs. In many cases a woman needs the inheritance as a safeguard in case of divorce. A woman may trade her right to inherit land to another family member in favor of a house, or part of a house, since she may not be able to farm the land herself. A woman may in fact be a landlord and receive payment from a tenant.

It is very difficult to disinherit one's offspring in Islamic law, except through the donation of one's legacy to the *waqf* institution. The inheritance may be divided while the head of the household (i.e., the one being inherited from) is still alive. It may be expedient to delay settling the inheritance until the inheritors are themselves in old age. In such a case the oldest male will act as an agent for the inheritors and generally receive a larger share for his services. One advantage of this arrangement for a woman is that the land will pass not directly to her husband, but to her son, who in turn may often marry back into her father's line. In effect, this can keep her land within the patrilineal family over generations. (pp. 4-5)

Varisco's findings on water resource use are also relevant:

Water rights in the YAR are based on Islamic law and local customary practice. In most cases the customary practice, sometimes codified in tribal law, does not contradict Islamic legal arguments. This is primarily because Islamic law sets forth general principles of water use, but does not develop a code or set of regulations as such. Litigation over water rights is endemic in the country, especially where there is major potential for upstream-downstream conflict, as along the coastal wadis.

The essence of water resource use in Islamic law can be summarized in three basic principles:

1. All Muslims share in access to water as a resource. The Prophet Muhammad said that water, pasture and fire are to be shared because they are essential to human survival. No one can deny water for drinking to a fellow Muslim, or in some traditions anyone, and even someone's mount, or it is said God will not be pleased with that person on the day of judgment. The gist of the principle is that a small amount of water for a definite need does not burden the rest of the community or the owner of a well system. With

irrigation, however, a system of access must be set up to protect those who are already dependent on the water source.

2. Water is essentially an ownerless resource. Islamic law regards water in principle as *res nullius*, or something which cannot be owned. In fact, water has been "owned" in Islamic countries. The law recognizes that when a man digs a well on his own land, he owns the water in that he has a prior right of access. The same is not true of a man sinking a well on communal or unowned land. A water right is not considered disposable property, but is linked to a given land ownership.

3. Water and land are intimately linked resources. Water rights cannot generally be alienated from specific land rights. Islamic jurists prohibit the sale of a water right (e.g., in a spring) from the land it is meant to irrigate. Because water is not by definition a fixed amount, it cannot be treated as disposable property. Another linkage of water and land is the doctrine of pre-emption (*shuf'a*) in Islamic law. If, for example, there is a partnership in water allocation from a spring-cistern-channel network system, the original shareholders have a prior right to buy the land with the attached water right, rather than a new party. A final linkage between water and land as resources is the concept of a buffer zone (*harim*) around a water source. This means that a well owner must allow easement or access by those with legitimate rights to use the water (e.g., drink or water a mount). (pp. 22-23)

Output Marketing Policies

Information regarding government agricultural product marketing policies is limited, difficult to access and, when available, often unreliable. Except for the role of parastatals, there appears to be a dearth of direct government policy actions in agricultural product markets. Output market policy is a poorly researched area and requires much more attention than could be given to it in the brief time available for this analysis.

Markets for domestically produced food grains are subject to little, if any, government intervention. One Yemeni source claimed that the Yemen General Grain Corporation (YGGC), a government-owned parastatal, occasionally makes purchases of locally produced food grains for resale to milling companies. This contention could not be verified. However, an undated (1987?) report by a foreign (British?) consulting firm states

> all trade in YAR produced grains is through private channels. Government essentially plays no role in the distribution and marketing of local grain and therefore price is largely dependent upon demand and availability. (pp. 3.18-19)

Given the YGGC's limited grain storage and handling facilities and the realities of a limited budget, it is unlikely that the YGGC is involved in domestic food grains markets for the purpose of supporting farm prices. The YGGC imports grain for its milling and bread-baking operations and may purchase local grain for blending with imported grains.

The private sector controls the production and dominates in the marketing of fruits and vegetables. The Agricultural Marketing Company (AMC), a parastatal established in 1983, competes with the private sector in marketing and distribution. This entity is a government-owned enterprise under the control and management of MECO (see below). The AMC enters into contract with and purchases fruit and vegetables from farmers and sells produce in four urban centers. It also provides some producer inputs -- equipment, machinery, fertilizer, and pesticides -- and makes some production loans. AMC output or input market shares are unknown, but generally believed to be quite small.

The Military Economic and Commercial Organization (MECO) is a government-owned entity with a variety of agricultural and livestock projects under its management. MECO is vertically and horizontally integrated and is involved directly in producing, importing, processing, distributing, and retailing agricultural and non-agricultural consumer goods. MECO agricultural production operations include animals, grains, and horticultural products. These commodities are processed by MECO-owned facilities and marketed in MECO retail establishments. MECO objectives are to maintain self-sufficiency in military procurement and to provide retail price competition to control "monopoly" elements in the economy. While the breadth of MECO operations is extensive, control of production and market penetration is apparently limited.

The Marib Poultry Company is a joint venture of the Ministry of Agriculture, the CACB, and private investors. According to Lasley,

> It has dominated the commercial egg industry through its size, by being partially public, its influence in pricing, its role as an importer and supplier of chicks and feed, and its role in rearing and supplying ready-to-lay pullets to other producers. (1988: pp. 18-19)

Relations between the poultry industry and the government are probably more amiable than in any other subsector. Perhaps not surprisingly, the industry appears to exert considerably more influence over government policy than vice versa. As Lasley notes,

> The poultry industry naturally influences YARG [Yemen Arab Republic government] policies through normal channels. Individuals in the industry made sure that the potential for increasing consumption through poultry production was considered in the three five-year plans, each of which has called for increasing production. The industry sought and obtained protection against imported frozen chicken, which was necessary due to occasional low prices because of periodic surplus supplies in large production countries. The industry also has informed the YARG as to imports of inputs (chicks, hatching eggs, feed, biologics, building materials, and equipment) necessary for expanding production and obtained licenses and allocation of foreign exchange. Industry leaders currently are working with YARG officials in an effort to improve the coordination and management of importing inputs. The industry has influenced YARG policies concerning pricing of broilers and eggs. The industry also is seeking an indirect way of influencing price through marketing practices as they ask for regulations which would shift to the sale of live broilers on a weight basis instead of the present per bird basis. The industry also interacts with the MAF and other Ministries regarding the provision of credit, technical assistance, and development of an institutional framework conducive to production and marketing efficiency. (p. 26)

The only known output price intervention in export products occurs in the market for cotton for export. All domestically produced cotton apparently is purchased by a parastatal for resale in international markets (the role of this entity in the internal cotton market is unknown). Although direct interviews with officials of this entity could not be arranged, other informants contended that net prices paid to farmers have been maintained significantly below world levels. According to FAO data, except for a drought-related

drop-off in 1984, cotton area and production have remained relatively stable for the past several years. The impact on and role of the parastatal in cotton production require additional investigation; area and production data suggest that factors in addition to or other than price may be influencing production incentives (see international trade policy discussion above).

Ambiguous and contradictory information regarding the role and the extent of involvement of parastatals in the Yemen economy precludes a rigorous assessment of the impact of public marketing activities and policies on agriculture or on women in agriculture. It is the authors' judgment -- based on limited information -- that with the exception of the Marib Poultry Company and perhaps MECO, parastatals and other government actions play no significant role in the economy and have little impact on rural women's welfare. Direct government output market interventions -- except in the case of cotton exports -- are highly limited and probably have few economic effects. Cotton exports appear to be constrained by government policy. Women's wage labor opportunities in cotton production may have been reduced because of these constraints; however, it is not at all clear whether cotton production has stagnated as a result of parastatal activity, the negative effects of exchange rate policy, or other factors.

Possible negative impacts on women as agricultural producers derive from the activities of the Marib Poultry Company. Output from this operation competes with women's *baladi* poultry and egg production. The parastatal has access to government-granted privileges such as subsidized credit and low-duty feed imports that are obviously not available to rural women with a flock of 10 hens. It should be pointed out that women consumers of poultry and eggs benefit from Marib Poultry Company's low cost, partially subsidized production.

Agricultural Trade Policies

It is difficult to link specific Yemeni policies affecting the trade of agricultural products or production inputs to agricultural sector objectives. For example, Yemeni policies banning or limiting certain food or input imports

do not stem from agricultural trade or agricultural development policies. They are reactions to the realities of foreign exchange shortages. By the ricochet effect, Yemen's agriculture is affected profoundly by such policies. This is not by deliberate intent, but because food and agriculture figure so importantly in the nation's economy.

There is little point in assessing the effectiveness of these policies as agricultural policies. To examine the efficacy of these policies as a means of rationing foreign exchange is of interest but beyond the scope of this analysis. For this reason, the assessment focuses on describing the measures and only briefly addresses questions of impacts and policy rationality.

Yemen's agricultural exports do not appear to be subject to notable constraints. The export of qat is banned, apparently in deference to next-door Saudi Arabia's legal prohibition of its use. Export taxes are on the books, but the tax rates and tax revenues collected on the small export base are inconsequential. Internal prices on most agricultural goods are generally higher than international prices, and thus the nation has not been concerned with the need to limit exports as a food security measure.

The government is deeply and directly involved in food import management. In principle, the Economic High Committee on Foreign Trade Policy in the Cabinet of Ministers establishes all import policies. The Ministry of Economy, Trade, and Supply (MOETS) has responsibility for planning annual import levels of all goods, including all strategic food commodities. Imports are approved and handled through tenders through government agencies, parastatals, and private firms.

The MOETS controls the prices for food commodity imports and fixes profit margins for importers, wholesalers, and retailers. Because international prices have traditionally been considerably below domestic prices, import-generated profits have been allocated by the MOETS among the various importing entities. On the basis of food security justifications, 40 percent of all strategic food imports are allocated to government agencies and parastatals (see above output market discussion).

The government closely controls foodstuff imports and puts restrictions on meat and livestock imports. Imports of fresh fruit and vegetables have been banned since 1983, and frozen chicken meat imports have been prohibited since 1985 (poultry imports were permitted during the last Ramadan when prices began to increase).

The government is involved in the control and the direct importation of agricultural inputs. The import system for agricultural fertilizer and chemical inputs is quite complex. As described by Fitch,

> The High Committee estimates the total amount of foreign exchange that will be available for imports in a given year. It allocates this amount among the various ministries and issues guidelines to MOETS, which administers this budget. One part of the budget is for public sector imports, and another portion is for private sector imports, to cover such items as fertilizer.
>
> Based on its total annual foreign exchange allocation from the High Committee, MAF prepares a detailed allocation budget for submission to MOETS. This contains categories for agricultural inputs such as fertilizer and pesticides. For these items, MAF's Directorate of Agricultural Affairs has first responsibility for estimating annual requirements. Normally, the Agricultural Affairs directorate consults with the Agricultural Research Authority in estimating needs.
>
> Estimated needs for pesticides, fertilizers, and other inputs are forwarded to the MAF Directorate of Planning and Statistics, along with the estimated needs for other agricultural imports such as tractors. Planning and Statistics has the ultimate responsibility for prioritizing agriculture's needs and submitting the final foreign exchange budget for public and private imports to MOETS.
>
> Expertise and experience for the budgeting process in the MAF is limited. Budgeted fertilizer requirements appear to have been estimated mainly from some requirement figures stated in the current five year plan, reportedly 75,000 tons of fertilizer material in 1988. This would be more than twice the highest annual amount ever consumed in Yemen.
>
> To receive an import license for an agricultural input such as fertilizer, a trader must obtain initial approval from MAF. He first approaches the Directorate of Agricultural Affairs, which refers the request to the Agricultural Research Authority located in Taiz, for technical review. This step can be time consuming. While it may be useful if an unknown micro-nutrient or unusual compound fertilizer were involved, it seems unnecessary for urea or TSP.

> Following approval by the Agricultural Affairs office, the importer must also obtain permission from MAF's Directorate of Planning and Statistics. In principle, this would involve review for availability of exchange budget. In practice, however, MAF recognizes that even when it approves a license, that does not always lead to final approval by MOETS. (For that matter, not all licenses approved by MOETS are matched with the necessary foreign exchange by the Central Bank.) Therefore, MAF approves licenses for more fertilizer than it has budgeted, in the hope that some will survive the procedures of MOETS and the Central Bank.
>
> As described above, the whole exchange budgeting and import licensing procedure has tended to break down. Although the MAF Planning and Statistics office is supposed to be the main entity in charge of planning imports, this office finds it impossible to obtain timely information from MOETS and the Central Bank about the actual import picture. MAF only learns long after the fact what has happened, when it is too late to try to change the situation.
>
> In addition to its role in planning fertilizer requirements and licensing private imports, MAF has also solicited fertilizer donations from foreign governments. With private imports so restricted during 1984-86, foreign donations constituted Yemen's supply of fertilizer. This being the case, a rational distribution of these imports was essential. It was undoubtedly for this reason that the MAF itself chose to distribute the donated fertilizer. After trying to satisfy the needs for research and for demonstration projects, MAF then sold fertilizers to merchants and large farmers. (p. 70)

To analyze comprehensively the economic effects of these foreign exchange-rationing measures on Yemen's agriculture or rural women would require far more information and data than are available for this study. The aggregate price and quantity effects on food supplies and on production inputs are unclear, and the output and factor market effects are interdependent and complex. A brief examination of just one element of this complicated matrix -- import prohibitions -- provides some insight into the analytical complexities.

In principle, import prohibitions provide total protection from international competition. Therefore, it would seem that domestic producers of banned imports -- fresh fruit, fresh vegetables, and frozen poultry -- should only benefit from import bans. Indeed, there is solid evidence that the domestic fruit and vegetable and the poultry industries have significantly

benefited from the lack of import competition: both have had very rapid growth. However, the modern poultry and horticultural industries require high levels of biological and chemical inputs -- all of which are imported. Imports of these inputs are tightly controlled, and the inputs are often not available at any price.

Modern agriculture cannot operate without the certainty of input availability. Chickens die without feed. Modern varieties of fruit and vegetable plants wither without fertilizers, pesticides, and fungicides. If inputs -- poultry feed or vaccines, pesticides, or fungicides -- are unavailable when needed, the cost of production can be increased to the point of putting producers out of business.

The effect of import bans -- a form of foreign exchange rationing -- is to drive up consumer food costs. This is, of course, also the effect of allowing the market to determine the exchange rate when a currency is overvalued. The difference in secondary and tertiary effects of the two alternatives, however, can be quite different. Foreign exchange rationing results in far greater and far more pervasive factor and output market distortions than would occur if equilibrium conditions prevailed in the foreign exchange markets. The impacts of these distortions on agriculture are profound and have been previously addressed in the assessment of macro-economic policies.

Production Input Policies

Virtually all of the purchased variable inputs used in Yemen's agriculture are imported. Some of the policies and procedures relating to input imports were discussed in the preceding section. This section briefly supplements that information by focusing on internal market and distribution policies for some important purchased inputs.

Animal Feed

Yemen imports almost all the feed for its commercial poultry and egg production industries. Nearly all the imported feed comes in as prepared mixed feed rather than as raw commodities. Although unconfirmed, reliable sources contend that import duties are lower on prepared feeds than on raw commodities.

The government actively controls feed imports, requiring that all import tenders go through the YGGC. As Lasley notes, there are a number of difficulties in the implementation of this policy:

> The suppliers now participate in the tender process. The winning bidder, usually a combination of two to four suppliers, handles the transaction, provides the financing, handles the port responsibilities, and allocates the shipment among the other suppliers according to prearranged proportions. The Ministry of Supply sets the margin or handling fees which the "importing" company may charge the other suppliers and also the price at which the suppliers may sell to their customers.
>
> Currently the importing company is subsidizing the YARG as it in effect pays cash for the feed and the interest charge, while the YARG benefits from the credit extended by the shipping country, for the period of up to two years.
>
> Under this arrangement, all suppliers are receiving the same formula feed from the same exporter, so that neither suppliers nor producers have direct choice of feed or source. Such an arrangement does not generally lead to high quality feed or service, but often results in dissatisfaction. Competition tends to rest solely upon prices. Suppliers prefer to choose their source of feed and to specify composition and/or analysis. They then use these differences as they compete for customer growers.
>
> Another disadvantage of the controlled tender system to supplier and producer is that the shipments are larger and less frequent. As all suppliers receive feed at the same time, it is more difficult to distribute to farms and there is less flexibility to share feed among suppliers in the event of delayed arrival in port. Delay in arrival in port is more likely under the tender system than when the private firms import directly. (pp. 20-21)

More specifically, importation of inputs for the poultry industry is beset by problems. The present system directly involves at least four YARG agencies in managing these imports; the MAF, MOEST, the General Grain

and Trade Corporation, and the Central Bank. The complexities of this arrangement will undoubtedly result in imbalances of inputs (such as number of chicks and amount of feed) or improper timing of arrival in port of some inputs, thereby upsetting the biological cycle, causing reduced production or even mortality of the poultry. (p. 27)

Fertilizers

The above discussion details public involvement in fertilizer and farm chemical input imports. The recent comprehensive fertilizer study by Fitch documents government involvement in internal marketing and distribution:

> The Agricultural Credit Bank began distributing fertilizer in 1976. Reportedly, the Bank's entry in to the market had the effect of driving the price down to about half of what had been charged by the private merchants. This caused some private merchants to abandon the fertilizer trade. Others continued to import small quantities of TSP and compound fertilizers.
>
> Eventually, after about 1980, the Saudi Arabian donations expanded to the point where the Cooperative and Agricultural Credit Bank found it difficult to handle it all, and some of the donated urea was sold to private sector merchants. Until 1983, the CACB and private merchants competed in distributing the Saudi urea.
>
> Merchants maintain that competition from CACB was unfair because the bank was allowed to purchase the donated urea at a lower price than the merchants and because the bank's selling price to farmers did not cover its full cost of doing business. CACB officials reply that the private merchants often held back their stocks until the bank had finished selling its supply and that the merchants then sold their fertilizer at higher prices.
>
> After 1983, the MAF decided to discontinue the sale of fertilizer through the CACB. The reason for this is not clear. One reason is said to have been the reduced supply of donated fertilizer from abroad. Other reasons may have been that the bank proved itself to be inefficient as a fertilizer distributor and that it had a poor record of collecting loans.
>
> With the bank at least temporarily out of the fertilizer business, the market would have been left largely to private merchants. However, Yemen instituted strict import licensing and control of foreign exchange in 1983. This resulted in eliminating private fertilizer imports almost entirely during 1984-86. Foreign government donations became virtually the only source of supply.

> While the Saudi Arabian government did donate 20,000 tons of urea in 1985, the only fertilizer available during 1984 and 1986 was 1,400 tons of TSP and compounds each year, donated by Japan. During this period of scarcity, the MAF itself acted as the main distributor. After satisfying the needs of the research stations and development projects as well as possible, some fertilizer was sold to private merchants and some was sold directly to larger farmers.
>
> The Ministry sold its supplies at moderate prices, in the hope of holding the price down at the farm level. With such scarcity, however, it was inevitable that the price would be bid up as supplies were stretched in the market to match demand. In 1987, for example, the price charged by MAF for compound fertilizers ranged from Y Rls 150 to 175. However, survey farmers reported paying an average Y Rls 261 per bag for this fertilizer. (pp. 6-7)

Other Inputs

Only limited information is available on the role of the public sector in the marketing and distribution of other inputs. Production of improved seeds remains an infant industry in Yemen, and virtually all vegetable seeds are imported (a notable exception is potato seed, deriving from the Dutch-financed Seed Potato Multiplication Project). Imports are subject to the same foreign exchange rationing schemes as other agricultural inputs. In addition, the Agricultural Research Authority (ARA) must authorize the import of all genetic materials into Yemen. When this process works efficiently, it takes years, and it apparently has not operated efficiently.

The government operates several nurseries that sell nursery stock at less than production cost. As noted by Weidemann and Shariff,

> the government professes to be encouraging the private sector to take initiatives in nursery development. The nurseries we inspected were in sad shape, and no business man would rationally consider purchasing these nurseries. The concept of running government nurseries under private management contract has not been considered. Neither has the concept of limiting the lines of stock that government nurseries carry and encouraging the private sector to carry non-competing stock. Another unexplored concept is that of limiting the production of government nurseries to present levels and adopting a free market pricing policy. (p. 71)

Capital goods -- machinery, pumps, etc. -- are generally marketed through the private sector, although parastatals such as the AMC provide some credit to contracting producers to purchase equipment directly. All capital equipment is imported and faces restrictions of foreign exchange rationing policies.

A presumed objective of government involvement in the importation, marketing, and distribution of agricultural production inputs is to provide farmers with a source of reliable and reasonably priced inputs. It appears the objective is not being satisfied; producers face highly erratic supplies of inputs, the inputs may be of questionable quality, and prices are variable, unpredictable and, by any standard, unreasonably high.

Obviously, the overall impact is to discourage use of purchased inputs and seriously impede and retard agricultural modernization. The negative impacts are so ubiquitous that women in agriculture do not appear to be affected by government input market intervention any more or any less than any other group.

Agricultural Technology Policies

Yemen's agricultural research and extension system is in its infancy. Although an agricultural research program is said to have been initiated in 1973, the ARA was not established until a decade later. The first extension effort in the country started in 1974, but the Extension Directorate within the MAF was not organized until 1978.

One purpose in organizing the ARA in 1983 was to attempt to coordinate a variety of agricultural research and applied investigation efforts dispersed among a variety of entities scattered about the country. As of 1980, some 23 different bilateral and multilateral projects entailing 15 different donor organizations were involved in conducting agricultural investigation in Yemen (Appendix 2). The creation of the ARA was not a magic wand that suddenly turned institutional chaos into order, but some semblance of national organization resulted from the move. Consequently, the ARA is recognized as

the only institution officially authorized to conduct "agricultural research" (in contrast to "applied agricultural investigation" or "agricultural observation and demonstration work").

The ARA faces staggering challenges. ARA's research, technical, administrative, and field personnel have had to be recruited and trained, a time-consuming and costly endeavor. Physical facilities have had to be constructed, laboratories equipped, and capital equipment purchased. Yemen's agricultural ecology varies significantly from one region to another and from one altitude to another within regions. This means each micro-region has unique conditions and requires unique agricultural technologies.

To date, the ARA has succeeded in organizing and initiating a rather comprehensive agricultural research program. It would be inappropriate to assess ARA's output or the relevance of its output for women in agriculture given the entity's short history.

Many of the observations regarding agricultural research are relevant to agricultural extension. In contrast to the ARA, there is no analogous national extension service; all extension activities are linked to regional development projects. An Extension Directorate exists in the MAF, but its functions are somewhat obscure.

Given the diverse nature of activities carried on by the different regional development projects, extension activities in Yemen are not easily described or categorized. The number of personnel involved in extension work across the country is not known with certainty. A 1982 report estimated that about 230 people were working as extension agents, more than half associated with the TDA. It is unknown whether this number has changed since then. Attrition of trained agents is a problem exceeded only by the lack of anything to extend.

Except for the case of two bilateral-funded regional projects, rural Yemeni women are not targeted to receive technical information (there are some social and home economics programs associated with other regional

development programs). Extension of technical information is complicated by the fact that male agents do not communicate with women (men do not talk to women except in their own household). There are reported to be no female agricultural extension agents (except for foreign volunteers or multilateral and bilateral technical assistance personnel) in the country. One regional project is initiating a training program for women agents, but because the women being trained are from urban areas, there is concern that they may be unacceptable to rural women.

In sum, rural women are not affected in any notable way -- positively or negatively -- by agricultural research or extension; they basically have been disregarded by these limited efforts. Agricultural research is in its infancy and has yet to produce output. When research produces new technology and it becomes available to extension, it is unknown whether cultural factors will impede its diffusion to women. International experience indicates that when new relevant technologies are highly profitable, cultural factors do not notably hamper adoption.

III. FINDINGS AND CONCLUSIONS

The impacts of Yemeni agricultural and economic policies on women in agriculture are a direct function of their effects on the agricultural sector and women's roles in agriculture. The household is the basic agricultural production unit. Women generally do not engage in production activities independent of the household unit. Thus, the impact of agricultural policies on women is derived from their proportional participation in total agricultural production. Women are more affected by agricultural and economic policies than men because they make up more than a majority of the rural population and agricultural labor force. Women are clearly affected by policies, but it cannot be said that policies discriminate against women. Women have little independent agricultural production, and that small part of production controlled by women appears to be no more or no less affected by policies than any other part of production.

Yemen's macroeconomic policies have had generally negative impacts on the economy, on the agricultural sector, and on rural women. The country maintained a foreign exchange policy that significantly overvalued the rial relative to the dollar. This same policy resulted in the rial being overvalued relative to currencies of Yemen's major trading partners. This policy encouraged and stimulated labor emigration from the rural areas, depressed domestic agricultural production incentives, slowed growth of agricultural incomes, reduced agricultural exports, and contributed to the rapid growth of agricultural imports.

Monetary and fiscal policies exacerbated the negative effects of exchange rate policy by adding to inflationary pressures in the general economy and the agricultural sector. Central Bank commercial banking policy discouraged bank

lending to agriculture, and interest rate policies discouraged agricultural lending and rural savings. The limited investment in agriculture not deterred by negative banking policies was diverted to inflation-induced land speculation.

Sector policy impacts on agriculture and rural women are of limited importance. Government policies directed specifically to the agricultural sector are few in number, have relatively limited effects, and absorb few national resources.

Subsidized agricultural credit lowers costs for commercial poultry operations, which depresses the competitive position of household poultry and egg production. The effect of agriculture taxes is minimal and appears to favor women. Yemen has no identifiable public policies relating to natural resources; land and water usage follows tribal customary laws and Islamic law. Parastatal activity in output markets is not extensive. One poultry- and egg-producing parastatal receives favorable government treatment, which puts women's household poultry and egg production at some competitive disadvantage. Trade and production input policies have contributed to increased uncertainty in agricultural production and have raised consumer food costs. Agricultural research and extension policies have had little, if any, discernible impacts on agriculture or women in agriculture.

APPENDIX 1. STATISTICAL TABLES

Table 1. Yemen Arab Republic Demographic Data

	1975 Census			1986 Census	
	Total population	Households		Total population	Households
Population, total	6,492,530	906,185		9,274,173	1,366,460
Migrants outside Yemen	1,234,000	-		1,168,199	-
Resident population	5,258,530	-		8,105,974	-
Population, uncovered areas	294,500	-		-	-
Population, unenumerated	423,800	-		376,743	-
Recorded resident population	4,540,230	-		7,729,231	-
Annual growth rate			3.3%		
Recorded resident population sex distribution:					
Males	2,163,142	-		3,800,791	-
Females	2,377,107	-		3,928,440	-
Sex ratio (M:F)	0.91	-		0.97	-
Percent population in urban areas	11	-		14	-
Other indicators:					
Crude birth rate			51.9		
Crude death rate			26.4		
Infant mortality rate			173.5		
Total fertility rate (adjusted)			6.85		
Illiteracy rate (percent):					
Males			57.9		
Females			92.5		
Total			74.9		

Source: Central Planning Organization.

Table 2. Value and Structure of GDP, 1981-86

(Millions of rials at constant 1981 market prices)

Sector	1981	1982	1983	1984	1985	1986[a]
Agriculture, forestry, and fisheries	3,685	3,834	3,418	3,414	3,704	4,126
Manufacturing	820	987	1,216	1,306	2,404	2,462
Construction	1,098	1,167	1,159	1,212	1,101	857
Transport and communications	497	596	593	620	2,406	2,549
Wholesale and retail trade	2,046	2,140	2,095	2,150	2,380	2,548
Real estate and business services	567	676	741	783	1,878	1,993
Other	744	754	859	924	815	1,344
Subtotal, private sector	9,457	10,154	10,081	10,409	14,688	15,879
Government services	1,996	2,180	2,263	2,269	2,291	2,341
Imputed duties and direct taxes	1,634	1,832	2,047	2,060	2,124	2,021
Total G.D.P.	13,111	14,193	14,422	14,770	19,139	20,254

Note: Excludes qat.
a. Provisional data.
Source: Central Planning Organization.

Table 3. Remittances, 1982-87

(Millions of rials)

	1982	1983	1984	1985	1986	1987[a]
Receipts	5,360.6	5,600.7	5,666.2	6,020.6	5,867.2	4,129.4
Payments	1,202.2	633.1	388.1	459.9	685.5	394.1
Net remittances	4,158.4	4,967.6	5,278.1	5,560.7	5,181.7	3,735.3
Conversion rate[b]	4.5625	4.5787	5.3533	7.3633	9.6392	9.9000
Millions US $	911.4	1,084.9	986.0	755.2	537.6	377.3

a. Half year only.
b. Market exchange rate.
Source: Central Bank of Yemen, 1987.

Table 4. Trade, 1982-87

(Millions of rials)

	1982	1983	1984	1985	1986	1987[a]
Imports	8,785.7	8,082.0	7,507.2	7,973.3	7,642.9	6,315.7
Exports	21.6	44.0	47.5	61.0	153.0	63.6
Trade balance	(8,764.1)	(8,038.0)	(7,459.7)	(7,912.3)	(7,489.9)	(6,252.1)
Conversion rate[b]	4.5625	4.5787	5.3533	7.3633	9.6392	9.9000
Millions of US dollars	-1,920.9	-1,755.5	-1,393.5	-1,074.6	-777.0	-631.5

a. Half year only.
b. Market exchange rate.
Source: Central Bank of Yemen, 1987.

Table 5. Main Exports and Imports, 1981-87

(Millions of rials)

	1981	1982	1983	1985	1987[a]
Exports					
Fruits and vegetables	0.1	3.0	0.6	21.8	21.9
Mineral water	0.0	0.0	0.0	1.9	19.9
Hides and skins	2.0	6.7	5.5	2.8	18.0
Coffee	1.9	2.8	2.5	13.8	16.2
Cotton	0.0	11.5	3.7	0.0	0.0
Biscuits	28.8	37.3	39.1	16.3	13.4
Other	10.5	51.8	28.7	40.1	23.3
Total, all exports	43.4	113.1	80.2	96.7	112.6
Imports[b]					
Food and live animals	2,864.3	2,033.1	1,673.3	2,708.0	1,283.3
Beverages and tobacco	103.9	120.5	237.2	223.5	126.4
Animal and vegetable oils and fats	45.0	53.8	43.3	190.7	99.1
Manufactures	1,632.8	1,499.2	1,602.6	2,085.4	934.6
Machinery and transport equipment	1,865.5	1,341.6	1,818.1	2,208.6	1,083.0
Mineral fuel and lubricants	608.0	828.4	642.0	639.9	178.6
Chemicals	412.6	454.5	613.6	869.7	442.3
Other	488.5	588.7	654.7	575.4	309.5
Total, all imports	8,020.5	6,919.8	7,284.9	9,501.1	4,456.7

Note: Data for 1984 and 1986 not available in this series.
a. Half year only.
b. S.I.T. code classifications.
Source: Central Bank of Yemen.

Table 6A. Yemen Arab Republic: Government Revenues, 1982-88

(Millions of rials)

	1982	1983	1984	1985	1986
Tax revenue	3,041.7	3,659.8	3,762.8	4,353.9	5,651.6
Taxes on net income and profits	451.7	516.4	584.9	718.3	922.9
Wages and salaries	272.6	312.0	374.4	422.5	559.6
Commercial and industrial profits	146.7	165.6	175.1	248.8	308.4
Oil companies income	–	–	–	–	–
Rental income	20.1	23.4	24.9	36.3	43.7
Other	12.3	15.4	10.5	10.7	11.2
Taxes on property	8.7	13.3	21.7	37.4	44.3
Real estate transfers	8.7	13.3	21.7	37.4	44.3
Taxes on goods and services	270.2	285.1	350.6	417.8	831.6
Tobacco and cigarettes	6.2	8.9	7.2	22.1	246.7
Petroleum products	34.6	–	60.0	59.1	147.1
Soft drinks	28.9	38.0	44.7	57.6	70.6
Qat	116.7	127.3	120.4	147.9	209.9
Cinemas	1.0	3.1	3.4	3.4	3.5
Motor vehicle taxes	82.8	107.8	114.9	127.7	153.8
Taxes on international trade	1,840.5	2,213.2	2,121.4	2,540.6	3,101.8
Customs duties	1,301.6	1,601.5	1,524.8	1,862.5	2,276.6
Defense tax	343.9	377.1	407.0	432.7	481.7
Statistical tax	138.4	151.3	162.9	173.2	193.0
Other	56.6	83.3	26.7	72.2	150.5
Other taxes	470.6	631.8	684.2	639.8	751.0
Religious taxes (Zakat)	100.8	109.4	166.4	211.3	253.3
Stamp taxes	369.8	522.4	517.8	428.5	497.7
Stamp duties	44.1	44.5	58.0	74.7	84.5
Consular fees	325.7	477.9	459.8	353.8	413.2
Nontax revenues	654.3	748.5	911.7	987.5	1,537.2
Property income	476.2	512.7	504.1	476.7	690.6
Oil profits	–	–	–	–	390.0
Administrative fees and charges	127.7	167.3	182.1	228.7	286.6
Fines and forfeitures	30.0	47.8	187.1	165.4	87.5
Other	16.8	16.9	31.7	106.6	70.4
Capital revenues	3.6	3.8	9.7	10.1	12.1
Total	3,696.0	4,408.3	4,677.5	5,341.4	7,188.8

Source: Ministry of Finance and Central Bank of Yemen.

Table 68. Yemen Arab Republic: Summary of Government Finance, 1982-87

(Millions of rials)

	1982	1983	1984	1985	1986
Revenues and grants	5,700.0	5,259.9	5,438.9	6,001.9	9,026.8
Revenues	3,696.0	4,408.3	4,677.5	5,341.4	7,188.8
International trade taxes	1,840.5	2,213.2	2,121.4	2,540.6	3,101.8
Other tax (excluding oil)	1,201.2	1,446.6	1,641.4	1,813.3	2,549.8
Oil - tax	–	–	–	–	–
Nontax (excluding oil)	654.3	748.5	914.7	987.5	1,147.2
Oil - government share	–	–	–	–	390.0
Grants	2,004.0	851.6	761.4	660.5	1,838.0
Expenditures	10,961.1	10,067.3	10,047.5	11,031.7	12,832.0
Current	6,098.5	6,393.4	6,188.6	6,894.2	7,800.6
Wages and salaries	2,082.6	2,146.9	2,272.8	2,716.6	3,113.3
Defense[a]	3,080.0	3,253.7	2,784.8	2,856.3	3,057.9
Current transfers	525.3	552.0	557.2	659.2	793.5
Other[b]	410.6	440.8	573.8	662.1	835.9
Capital[c]	3,098.8	2,751.7	2,881.7	2,463.6	2,865.9
Budgeted development	1,369.5	1,324.4	1,216.3	1,135.3	1,259.4
Capital transfers	795.5	548.4	601.9	438.4	654.8
Externally-financed	933.8	878.9	1,063.5	889.9	951.7
Extrabudgetary	1,763.8	922.2	977.2	1,673.9	2,165.5
Overall deficit	-5,261.1	-4,807.4	-4,608.6	-5,029.8	-3,805.2
Financing	5,261.1	4,807.4	4,608.6	5,029.8	3,805.2
External (net)	846.0	900.4	801.6	767.3	594.3
Project loans	933.8	878.9	1,063.5	889.9	951.7
Cash loans	109.3	127.9	75.8	185.2	99.4
Less repayments	-197.1	-106.4	-337.7	-307.8	-456.8
Domestic (net)	4,415.1	3,907.1	3,807.0	4,262.5	3,210.9
Central Bank	4,424.5	3,912.7	3,982.5	4,119.8	3,301.5
Commercial banks	-9.4	-5.6	-175.5	142.7	-90.6
Memorandum items:					
Nominal GDP	19,932.0	21,870.0	24,756.0	30,969.0	38,389.0
Overall deficit/GDP (percent)	-26.4	-22.0	-18.6	-16.2	-9.9

a. Includes defense capital spending and defense capital transfers.
b. Materials and services and unclassified.
c. Differs from official budget presentation by excluding defense capital spending and defense capital transfers.
d. Includes special equipment purchases, some of which are current in nature.
Source: Ministry of Finance, Central Bank of Yemen, and Fund staff estimates.

Table 7. Agricultural Regions of Yemen Arab Republic

Agricultural region	Characteristics	Major agricultural products	Other agricultural products
Tihama	Hot, humid lowlands Agriculture depends on seasonal flood discharge of major wadis and groundwater resources	millet sorghum maize livestock	cotton tobacco vegetables tropical fruits sugarcane sesame
Southern Uplands	200 to 1,500 meters elevation; rugged landscape Relatively high rainfall; Taiz receives 600 mm Extensive terracing to capture runoff 500,000 ha land under cultivation	sorghum qat coffee vegetables deciduous fruits	citrus tropical fruits
Central Highlands	1,500 to 3,700 meters elevation Variable rainfall; annual mean is 300 mm, but up to 1,200 mm in southern areas Rainfed cultivation and pump irrigation on central plains 350,000 ha land under cultivation	vegetables deciduous fruits livestock	potatoes wheat barley maize sorghum qat coffee

Continued

Table 7. (Continued)

Agricultural region	Characteristics	Major agricultural products	Other agricultural products
Northern Highlands	Elevation above 1,500 meters Semi-arid climate; 200 to 500 mm annual rainfall	sorghum wheat watermelons tomatoes coffee citrus (valleys) grapes figs pomegranates	
Eastern Region	Elevation below 1,500 meters Arid climate 1 year fallow after cropping for moisture conservation common	watermelon sesame sorghum millet tomatoes citrus (with well irrigation)	

Source: Agriculture Sector Assessment Yemen Arab Republic 1985 Update, ISTI, Inc., January 1986.

Table 8. Size Distribution of Agricultural Holdings, 1983

Size of holding (hectares)	Number of holdings	Percent of holdings	Total hectares	Percent of total hectares
Less than 1.0	339,961	57.5	149,593	11.1
1.0 - 5.0	182,862	30.9	439,319	32.5
5.0 -10.0	43,758	7.4	304,594	22.5
10.0 - 20.0	19,324	3.3	263,248	19.5
20.0 - 50.0	4,639	0.8	133,998	9.9
50.0 - 100.0	199	0.0	16,012	1.2
100.0 or more	328	0.1	44,011	3.3
Total, all holdings	591,071		1,350,775	

Note: Land holding size categories overlap in source.
Source: YAR Ministry of Agriculture and Fisheries, Summary Results of Agricultural Census, 1983, as presented in the Agricultural Sector Assessment, Yemen Arab Republic, ISTI, Inc., update 1985.

Table 9. Land Tenure in Six Governorates, 1981

Tenure type	Percent of holdings in governorate					
	Dhamar	Hajja	Hodieda	Ibb	Mahweit	Taiz
Totally owned	39.5	65.1	79.3	56.8	47.8	71.9
Owns between 50 and 100 percent of land	29.5	15.0	6.6	11.8	17.5	12.1
Owns less than 50 percent of land	18.2	7.3	5.6	10.7	13.3	5.9
No owned land	0.3	0.5	0.9	1.9	--	0.2
Totally share-cropped	11.7	11.4	6.9	17.1	21.4	9.4
Rented	--	0.1	--	0.4	--	0.2
Total waqf[a]	0.8	0.6	0.7	0.8	--	0.3

a. Waqf land is held in a religious trust and is legally the property of a mosque or other religious institution.

Source: Ministry of Agriculture and Fisheries, as cited in USAID Yemen database.

Table 10. Cultivated Land Classified by Sources of Irrigation, 1982

Irrigation Source	Area cultivated hectares	Percent of cultivated area	Percent of total area
Rainfed	790,283	77.5	58.5
Partially rainfed	(27,020)	--	--
Spate	85,953	8.4	6.4
Pump well	118,904	11.7	8.8
Spring water	24,728	2.4	1.8
Other not used	330,907	--	--
Total, all sources	1,350,775	100.0	100.0

Source: Assessment study for the private sector investments in agriculture during the third Five-Year plan 1987-1991 in the Yemen Arab Republic, March 1987 update, Faysal Y. Sharif.

Table 11. Agricultural Value Added by Production Area

Area	Area (percent)	Percent of agricultural value added excluding qat	Percent of agricultural value added including qat
Low rainfall	38	14	4
Medium rainfall	22	14	4
High rainfall	18	18	37
Spate irrigation	11	16	7
Pump irrigation	11	38	48

Source: World Bank, Yemen Arab Republic Agricultural Strategy Paper

Table 12. Families Growing Crops for Home Consumption Versus Sale, Southern Upland Regions, 1984

Household strategy	Location		
	Taiz (n=305)	Ibb (n=410)	Average (n=715)[a]
Crops for family consumption only	79	66	71.5
Crops for market only	0	6	3.4
Crops for daily consumption and sale	21	28	25.0

a. Weighted average, differs from that in source document.
Source: Yemen Arab Republic Southern Uplands Rural Pioneer Women Develoment Project Formulation Mission document, March 1986.

Table 13. FAO Crop Production Data for Yemen Arab Republic, 1975 -1986

Crop	Measurement	Units	1975	1976	1977	1978	1979	1980
Wheat	Area harvested	ha	60,000	60,000	65,000	60,000	66,000	62,000
	Production	mt	67,000	62,000	61,000	45,000	63,000	63,000
Barley	Area harvested	ha	57,000	53,000	47,000	48,000	46,000	46,000
	Production	mt	62,000	58,000	42,000	39,000	42,000	45,000
Maize	Area harvested	ha	23,000	24,000	30,000	31,000	31,000	31,000
	Production	mt	35,000	44,000	43,000	43,000	46,000	48,000
Sorghum[a]	Area harvested	ha	1,056,000	1,060,000	782,000	644,000	683,000	673,000
	Production	mt	921,000	785,000	613,000	585,000	627,000	632,000
Cereals, total	Area harvested	ha	1,196,000	1,197,000	924,000	783,000	826,000	812,000
	Production	mt	1,085,000	949,000	759,000	712,000	778,000	788,000
Potatoes	Area harvested	ha	6,500	6,800	8,600	9,300	9,500	10,600
	Production	mt	71,000	76,000	100,000	107,400	116,000	127,200
Pulses, n.e.s.	Area harvested	ha	71,000	76,000	72,000	75,500	74,400	71,500
	Production	mt	71,000	76,000	82,000	76,700	79,000	79,600
Sesame	Area harvested	ha	9,000	9,720	10,200	10,200	10,200	10,100
	Production	mt	5,000	5,500	6,400	6,300	6,300	6,000
Cotton, seed	Area harvested	ha	28,300	15,000	6,300	4,700	5,600	3,000
	Production	mt	27,000	13,500	5,300	3,900	4,800	2,800
Vegetables, fresh, n.e.s.	Area harvested	ha	18,000	20,000	22,200	23,600	26,900	26,400
	Production	mt	168,000	183,000	210,000	226,100	230,000	253,700
Grapes	Area harvested	ha	8,500	8,800	10,000	10,200	10,200	11,500
	Production	mt	40,000	42,400	47,100	45,000	49,000	55,000
Dates	Area harvested	ha	12,000	12,000	12,000	12,000	12,000	12,000
	Production	mt	5,000	6,300	6,300	6,300	6,300	6,300
Fresh fruit, n.e.s.	Area harvested	ha	12,000	12,300	13,400	13,900	13,900	14,200
	Production	mt	60,000	65,000	72,000	77,000	73,000	76,000
Alfalfa, forage/silage	Area harvested	ha	3,200	3,300	3,400	3,400	3,500	3,600
	Production	mt	39,000	40,000	41,000	41,000	42,000	43,000
Coffee, green	Area harvested	ha	8,000	7,000	7,500	7,700	7,700	7,700
	Production	mt	3,000	3,000	3,400	3,900	3,600	3,500
Tobacco	Area harvested	ha	4,200	4,600	5,300	5,600	5,600	6,100
	Production	mt	5,000	5,600	6,400	4,900	6,400	7,000
Crops, primary	Area harvested	ha	1,430,750	1,399,570	1,105,550	966,950	1,015,150	994,350
	Production	mt	1,606,500	1,479,300	1,344,700	1,314,900	1,399,700	1,451,400

(continued)

Table 13. Continued

Crop	Measurement	Units	1981	1982	1983	1984	1985	1986
Wheat	Area harvested	ha	66,000	61,000	61,000	63,000	58,800	65,000
	Production	mt	69,600	67,400	34,000	37,000	63,400	71,500
Barley	Area harvested	ha	52,000	50,000	50,000	51,000	46,000	48,000
	Production	mt	58,000	53,000	30,000	28,000	31,800	40,800
Maize	Area harvested	ha	34,000	36,000	36,000	36,000	38,000	41,000
	Production	mt	53,200	59,200	30,500	40,000	43,120	49,200
Sorghum[a]	Area harvested	ha	697,000	689,000	681,000	687,000	690,00	690,000
	Production	mt	635,000	581,000	268,000	276,000	281,000	517,500
Cereals, total	Area harvested	ha	849,000	836,000	828,000	837,000	832,800	844,000
	Production	mt	815,800	760,600	362,500	381,000	419,320	679,000
Potatoes	Area harvested	ha	11,500	12,100	12,200	13,000	8,000	8,500
	Production	mt	138,000	150,000	163,000	195,000	195,730	203,250
Pulses, n.e.s.	Area harvested	ha	74,000	70,000	70,000	65,000	65,000	65,000
	Production	mt	79,600	75,300	39,500	37,560	44,200	48,600
Sesame	Area harvested	ha	9,900	10,100	10,100	9,000	9,000	9,000
	Production	mt	5,200	5,500	4,250	3,400	3,500	3,500
Cotton, seed	Area harvested	ha	5,300	7,400	7,400	4,000	7,400	7,400
	Production	mt	5,000	6,500	6,500	3,700	6,500	6,500
Vegetables, fresh, n.e.s.	Area harvested	ha	29,400	30,500	33,600	36,000	38,000	43,000
	Production	mt	291,400	304,000	326,000	346,500	370,480	428,960
Grapes	Area harvested	ha	12,500	13,100	13,700	15,000	15,000	15,200
	Production	mt	64,600	67,900	71,700	90,000	80,500	85,000
Dates	Area harvested	ha	12,000	12,000	12,000	12,000	12,000	12,000
	Production	mt	6,300	6,000	6,000	5,000	6,500	6,500
Fresh fruit, n.e.s.	Area harvested	ha	14,500	15,000	15,000	15,000	15,300	15,500
	Production	mt	80,700	84,600	84,600	88,000	89,800	91,000
Alfalfa, forage/silage	Area harvested	ha	3,800	4,000	4,000	4,000	4,300	4,300
	Production	mt	45,000	49,000	49,000	49,000	52,000	52,000
Coffee, green	Area harvested	ha	7,700	7,700	7,900	7,000	7,000	7,000
	Production	mt	3,500	3,300	3,300	3,200	3,000	3,000
Tobacco	Area harvested	ha	6,100	6,400	6,400	5,000	5,000	5,000
	Production	mt	6,300	6,700	5,700	4,300	4,300	4,300
Crops, primary	Area harvested	ha	1,045,750	1,037,350	1,033,350	1,029,450	1,031,850	1,048,950
	Production	mt	1,546,900	1,527,400	1,129,050	1,210,860	1,282,830	1,623,610

a. Includes millet production.
Source: USAID ECIE database.

Table 14. Farm Animal Population, 1981-85

(Thousands)

Animal	1980	1981	1982	1983	1984	1985
Sheep and goats	3,751	3,834	3,903	3,973	4,050	4,131
Cattle	883	906	924	NA	960	984
Camels	57	57	58	58	59	60
Baladi chickens	2,800	3,050	3,075	3,152	3,231	3,296
Commercial chickens						
broilers	1,300	2,000	2,800	4,396	7,192	9,415
layers	--	--	16	20	80	325
Horses	3	3	3	3	3	3
Asses	520	520	520	520	520	520
Camels	57	57	57	57	57	57

Source: Assessment study for the private sector investments in agriculture during the Third Five-Year Plan 1987-1991 in the Yemen Arab Republic, March 198_ update, Faysal Y. Sharif., data on horses, asses, and camels are from FAO as recorded in the USAID ECSC database.

Table 15. FAO Livestock Production Data for Yemen Arab Republic, 1975 -1986

Livestock Product	Measurement	Units	1975	1976	1977	1978	1979	1980
Cattle								
Beef and veal	Slaughtered	head	97,100	103,200	88,000	100,000	103,000	106,000
	Production	mt	11,651	12,383	10,560	12,000	12,400	12,700
Cattle hides, fresh	Slaughtered	head	97,100	103,200	88,000	100,000	103,000	106,000
	Production	mt	2,040	1,930	1,800	1,850	1,870	1,920
Indigenous cattle meat	Production	mt	10,806	10,177	10,434	11,880	11,340	10,480
Sheep								
Mutton and lamb	Slaughtered	head	1,145,000	1,090,000	1,133,000	1,133,000	1,156,000	1,182,000
	Production	mt	18,892	17,985	18,694	18,694	19,074	19,503
Wool, greasy	Production	mt	3,224	3,224	3,209	3,271	3,300	3,373
Wool, scoured	Production	mt	1,773	1,773	1,765	1,799	1,815	1,855
Sheepskins, fresh	Slaughtered	head	1,145,000	1,090,000	1,133,000	1,133,000	1,156,000	1,182,000
	Production	mt	2,862	2,725	2,832	2,832	2,890	2,955
Indigenous sheep meat	Production	mt	18,550	16,891	16,679	16,797	17,415	17,350
Goats								
Goat meat	Slaughtered	head	1,399,000	1,332,000	1,385,000	1,385,000	1,413,000	1,444,000
	Production	mt	23,083	21,978	22,852	22,852	23,314	23,826
Goatskins, fresh	Slaughtered	head	1,399,000	1,332,000	1,385,000	1,385,000	1,413,000	1,444,000
	Production	mt	3,497	3,330	3,462	3,462	3,532	3,610
Indigenous goat meat	Production	mt	23,083	21,976	22,427	22,391	22,576	23,277
Chickens								
Chicken meat	Slaughtered	1,000	1,964	2,000	2,337	3,080	4,234	7,300
	Production	mt	1,375	1,400	1,636	2,156	2,964	5,862
Hen eggs	Laying	1,000	1,030	1,050	1,075	1,090	1,105	1,130
	Production	mt	9,785	9,975	10,213	10,355	10,498	10,735
	For hatching	mt	144	140	128	141	151	228
Indigenous chicken meat	Production	mt	1,375	1,395	1,601	2,086	2,824	5,585
Camels								
Meat of camels	Slaughtered	head	3,500	3,063	3,063	4,000	4,000	7,500
	Production	mt	560	490	490	640	640	1,200
Camel hides, fresh	Slaughtered	head	3,500	3,063	3,063	4,000	4,000	7,500
	Production	mt	105	92	92	120	120	225
Indigenous camel meat	Production	mt	824	490	490	640	640	1,200
Milk, total	Production	mt	205,660	195,760	197,400	199,400	202,140	207,480
Cheese, all kinds	Production	mt	14,048	13,375	13,620	13,721	13,936	14,317
Hides and skins, primary	Production	mt	8,505	8,077	8,187	8,265	8,412	8,710

(continued)

Table 15. Continued

Crop	Measurement	Units	1981	1982	1983	1984	1985	1986
Cattle								
Beef and veal	Slaughtered	head	109,000	112,000	115,000	117,000	119,000	120,000
	Production	mt	13,100	13,400	13,800	14,200	14,400	14,650
Cattle hides, fresh	Slaughtered	head	109,000	112,000	115,000	117,000	119,000	120,000
	Production	mt	1,990	2,050	2,100	2,140	2,180	2,200
Indigenous cattle meat	Production	mt	9,268	7,440	10,200	11,640	13,080	13,200
Sheep								
Mutton and lamb	Slaughtered	head	1,208,000	1,229,000	1,251,000	1,276,000	1,292,000	1,295,000
	Production	mt	19,932	20,278	20,641	21,054	21,318	21,367
Wool, greasy	Production	mt	3,485	3,545	3,609	3,682	3,727	3,736
Wool, scoured	Production	mt	1,917	1,950	1,985	2,025	2,050	2,055
Sheepskins, fresh	Slaughtered	head	1,208,000	1,229,000	1,251,000	1,276,000	1,292,000	1,295,000
	Production	mt	3,020	3,072	3,127	3,190	3,230	3,237
Indigenous sheep meat	Production	mt	17,532	17,803	18,661	18,414	18,678	18,727
Goats								
Goat meat	Slaughtered	head	1,476,000	1,502,000	1,528,000	1,559,000	1,579,000	1,582,000
	Production	mt	24,354	24,783	25,212	25,723	26,053	26,103
Goatskins, fresh	Slaughtered	head	1,476,000	1,502,000	1,528,000	1,559,000	1,579,000	1,582,000
	Production	mt	3,690	3,755	3,820	3,897	3,947	3,955
Indigenous goat meat	Production	mt	23,865	24,238	24,717	25,228	25,558	25,608
Chickens								
Chicken meat	Slaughtered	1,000	12,000	18,000	25,000	36,500	48,700	50,000
	Production	mt	10,200	16,200	25,000	36,500	48,698	50,000
Hen eggs	Laying	1,000	1,170	1,200	1,225	1,245	1,280	1,300
	Production	mt	11,115	11,400	11,638	11,828	12,160	12,350
	For hatching	mt	377	384	683	1,397	2,225	2,377
Indigenous chicken meat	Production	mt	9,749	15,336	23,954	35,364	47,578	48,850
Camels								
Meat of camels	Slaughtered	head	3,200	3,500	3,500	3,600	3,600	3,600
	Production	mt	512	560	560	576	576	576
Camel hides, fresh	Slaughtered	head	3,200	3,500	3,500	3,600	3,600	3,600
	Production	mt	96	105	105	108	108	108
Indigenous camel meat	Production	mt	512	560	560	576	576	576
Milk, total	Production	mt	212,920	216,600	220,340	224,520	227,600	229,040
Cheese, all kinds	Production	mt	14,650	14,899	15,157	15,449	15,657	15,738
Hides and skins, primary	Production	mt	8,796	8,982	9,152	9,335	9,465	9,500

Source: USAID ECIE database.

Table 16. Kilometers of Completed Road Network, Selected Years

Type of Road	1969	1980	1985
Dirt roads	--	798	1,061
Asphalted roads	423	1,402	2,293
Total, all roads	423	2,200	3,354

Source: Statistical Yearbook 1985, Central Planning Organization.

Table 17. Performance of Agricultural Subsectors During the First and Second Five-Year Plans

Agricultural subsector	Percentage change in production during: First FYP	Second FYP
Cereals	-16.0	-20.0
Vegetables	47.0	49.0
Fruits	27.0	54.0
Dry legumes	5.0	-41.0
Sesame	0.0	-20.0
Berseem (alfalfa)	8.0	24.0
Tobacco	17.0	-17.0
Cotton	-64.0	-20.0
Coffee	33.0	0.0
Poultry broilers	446.0	611.0
Poultry eggs	20.0	93.0
Red meat	NA	19.0
Milk	NA	16.0
Fish	NA	29.0

Source: Assessment Study for the Private Sector Investments in Agriculture during the Third Five-Year Plan 1987-1991 in the Yemen Arab Republic, March update, Faysal Y. Sharif.

Table 18. Traditional Division of Labor in Yemeni Agriculture on Spring Irrigated Lands

Activity	Household members performing
Grain production	
Land preparation, plowing	Men; women may feed draft animals
Terrace construction, maintenance	Men
Sowing	Men and women
Weeding	Women; usually
Thinning	Women; usually
Sorghum stripping	Entire household
Cutting sorghum heads	Women
Cutting sorghum stalks	Men
Tying stalks	Men and women
Transporting heads	Children, often with animal power
Transporting stalks	Women
Harvesting wheat and barley	Men and women
Threshing	Men and women; often with animal power
Winnowing	Older men and women; younger boys and girls
Grinding	Women
Legume production	
Thinning	Men and women; children depending on availability
Harvesting	Men and women; children depending on availability
Traditional vegetables	
Cultivating	Men
Harvesting	Men
Other vegetables	
Sowing	Men, women in the Tihama
Cultivating	Men, women in the Tihama
Harvesting	Men and women; women in Tihama

(continued)

Table 18 (Continued)

Activity	Household members performing
Fruit	
Planting	Men
Cultivating	Men
Harvesting	Men and women
Coffee	
Planting	Men
Irrigating	Men
Harvesting	Men, women, or entire household
Qat	
All tasks	Men
Guarding fields	Older men and women; children for fields other than qat
Livestock production	
Cow feeding	Women, girls; older members in extended households
Milking, except camels	Women; men milk camels
Fodder collection	Women
Sheep/goat herding	Boys and girls
Chicken care	Women; women usually own

Source: The Impact of Male Migration on Women's Roles in Agriculture in the Yemen Arab Republic, Najwa Adra, 1983.

Table 20. Eggs Available for Consumption, 1982-87

(Million eggs)

	1982	1983	1984	1985	1986	1987[b]
Production	120.3	128.5	178.0	214.8	232.0	240.0
Baladi flocks	110.0	110.0	115.0	110.0	105.0	105.0
Commercial	10.3	18.5	63.0	104.8	127.0	135.0
Imported	216.8	246.7	174.8	228.7	60.0	67.0
Total eggs	337.1	375.2	352.8	443.5	292.0	307.0
Total commercial	227.1	265.2	237.8	333.5	187.0	202.0
Baladi flocks						
Percent of production	91.4	85.6	64.6	51.2	45.3	43.8
Percent of total	32.6	29.3	32.6	24.8	36.0	34.2

Source: Economic Analysis of the Poultry Industry, Floyd Lasley.

Table 21. Time Spent in Domestic Activities by Three Classes of Women in the Southern Uplands Region

Activity	Time required in hours per day by:		
	Poor women	Average women	Well-off women
Water supply	3.0	1.5	0.0
Fuel collection	1.5 - 2.0	--	0.0
Grain grinding	2.5	0.0	0.0
Bread making	1.5	1.5	1.5

Source: Yemen Arab Republic Southern Uplands Rural Pioneer Women Develoment Project, Formulation Mission document, March 1986.

Table 22. Interest Rate Structure of Commercial Banks
(percent per annum)

	1984	1985	1986	1987
Interest on Loans:				
Advance to government	4	4	4	4
Commercial banks	15	15	15	15
Mortgage and personal loans	15	15	15	15
Interest on Deposits:				
3 months	9.5	9.5	9.5	10
6 months	10	10	10	11
9 months	11	11	11	12
12 months	12	12	12	13
Savings deposits	7	7.5	8	8.5

Source: The Central Bank of Yemen, Sana'a.

Table 23. CACB Loans During SFYP

Type of loan	1982	1983	1984	1986	1986	Total	Per-centage
Short-term, agricultural	21,509	27,454	26,389	35,110	36,164	146,626	18.3
Short-term, cooperative facilities	7,215	5,621	7,598	4,533	1,500	26,467	3.3
Total short-term loans	28,724	33,075	33,987	29,643	37,664	173,093	21.6
Medium-term loans, agricultural	62,984	112,323	126,365	155,378	161,768	619,318	77.3
Medium-term loans, cooperative	1,950	2,689	3,943	330	—	8,912	1.1
Total medium-term loans	64,934	115,012	130,308	156,208	161,768	628,230	78.4
Total loans	93,658	148,087	164,295	195,851	199,432	801,323	100.0
Bank securities	16,958	8,249	12,880	19,493	19,470	77,050	-
Grand total	110,616	156,336	177,175	215,344	218,902	878,373	-

Note: 1986 figures are actual for the first half and estimated for the second half of that year.
Source: CACB, Department of Planning and Statistics.

Table 24. Number of Loans Disbursed During SFYP 1982-1986
Cooperative and Agricultural Credit Bank

Type of loan	1982	1983	1984	1985	1986	Total	Per-centage
Short-term, agricultural	2,454	2,897	4,344	5,106	4,183	18,984	57.8
Short-term, cooperative facilities	48	34	45	11	9	147	0.4
Total short-term loans	2,505	2,931	4,387	5,117	4,192	19,131	58.2
Medium-term loans, agricultural	1,973	2,773	2,972	3,109	2,872	13,699	41.7
Medium-term loans, cooperative	8	8	8	1	-	25	0.1
Total medium-term loans	1,981	2,781	2,980	3,110	2,872	13,724	4.8
Total loans	4,483	5,712	7,369	8,227	7,064	32,855	100.00
Bank securities	118	65	117	97	173	570	-
Grand total	4,601	5,777	7,486	8,324	7,237	33,425	-

Note: 1986 figures are actual for the first half and estmiated for the second half of that year.
Source: CACB, Third Annual Report, 1984, Table (3) for 1982-1984, and unpublished data issued by the Department of Planning and Statistics for the years 1985 and 1986.

APPENDIX 2. RESEARCH-RELATED BILATERAL PROJECTS 1979 - 1983* IN YAR

Name	Organization, source of finance	Area of geographic activity - H.Q.	Year concluded	Continued up to
Potato improvement (Seed Potato Multiplication Projects)	Dutch	Dhamar	1977	continued
Plant protection	German	Sana'a	1974	continued
Agricultural development (Batana)	China, P.R.C.	Batana, Sana'a	1975	continued
Agricultural research and forestry (Dhamar)	British	Central Highlands	1977	continued
Reduction of harvest losses Southern Uplands	UNDP	Southern Uplands	1976	1977
Soil conservation and forestry development	German	Havaz Sana'a	1985	continued
Fodder improvement	UNDP	Sana'a, Taiz, Tihama	–	–
Wadi Al Jawf development	–	Al Jawf	1985	continued
Application of modern irrigation techniques	–	–	–	–
Rural development - Southern Uplands	WB/IFAD/Abu Dhabi		Southern Uplands	19761986
Rural development - Radaa	Dutch	Radaa	1976	continued
Rural development - Al Boun	German	Al Boun	1982	1985
Rural development - Khowlan	Islamic Bank	Khawlan	1977	1985
Rural development - Mahwit	German	Mahwit	1978	continued

*The Ministry of Agriculture has authorized the Agricultural Research Authority for research all over the country since 1983, therefore, the above projects were related to research before ARA formation.

Appendix 2 (Continued)

Name	Organization, source of finance	Area of geographic activity - H.Q.	Year concluded	Continued up to
Rural development - Saadah	Local	Saadah	1983	1986
Rural development - Central Highlands	WB/IFAD/A.F.D.	Dhamar	1985	continued
Rural development - Central Highlands	TDA WB/IFAD/ Kuwait	Zabid	1973	1985
Rural development - Rima'a	TDA WB/IFAD/ Kuwait	Rima'a	1979	1984
Rural development - Mower	IFAD/Kuwait/WB/ EEL/KFW (German)	Mower	1983	1986
Sorghum and millet improvement	USAID	Sana'a	1976	1983
Agricultural services project	FAO	Hodeidah	1975	1982
Horticulture improvement and training	USAID	Sana'a	1975	continued
Forestry development and plantation	FAO	Sana'a	1985	1990

*The Ministry of Agriculture has authorized the Agricultural Research Authority for research all over the country since 1983; therefore, the above projects were related to research before ARA formation.

Appendix 3

Yemen: Inventory of Policies Affecting Women in Agriculture

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
Macroeconomic policies				
Monetary policies	Control supply of money and access to financial resources	Central Bank	Negative impacts on entire agricultural sector: 1. Commercial Bank credit to agriculture discouraged 2. Rural savings discouraged	Interest rate controls on savings deposits and commercial bank loans discourage normal commercial bank lending and deposit activities
Fiscal policy	Revenue generation, protection of domestic industries, maintain low consumer prices	Ministry of Finance; Central Bank	In aggregate, generally neutral effects except for inflationary impacts of deficit financing	Import duties account for half of government revenues; budget deficits almost entirely financed by Central Bank
International trade and foreign exchange policies	Ration foreign exchange; maintain "low" consumer prices	MOETS, Central Bank	Negative effects on entire agricultural sector, including women: 1. Stimulated labor emigration from rural areas 2. Depressed domestic agricultural production and income growth 3. Reduced agricultural exports 4. Stimulated rapid growth of food and agricultural imports	Government policy overvalued Yemen currency relative to the U.S. dollar and currencies of major trading partners; various policy measures – import bans, import licenses, investment approvals, etc. – used to ration foreign exchange

(continued)

Appendix 3 (continued)

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
Investment policy	Ration foreign exchange; control direction and type of investment by private sector	Various ministries, Central Bank	No specific impacts on women; entire agricultural sector generally negatively affected	Few policies specifically directed to investment control and regulation, trade and foreign exchange policies used as indirect measures to control investment to ration foreign exchange
Sector Policies				
Taxation policies	Raise public revenue	Ministry of Finance	Qat tax has generally neutral impact on agriculture and rural women	Tax on qat is not widely enforced or collected, price elasticity of demand for qat highly inelastic
Credit Policies	Provide subsidized credit to agriculture	Cooperative and Agricultural Credit Bank (CACB)	Possible slight negative effect on women's household production of eggs and poultry	High proportion of total agricultural credit provided by CACB is lent at subsidized rates to commercial poultry operations
Natural resource policies	No policies			
Output marketing policies	Maintain "low" consumer prices, provide consumer needs as perceived by government	MOETS, other ministries, various parastatals	Effects on agriculture and rural women very limited; some slight negative effect on women's household poultry production	Most parastatals do not play important role in the economy, only cotton for export purchased by government entity, Marib Poultry Company receives government "privileges", which negatively affects competitive position affects competitive position of women's household poultry production
Agricultural trade policies	Ration foreign exchange; (perhaps) encourage domestic industry	MOETS, Central Bank	Same as international trade and foreign exchange policies	Same as international trade and foreign exchange policies

(continued)

Appendix 3 (continued)

Policy intervention	Purpose of policy	Institutions	Impacts on women in agriculture	Explanation
Production input policies	Ration foreign exchange	MOETS, Central Bank MAF, ARA	General negative effects on entire agricultural sector and rural women 1. increase production decision uncertainties 2. increase agricultural production costs 3. increase consumer prices	Rationing of foreign exchange through import licenses, import bans, etc. results in irregular and undependable supplies of imported agricultural production inputs
Agricultural technology policies	Increase productivity of agricultural sector	ARA regional development projects	Very limited impacts on agriculture and rural women	Agricultural research programs new and have not yet produced notable research output, extension programs limited to regional development projects with little research to extend

APPENDIX 4. LIST OF PERSONS CONTACTED

Agricultural Research Authority

Abdurahman Sallam, Director General

Central Highlands Regional Development Project

Helen Dubok
Tom Lomas
Abdullah Amer

Ibb Secondary Agricultural Institute

Craig Runyon, Acting Team Leader

Ministry of Agriculture and Fisheries

Dr. Nurredin Taqeiddin, Adviser to the Directorate of Planning and Statistics

Mohammed al Nuwera, Director of Statistics

Audrey Dibble, Director Adviser, Information Center

Peace Corps/Yemen

Russ Morrison, Associate Director

Royal Netherlands Embassy

Ton G. Vink

Sana'a University, Faculty of Agriculture

Royal Brooks, FOA Team Leader

Southern Uplands Rural Development Project

Mohammed al Eryani, Director

Appendix 3 (Continued)

USAID/Yemen

Kenneth Sherper, Director
Robert Mitchell, General Development Officer
George Miller, Deputy Agricultural Development Officer
Banilia al Ajineh, Program Assistant
Mohammed Abubaker, Agricultural Assistant
Abdullah Taher ben Yehya, Agricultural Assistant
Curt Wolters, Deputy Program Officer
John Schamper, Agricultural Development Officer
John Rifenbark, Agricultural Development Officer
F. Rudolph Vigil, Agricultural Development Officer

Yemeni Women's Association

Ria Vet-Hennink, Consultant to the Yemeni Women's Association

APPENDIX 5. BIBLIOGRAPHY

Adra, Najwa. "Notes on Yemen: Social Structure, Poverty, and the Position of Women in Al-Ahjur," International Center for Research on Women, February 1981.

_____. "Suggestions for Increasing the Involvement of Women in Agriculture Education Activities and for Increasing the Impact of Secondary Agriculture Education in Yemen on Women Farmers," Consortium for International Development/YAR Ministry of Education/ USAID, (Title XII Agricultural Development Support Program; A.I.D. Project 279-0052; Yemen Arab Republic), May 1984.

_____. "The Impact of Male Migration on Women's Roles in Agriculture in the Yemen Arab Republic," prepared for the Inter-Country Experts Meeting on Women in Food Production, Amman, Jordan, October 22-26, 1983.

Ansell, Christine. "Women and Health in Mahweit Town," (Applied Research Report No. 4), American Save the Children/Yemen, March 1981.

Beckerleg, Susan. "Socio-Religious Factors Affecting the Breastfeeding Performance of Women in the Yemen Arab Republic," *Human Nutrition: Applied Nutrition*, V.38A, No. 5, pp. 368-376, October 1984.

Brown, M.W. and Ali Al Suwaidi. "Agricultural Produce Prices Dhamar Sug, 1987," U.K. Overseas Development Administration/Ministry of Agriculture, (Central Highlands Rural Development Project, Risabah, Yemen Arab Republic, Publication 138; ISSN 0251-0375), May 1988.

Buringa, Joke. "Yemeni Women in Transition: How Development Cooperation Could Fit In," (preliminary draft), Ministry of Foreign Affairs, Netherlands/Dutch Embassy, Sana'a, February 1988.

Carapico, Sheila and Sharon Hart. "The Sexual Division of Labor and Prospects for Integrated Development: Report on Women's Economic Activities in Mahweit, Tawila, and Jihana Regions, Yemen Arab Republic," (submitted to USAID/Yemen, Community Development Foundation, and Confederation of Yemeni Development Associations), June 1977.

Center for International Programs, "Secondary Agricultural Education in Yemen Arab Republic: Enhancing the Future Effects of the Ibb-SAI/ADSP Subproject," a Concept Paper, July 1987.

Chamie, Mary. *Women of the World: Near East and North Africa*, Washington, D.C.: U.S. Department of Commerce, Bureau of the Census for Office of Women in Development USAID, February 1985.

Cloud, Kathleen. "Women's Productivity in Agricultural Systems: Considerations for Project Design," prepared for the Harvard Institute for International Development Case Study and Training Project funded by USAID, no date.

Coe, Elisabeth. "AGS Regular Programme Consultancy Report on Agriculture Extension Training for Men and Women in the Yemen Arab Republic," Food and Agriculture Organization of the United Nations, September 1986.

Coleman, Susan Long. "Women in Development Projects in the Yemen Arab Republic," written for USAID/Yemen, November 1983.

Cornell University, Center for International Studies, Rural Development Committee, "Descriptive Profiles of Sample *Uzlas* in Hajja and Hodeidah Regional Baseline Study Report, Vol. II," Cornell University Rural Development Participation Project, USAID/Yemen Project 270-0045, July 1980.

Dorsky, Susan. *Women of 'Amran: A Middle Eastern Ethnographic Study*, Salt Lake City, University of Utah Press, 1986.

Dubok, Helen and Tegia Ytages. "Socio-Economic, Behavioral, and Attitudinal Aspects as They Relate to House-Cow Management by Rural Women in Dhamar, Yemen Arab Republic," U.K. Overseas Development Administration/Ministry of Agriculture, (Central Highlands Rural Development Project, Risabah, Yemen Arab Republic, Publication 139; ISSN 0251-0375), 1988.

Fitch, James B. and Alfred R. Halverson. Fertilizer Use and Distribution in the Yemen Arab Republic a study prepared for the Ministry of Agriculture and Fisheries and the U.S. Agency for International Development, Washington State University, May 1988.

Hammam, Mona. "Regional Training Program for Women: Considerations, Suggestions, and Needs," submitted to USAID/NE/TECH/HRST, (Project No. 298-0035, Purchase Order AID/NE-147-79-7), August 1979.

Herbert, Mary. "Preliminary Field Report: Socio-Economic Conditions and Development, Maghlaf, Hodeidah Governorate," Cornell University, Center for International Studies, Rural Development Committee, (Yemen Research Program, Working Note No. 8), USAID/Yemen Project 270-0045, March 1981.

Hooper, Emma. "Report of a Women in Development Workshop, Sana'a, Yemen Arab Republic, July 2-7, 1988," International Center for Research on Women, 1988.

Howe, Gary Nigel. " The Present and Potential Contribution of Women to Economic Development: Elements of a Methodology and an Analysis of the Yemen Arab Republic," (report submitted to USAID, PPC/WID), April 1985.

Howe International Ltd., Feasibility Study: Procurement, Storage, and Distribution of Foodgrains, Yemen General Grain Corporation, Yemen Arab Republic, Vol. 1, no date.

_____. "Domestic Practices in the Rada' District," YAR Ministry of Agriculture and Fisheries/Kingdom of the Netherlands, Ministry of Foreign Affairs, Department of International Technical Assistance, (Rada' Integrated Rural Development Project Technical Note No. 11), February 1983.

_____. "Integrated Rural Development as a Means of Improving Conditions of Life in Rural Women: Proceeding of the Seminar," YAR Ministry of Agriculture and Fisheries/Kingdom of the Netherlands, Ministry of Foreign Affairs, Development Cooperation, May 1985.

_____. "Women in Child Care: Study of Mother and Child Care in the Rada' Area of the Yemen Arab Republic," YAR Ministry of Agriculture and Fisheries/Kingdom of the Netherlands, Ministry of Foreign Affairs, Department of International Technical Assistance, (Rada' Integrated Rural Development Project Technical Note No. 4), November 1979.

_____. "Women's Participation in Development: A Discussion Note Submitted by Ilaco," Rada' Integrated Rural Development Project, September 1979.

International Science and Technology Institute, Inc., "Agricultural Sector Assessment Yemen Arab Republic Update, 1985," submitted to USAID/Yemen Arab Republic, (Contract No. PDC-0000-I-3083-00), January 1986.

Jiggins, Janice. Gender-Related Impacts and the Work of the International Agricultural Research Centers, CGIAR, (Study Paper No. 17), 1986.

Kearns, Jena Ruley. "Proposed Satellite Activity" WID-Home Economics Learning Program (WID HELP), (Appendix V, CID CORE Project Paper), July 1979.

Kelsey, Peggy. Christine Ansell, and Wally Swanson. "Activities to Date of the Women's Poultry Demonstration/Experiment," March 1980.

Lasley, Floyd A., Kendrick A. Holleman, and J. Robert McDowell. "Economic Analysis of the Poultry Industry of the Yemen Arab Republic," Ministry of Agriculture and Fisheries and CID/PETS, April 1986.

Lasley, Floyd A. "The Poultry Industry in Yemen: Changing Economics and Structure," report submitted to the Ministry of Agriculture and Fisheries and to USAID, April 1988.

Myntti, Cynthia. " Report on Female Participation in Formal Education, Training Programs and the Modern Economy in the Yemen Arab Republic," London School of Economics, Department of Anthropology, (submitted to USAID), April 1978.

_____. "Women and Development in Yemen Arab Republic," Eschborn/ German Agency for Technical Cooperation (GTZ), 1979.

_____. "Women in Rural Yemen," London School of Economics, Department of Anthropology, submitted to USAID, November 1978.

Nyrop, Richard F., et. al. *Area Handbook for the Yemens*, Washington, D.C.: The American University, revised edition, research completed June 1985, (Foreign Area Studies, Area Handbook Series), 1986.

Obermeyer, Judith. "Women's Poultry Survey Al-Mahweit", American Save the Children/Yemen, December 1978.

Overseas Education Fund, "Proposal to USAID from OEF for Operational Program Grant to Improve the Socio-Economic Conditions of Low-Income Women of Yemen Through Strengthening of the Yemeni Women's Association," March 1980.

Payne, Loretta. "Partial Evaluation of the Poultry Extension and Training Subproject (PETS) Based on Impact at the Household Level," September 1987.

Pyburn, K. Ann. "A Study of Women in Agricultural Extension in the Yemen Arab Republic," for USAID Ibb Secondary Agricultural Institute, August 1987.

Ronco Consulting Corporation, Fruit and Horticulture Sub-sector Assessment, Yemen Arab Republic, August 1986.

Ross, Clark, Philip Boyle, Don Harrison, and Charles Nicholson. "The Effects of Structural Adjustment in Senegal," submitted to the Bureau of Africa, Office of Development Planning, USAID, August 1987, (Under Macro-economic Indefinite Quantity Contract) especially Annex 3: Women in Senegal's Agricultural Sector: A Summary of Their Activities and the Effects of Policy Interventions.

Ross, Lee Ann. "Yemen Migration - Blessing And Dilemma," prepared for the A.I.D. seminar on Near East labor flows, September 20, 1977.

Saggaf, Abdulaziz Y. Fiscal and Budgetary Policies in the YAR, paper presented to the International Symposium on Contemporary Yemen, Exeter, Great Britain, July 15-18, 1983.

Senykoff, Ronald S. and Douglas J. Norton. *Inventory of Agricultural Land Use for the Yemen Arab Republic: A Project Using Earth Resource Satellite Technology and Cost-Effective Methods*, Final Report, Land Use Summary and Arabic Translation, Washington, D.C., Near East Bureau, USAID, Department of State, (Contract No. AID/NE-C-1665), 1983.

Sharif, Faysal Y. "Assessment Study for the Private Sector Investment in Agriculture During the Third Five-Year Plan, 1987-1991, in the Yemen Arab Republic, March 1987 Update," March 1987.

Stevenson, Thomas B. *Agricultural Extension Service in Yemen: Assessment of Current Programs and Recommendations for Improvement Consortium for International Development*, July 1982.

_____. *Social Change in Yemeni Highlands Town*, Salt Lake City, University of Utah Press, 1985.

Swanson, Jon C. "Preliminary Field Report: Socio-Economic Conditions and Development, Bani'Awwam, Hajja Governate," Cornell University, Center for International Studies, Rural Development Committee, (Yemen Research Program, Working Note No. 9), USAID/Yemen Project 270-0045, March 1981.

Swanson, Jon C. and Mary Hebert. "Rural Society and Participatory Development: Case Studies of Two Villages in the Yemen Arab Republic," Cornell University, Center for International Studies, Rural Development Committee, USAID/Yemen Project 220-0045, September 1981.

Swanson, Rebecca L. "Role of Women in the Yemen Arab Republic," September 1975.

Tutwiler, Richard. "General Survey of Social, Economic, and Administrative Conditions in Mahweit Province, Yemen Arab Republic," (Final Report of Grant No. AID/NE-G-1308), December 1978.

United Nations, Food and Agriculture Organization, Agricultural Research and Development, Yemen Arab Republic, Report of the Evaluation Mission, UTFN/YEM/001/YEM, October 1986.

USAID, Country Development Strategy FY'88, Yemen, April 1986.

USAID/Yemen, Title XII Agricultural Development Support Program (279-0052), Yemen Arab Republic, Faculty of Agriculture Subproject Paper. February 1984.

Varisco, Daniel M. "The Ard in Highland Yemeni Agriculture," *Tools and Tillage*, Vol. 4, No. 3, pp. 158-172, 1982.

_____. "Land Tenure and Water Rights in the Central Highlands," (report submitted to the IFD team, Attachment 1), August 1985.

Vogel, Horst. "Terrace Farming in Yemen," *Journal of Soil and Water Conservation*, Vol. 42, No. 1, pp. 18-21, January/February 1987.

Washington State University, "Fertilizer Use and Distribution in the Yemen Arab Republic," a study prepared for the Ministry of Agriculture and Fisheries and USAID, (James B. Fitch and Alfred R. Halverson), May 1988.

Weidemann, Wesley C. and Faysal Sharif. "Yemen Arab Republic Agribusiness Development Problems and Potential," submitted to USAID/Yemen Arab Republic, (Assistance to Resource Institutions for Enterprise Support [ARIES] Project, Contract No. DAN-1090-C-00-5124-00), August 1988.

World Bank, "Mobilization of Domestic Financial Resources in the Yemen Arab Republic", (Report No. 3445a-YAR), January 1982.

World Bank, Yemen Arab Republic: The Impact of Recent Oil and Gas Discoveries on the Macroeconomy and Energy Investment Options, (Report No. 6376-YAR), February 1987.

Yemen Arab Republic, Ministry of Agriculture and Fisheries, Director of Planning and Statistics, "Draft Third Five-Year Plan for Agricultural Sector," prepared by Nurredin Taqeiddin in cooperation with the Directorate of Planning and Statistics, Sana'a, December 1986.

Yemen Arab Republic, Official Gazette, No. 13, Command Council Decree No. 142 for 1975, regarding the organization of the Ministry of Agriculture and Fisheries, December 31, 1985.

Yemen Arab Republic, "Southern Uplands Rural Pioneer Women Development Project: Formulation Mission," (Main Report and 7 Annexes), (47/86 IF-YEM 25), March 1986.

Youseff, Nadia. "Women and Agricultural Production in Muslim Societies," paper presented for the seminar on "Prospects for Growth in Rural Societies: With or Without Active Participation of Women," Princeton, N.J., December 1974.