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INTER-AMERICAN INSTITUTE FOR COOPERATION
ON AGRICULTURE

INTER-AMERICAN DEVELOPMENT BANK

Program for the Analysis of Agricultural Policies
vis-a-vis Women Food Producers
in the Andean Region, the Southern Cone
and the Caribbean

WOMEN FOOD PRODUCERS IN BARBADOS

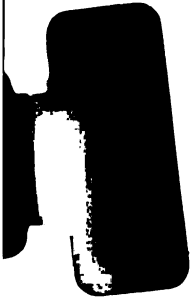
NATIONAL SUMMARY

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TECHNICAL COOPERATION AGREEMENT IICA/IDB/ATN-SF-4064-RE

AREA OF CONCENTRATION IV'
SUSTAINABLE RURAL DEVELOPMENT



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**PROGRAM FOR THE ANALYSIS OF AGRICULTURAL POLICIES
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- Inter-American Institute for Cooperation on Agriculture (IICA).
Inter-American Development Bank (IDB).
February, 1996.

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IICA's Editorial Service was responsible for the stylistic revision, typesetting and layout of this publication, and IICA's Print Shop for the printing.

Cummins, Dianne

Women food producers in Barbados : national summary / Dianne Cummins, Ena C. Harvey. — San Jose, C.R. : Inter-American Institute for Cooperation on Agriculture, 1996.
61 p. ; 28 cm.

Technical Cooperation Agreement IICA/IDB/ATN-SF-4064-RE.
Program for the Analysis of Agricultural Policies vis-a-vis Women Food Producers in the Andean Region, the Southern Cone and the Caribbean.

1. Mujeres rurales - Barbados. 2. Política agrícola - Barbados.
I. Harvey, Ena C. II. IICA. III. BID. IV. Título

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PREFACE

The Program for the Analysis of Agricultural Policies vis-a-vis Women Food Producers in the Andean Region, the Southern Cone and the Caribbean, executed by the Inter-American Institute for Cooperation on Agriculture (IICA) and financed by the Inter-American Development Bank (IDB) under Technical Cooperation Agreement ATN/SF-4064-RE, is the second phase of a program which included 18 countries in Latin America and the Caribbean: Barbados, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

The first phase of the Program was implemented in 1992-1993 in six countries in Central America, under the auspices of the Council of Central American Ministers of Agriculture. The second phase was carried out by request of the First Ladies during their Summit Meeting on the Economic Advancement of Rural Women, held in Geneva, Switzerland, in February 1992.

Through a better understanding of the economic and social roles played by women in small-scale agriculture, along with a critical analysis of national policies and programs focusing on the agricultural sector and on women, this joint IICA-BID program seeks to contribute to the reorientation and design of policy strategies for the sector and for rural development in general. The objective is to benefit women producers and the small agricultural units with which they are usually associated.

This document synthesizes national research results obtained over nearly a year during 1993-1994 and sets out the principal findings in the four research areas of the program, which were:

- * Analysis of the contributions of women to food production on small agricultural units and to the agricultural sector as a whole.*
- * Analysis of agricultural sector policies and programs and their effects on rural women.*
- * Evaluation of the technology utilized on small agricultural production units and the participation of women in these technological processes.*
- * A study of the roles of women in the processing and marketing of food products.*

Chapter I of this document looks at the contributions of women to national agricultural and food production through an analysis of secondary sources; a new estimate of total women employed in the agricultural sector is also provided. Chapters II, III and IV present syntheses of the principal findings of the IICA/BID Survey and other national studies on women agricultural producers. These chapters also analyze the participation of women in production, in technological processes, and in the processing and marketing of the output of small production units. An estimate of women's contribution to household income and family well-being is provided.

In spite of women's considerable contributions to all aspects of agriculture, from labor to marketing and financial management, they continue to be denied access to credit, training, extension and technology transfer, land tenure, and other benefits. This situation is analyzed in Chapter V.

Chapter VI presents conclusions and recommendations on policies and programs. While preliminary, these recommendations are intended to stimulate the formulation of new policy proposals, joint efforts with the agricultural and planning ministries, the offices of the First Ladies, and public and private agencies working in agricultural and rural development.

The methodology followed was based on the study of macroeconomic policy focused on agriculture, other sectoral policies, and their influence on the participation of women food producers.

I. PARTICIPATION OF WOMEN IN AGRICULTURAL PRODUCTION

Agricultural production, once the mainstay of the Barbadian economy, has been steadily declining since the 1970s, but nevertheless continues to make an important contribution to the country's economic development and to employment. Agricultural production takes place throughout Barbados as there are no clearly delineated rural or urban sectors with communication, transportation and other services easily accessible by all areas.

The contribution of Barbadian women to the sector and to economic development as a whole is slowly being recognised and validated as various women, women's organisations and a few men have been researching, analysing and documenting their contributions at various levels. However, if we accept that there is an urgent need to bring agriculture back to a central place in the Barbadian economy, then women must be among the key actors in this process of planning and policy development.

A. Agricultural Context and Food Production

The Barbadian economy has been export driven, traditionally based on sugar, at one time the major foreign exchange and revenue earner. It was subsequently replaced by manufacturing and tourism. With the decline of the sugar industry, the importance of the agricultural sector to the economy also declined. The sector is presently a relatively small but nevertheless important contributor to Gross Domestic Product (GDP), contributing some US\$30 million in 1992.

While the importance of sugar has been declining, the non-sugar agriculture and fishing sector has been steadily increasing its share of the GDP. This sector moved from US\$12.7 million (4%) in 1970 to US\$19.2 (5%) in 1992 (Table I.1). It was the only productive sector to record real growth during 1992. Non-sugar agriculture primarily comprises livestock, root crops and vegetable production. The sugar industry, on the other hand, contributed only US\$11.5 million (3 per cent) to GDP in 1992. Manufacturing and tourism accounted for US\$38.1 million (9.5 per cent) and US\$56.8 million (14 per cent) respectively.

Table I.1. Estimates of Barbados real gross domestic product in 1970, 1980 and the 1988-1992 period (in US\$ millions and 1974 prices).

Sector of origin	1970	1980	1988	1989	1990	1991	1992
Sugar	33.1	28.8	17.1	14.1	14.8	14.0	11.5
Non-sugar agriculture and fishing	12.7	12.5	15.9	15.9	17.4	17.1	19.2
Mining and quarrying	0.5	2.2	3.4	3.1	3.3	3.2	2.9
Manufacturing	26.1	47.4	42.9	45.2	44.0	41.5	38.1
Electricity and water	3.9	8.4	12.7	13.1	13.2	13.6	13.8
Construction	23.0	28.2	31.0	33.5	30.1	27.8	25.2
Wholesale, retail trade	61.4	78.3	88.3	90.5	86.0	80.8	74.2
Tourism	26.0	55.5	61.6	67.8	61.1	57.6	56.8
Transport, storage and communication	22.3	24.9	32.4	34.5	34.5	33.8	32.6
Business and general services	62.2	64.1	75.1	77.8	75.3	73.8	70.0
Government services	42.8	51.0	58.7	59.3	60.2	59.0	56.0
Total	313.8	401.2	438.8	454.5	439.6	421.9	400.1

Sources: Barbados Statistical Service 1970; Barbados Central Bank 1980-1992.

The agricultural sector's contribution to employment has also been decreasing over the years, but it nevertheless continues to employ a significant number of persons. As Table I.2 shows, 9 400 persons or 9 per cent of the economically active population (EAP) were employed in the sector in 1981. By 1991, this had dropped to 5 600 persons or 5.5 per cent of the EAP. There was a marginal increase in 1992 with some 6 000 persons (6.2 per cent of the EAP) employed in the sector.

The movement away from agriculture by both women and men is due to a number of factors including declines in sugar production and in the area of land under commercial agriculture; poor returns for farming; increased mechanisation; a general anti-agricultural bias and a dislike of plantation labour. A major contributing factor has been the relative attractiveness of employment in other sectors, particularly the service-related sectors and in manufacturing. Increased access to educational opportunities has also been a factor as a system of free education was introduced during the 1960s. However, anecdotal evidence suggests that, as a result of the recession, an increasing number of people and women in particular are returning to a dependence on agricultural production either for subsistence or for income to support their families.

Table I.2. Employed labour force by industry group for the 1981-1986 and the 1991-1992 periods (in thousands).

Industry group	1981	1982	1983	1984	1985	1986	1991	1992
Agriculture & fishing	9.4	8.4	7.7	8.4	7.8	7.9	-	-
Sugar	-	-	-	-	-	-	2.2	2.5
Other agriculture & fishing	-	-	-	-	-	-	3.4	3.5
Manufacturing	14.1	13.8	12.7	12.5	12.0	11.0	10.2	10.0
Electricity, gas, water	1.2	1.6	1.9	1.9	2.3	2.2	1.7	1.6
Construction & quarrying	6.3	7.6	7.8	6.8	7.1	8.2	8.5	7.3
Distributive trades, restaurants, hotels	23.4	21.8	21.5	19.9	20.1	21.1	-	-
Wholesale/retail trade	-	-	-	-	-	-	16.0	14.3
Tourism	-	-	-	-	-	-	8.8	9.5
Transport & communication	4.8	4.9	5.4	5.1	5.1	5.5	4.9	4.1
Financial institutions, insurance, etc.	3.9	3.7	3.5	3.3	3.1	3.1	-	-
Finance, insurance, business services	-	-	-	-	-	-	3.9	4.2
Services (government, others)	37.1	35.5	35.2	35.2	34.6	37.2	-	-
General services	-	-	-	-	-	-	18.6	18.0
Government services	-	-	-	-	-	-	23.2	21.0
Not stated	-	-	-	-	-	-	0.1	0.0
TOTAL	100.2	97.3	95.7	93.1	92.1	96.2	101.5	96.0

Source: Barbados Statistical Service.

The government began to articulate a diversification policy in the 1960s to decrease the traditional dependence on sugar. Despite this, production has failed to either satisfy local demand or to maintain any guaranteed regional or international markets. There are various reasons for the difficulties experienced in getting agricultural diversification on a firm footing. These, according to Brathwaite (1993), are primarily concerned with the anti-agricultural bias existing in the society; low productivity; inadequate use of technology and inefficient marketing practices. He also notes other contributing factors such as the high costs of production and distribution; and poorly integrated production and marketing systems, particularly in relation to access to information.

The primary agri-foods presently produced are root crops, particularly yams, cassava and sweet potatoes, but also vegetables and livestock. The period 1980 to 1992 saw a general decline in both root crop and vegetable production. However, there have been some recent significant improvements in root crop production. Livestock production, particularly poultry, beef and pork grew significantly over the same period. There have also been significant increases in milk and in egg production. Barbados is presently self-sufficient in fresh pork, broiler meat and egg production.

Small farmers are playing a crucial role in feeding the country's population, thus contributing to its well-being despite the fact that they generally operate on minuscule plots on land. It is estimated that they account for:

- over 60 per cent of vegetable production;
- 45 per cent of poultry production;
- 40 per cent of egg production;
- 40 - 50 per cent of milk production.
- 85 per cent of dairy/beef cattle production;
- 100 per cent of sheep production; and
- 60 per cent of pig production.

B. Contributions of Women to Food Production

Throughout the history of Barbados, women have played a significant role in the production, processing and marketing of food commodities. However, their participation has been underestimated in the official statistics largely because of a male bias in the collection and analysis of data. Women's involvement in agricultural productive activities both in the field and in the home have been underestimated, along with their other productive activities. In addition, the importance of their reproductive activities¹ to the maintenance of the agricultural sector has also been unrecognised in official statistics and in the generation of economic data. It is often assumed that the female in a farming household where a male is present is not a farmer but a homemaker or housewife; this is also extended to other females on the farm such as daughters and other relatives. In contrast, this project's survey of 146 female farmers found that women are the ones responsible for managing the farm even where a man is present.

Women's involvement in agriculture as men's has been steadily decreasing over the years with the increasing attraction of jobs in the service sector and the orientation of the island's economy towards tourism and manufacturing over the last two decades. According to the official statistics, the number of women employed in agriculture (including sugar and fisheries) was 1 900 or 4 per cent of the female economically active population (EAP) in 1992. If sugar is excluded, only 2 per cent of the female EAP was employed in the agricultural sector, including fisheries. Females accounted for some 31 per cent of the agricultural sector's EAP. Women are important particularly as paid permanent female workers on agricultural holdings, as well as both paid and unpaid family workers. Forty-five per cent of the paid family members reported were female, as were 59 per cent of unpaid family workers.

¹ Reproductive activities refer to the domestic duties as well as all those activities associated with the care, maintenance and social reproduction of the family. They include caring for children and other members of the family, cooking, cleaning, washing, ironing, etc. and participating in community and social activities.

Because we argue that the involvement of women in the productive sectors in general is undercounted and therefore undervalued, an attempt was made to re-estimate the number of women involved in the sector. We felt that this would be one step towards indicating to policy-makers, planners, extension officials and other relevant personnel the need to take account of this in their work. The method of doing this is outlined below.

The Census data revealed that there were 6 714 holdings operated by women, representing the approximate number of women who were involved in farming activities at the time of the Census. The data also showed that there were reportedly 5951 female workers comprising paid permanent and occasional workers and paid and unpaid family workers. Another consideration was that, as stated earlier, many women who are actively involved in farming define themselves as housewives rather than farmers or unpaid family workers. It is therefore likely that a number of women were inaccurately classified as housewives at the time of the Census. We argue that there is likely to be one woman on at least half of the male-operated agricultural holdings, and who works on a part-time basis on the farm but who was not classified as a worker. To the original figure of 6 714, we therefore added 5 951 and 5 200 resulting in a new figure of **17 865 women involved in farming activities in Barbados**. Such a high number of women involved in the agricultural sector does not appear in any of the official statistics.

This re-estimation of the number of women involved in the agricultural sector confirms the importance of women to the sector, the crucial role that they play in the sector and reconfirms the need for policy makers and planners to employ a gender analysis in the development of policies and programmes.

II. CHARACTERISTICS OF THE PARTICIPATION OF WOMEN IN FOOD PRODUCTION

The results of the survey of 146 female farmers as well as other studies of female farmers in the Caribbean attest to the enormous participation of women in shouldering the work load on small farms. At the same time, they have the major responsibility for maintaining the home and caring for their children and families. These factors place constraints on women in terms of the way in which they operate, the kinds of activities they get involved in and their access to and use of resources. A key factor is the life cycle of the family, that is the age and sex of household members.

The survey data brought out the overwhelming responsibility that the women farmers assume for reproductive activities and, in contrast, the virtual lack of involvement in these activities by the males in the household. These reproductive activities are carried out in conjunction with the women's farming activities. Over 90 per cent of the respondents said that they were responsible for food preparation and washing clothes; over 70 per cent of the respondents ironed clothes, cleaned the house and did the shopping.

Although only 34 per cent of the respondents reported having primary responsibility for child care, that activity took up a disproportionate amount of time when compared with other reproductive activities. According to the respondents, they spent an average of thirty-three hours per week on child care. The reproductive activities taking up the most time after child care were food preparation (14½ hours) and tending the garden (13 hours). Most of them produced vegetables, primarily cucumbers, string beans, carrots, lettuce and cabbage, and sweet potatoes for sale. Only approximately one per cent of the majority of the crops were consumed. Extension officers, however, confirm that women are more heavily involved in vegetables and root crops and livestock, in particular pigs, sheep and small stock, but they play virtually no role in cattle farming.

An attempt was made to calculate the contribution of women to the farm family income as another method of indicating their importance to the sector. We looked at factors such as the primary and secondary economic activities of women and men between the ages of 15 to 40 in the farm family, including both income and non-income producing activities in our analysis. The survey data revealed a pronounced tendency for male members of the family unit to work off-farm, whereas women tend to work on the farm. Forty-eight per cent of the female farmers reported on-farm work as their primary activity.

We assumed that there is an equal dedication of time by sex to what family members consider primary activities, and that the family will distribute its labour time so as to maximise the returns to labour (both within the farm and between farm and non-farm sources of income); Table II.1 provides a further indication of the relative importance of women in these activities.

Table II.1. Division of family income by on-farm and off-farm activities in Barbados in the 1993-1994 period.

	On-farm	Off- farm	Total
Men	.09	.36	.45
Women	.40	.14	.54
Total	.49	.50	1.00

Based on the participation in primary activities only, and given the assumptions stated above, it can be seen from Table II.1 that family income divides virtually half and half between off-farm and on-farm sources, with 49 per cent of family income being provided by the farm. As noted previously, women's participation in this income source is considerably higher than men's, with .40/.49 or 81 per cent of the farm income being provided by women. Taking into consideration both on- and off-farm participation in income activities, we calculated that women produce 55 per cent of the family income, compared to 45 per cent provided by male family members. It should be noted that reproductive activities are not included in this estimation since attempts are still ongoing by various persons and agencies to develop a method of calculating the value of this unwaged work.

The data from the survey generally correspond to data from other surveys which have found that women in the Caribbean hardly belong to or participate in clubs and organisations. The most popular organisation for women in this survey was a church-related club. Only 23 per cent participated in any kind of farmers' organisation, with 35 per cent doing so on a frequent basis. In terms of programmes geared towards women, only four women stated that they were aware of such programmes and only one had taken part in a women's programme.

It was found that agricultural organisations are dominated by males both at the levels of leadership and membership. This reflects the situation in the wider society and reconfirms the need for women's empowerment. An analysis revealed only two female presidents of agricultural organisations, few board members and limited membership of organisations. The BAS, the largest organisation made up of various commodity groups, noted that its membership mainly comprises men and families. Its Food Crops Farmers' Association was the only one with a majority female membership and a female as president. The BAS' commodity groups also have a disproportionate number of whites and large farmers in leadership positions confirming the importance of race, class and gender as factors in Barbadian society.

In terms of women farmers' participation in decision-making on the farm vis-a-vis her partner, the women in the survey have overwhelming responsibility for the operations of the farm. She is the major decision-maker for each type of decision, but more so in the areas of products to

be sold, marketing, farm management, the use of profit and the organisation of production. However, it seems that both partners decide together about many of the major or high-risk areas such as crop production, crops to be planted, and livestock to be raised. Male participation increases in areas such as the use of profit, the products to be sold, farm management and the organisation of production. Overall, however, the woman takes on the responsibility for running the farm and is also primarily responsible for the reproductive aspects of the farm household

Some of the obstacles identified with women's participation in food production include the overwhelming responsibility for reproductive activities, lack of access to or use of resources such as credit, extension services, and training. In addition, non-involvement in farmers' organisations could hinder their access to necessary and timely information. It was also found that women have the smallest of the small farms, operating on some 0.14 hectares according to the Census. The average size of the farms in the survey was .09 hectares, with 121 or 83 per cent of the women operating on less than two hectares. Another problem women face is an apparent preference by landlords/ladies to rent agricultural land to men because of a perception that women are not serious farmers.

The single most mentioned problem by the farmers in the survey was that they faced discrimination as a woman: this was identified by 14 per cent of the respondents. Labour problems were mentioned by 9 per cent. They also expressed difficulties in terms of finding men willing to work for them and subsequently in gaining respect and cooperation from male employees. Lack of financing was suggested by only 12 per cent of the respondents. As suggested above, anecdotal evidence from extension officers, officials of agricultural agencies and the enumerators in the survey also point to the increasing numbers of women returning to or entering into farming for subsistence or on a commercial basis as the recession worsens. It is therefore necessary to reconsider women's participation and for policymakers to acknowledge this and incorporate the information into their planning.

III. CHARACTERISTICS OF THE PARTICIPATION OF WOMEN IN THE PROCESSING AND MARKETING OF FOOD

Although the cottage industry and micro-enterprise food processing sector is dominated by women, the majority of these women are not small farmers. At the small farmer level, processed foods prepared on the farm tend to be largely for use by the household, rather than for commercial sale. Commercial processing was observed only for the slaughter, dressing and packaging of chilled poultry, shelled and frozen pigeon peas, and preparation of sweet potato "pudding and souse." In these cases, women were primarily responsible for all processing activities.

The virtual absence of processing as a commercial activity on small farms in Barbados is a reflection of the under-development of the national agro-processing sector, the heavy reliance on imported processed foods, and the lack of awareness of the processing and commercial potential of locally available fruits, vegetables and root crops. Thus, opportunities for the production of semi-processed products (such as frozen vegetables and root crops, minced hot pepper, brined vegetables, solar dried products) are lost to the farmer.

Small-scale producers market their vegetables and livestock products in a variety of ways. For example, sales may be transacted at the farm gate level: a farmer may sell sweet potatoes 'by the rod' to hucksters who would harvest the crop themselves; or harvested produce may be picked up at the farm, on the basis of sales confirmed by telephone with middlemen (from vegetable depots, restaurants and/or supermarket outlets). Farm-gate sales of produce with agents and middlemen predominate among female small farmers. Livestock (pigs, sheep, and cattle) are generally sold to long-standing customers who would 'engage' a particular portion of the carcass, or to a farmers' organisation which may handle the marketing of the carcasses. In the case of poultry, sales of live birds generally take place at the farmgate, while sale of processed birds takes place at the farm gate as well as at the retailer's outlet.

Many small farmers personally deliver produce and livestock products to customers. The farmers normally have long-standing relationships with these customers, and would confirm orders (volume, quality and prices) by telephone before delivery. Alternatively, a new customer may call a farmer to enquire about business and transact a sale.

While most small farmers tend to sell to hucksters rather than operate a stall in the market themselves, more and more farmers are opting to sell their produce, as well as produce purchased from other farmers. With respect to the gender issue, many unemployed young men have sought to earn a living by entering the huckstering trade, purchasing produce primarily from fresh fruit importers, as well as from small farmers and plantations. Locally produced vegetables and root crops are still, however, sold mainly by female hucksters who operate on the sidewalks and carparks outside of the public markets, mainly on Fridays and Saturdays. Some trading takes place on Sunday mornings, primarily at Eagle Hall and Fairchild Street markets.

The deplorable and unsanitary conditions at the Fairchild Street, Cheapside and Eagle Hall markets are serious obstacles to business in the public markets. One of the major problems is the lack of basic management and maintenance. This is evidenced by broken toilets at Cheapside and Fairchild street markets, non-functional cold storage facilities (the facility at Cheapside has not worked for the past 15 years), huge holes in roofs which offer no protection against the sun or rain, and broken vendors' stalls. In addition, refuse is dumped at the back of the Fairchild Street market, causing swarms of flies to invade the interior. Vendors have complained that sales have plummeted because of the bad conditions in the market. In addition to the many infrastructural problems at the Cheapside and Fairchild street markets, vendors are prey to thieves who have 'taken over' both markets.

The market vendors, predominantly women who have been selling in the markets from the time they were built, are now being forced out of the markets and many have resorted to selling on the sidewalks. At Fairchild Street, vendors have take over every available space between Julie 'N Supermarket and the bus terminal. Many of the vendors are convinced that if the ambiance of the markets is enhanced, the sanitation improved, and the spaces properly policed, the consumers will return to the location, and vendors will then vie with one another for space in the new environment. Those hucksters who do not use the public markets, usually set up stalls at busy intersections on highways and on sidewalks. Produce is also sold from directly from farm vehicles. A recent innovation is the establishment by farmers of marketing depots in high traffic density areas (such as Bridgetown and Spring Garden Highway), and the use of classified advertisements in the daily newspapers and on television, for home delivery of fruits and vegetables.

Within recent times, small farmers have been marketing fruits and vegetables (primarily hot pepper, sweet potato, breadfruit, golden apple, and spinach) through exporters for sale on regional and international fresh produce markets. The exporters normally take produce on the basis of verbal agreements from specific farmers with whom they have built up a certain level of confidence and trust over time.

Women participate in all aspects of marketing, from sourcing of market information on products and prices, to preparation of commodities for sale, negotiation and transaction of sales, transporting of produce to the marketplace, display, promotion and actual selling. Women's intimate knowledge of the dynamics of the market provides her with the necessary tools to maximise her income, and with the information necessary for production planning.

The products marketed by women differ from those marketed by men in terms of the range carried, and the value of the items. Women in the survey market over 30 different commodities, ranging from "cash crops" such as carrots, string beans, and sweet peppers to the lesser-valued items such as okra and seasoning. Male farmers, on the other hand, handle mostly short-term vegetable cash crops.

The survey data indicate a significantly higher proportion of sales to institutions by men; women operate at the farm gate or go to a town market. Further, although men tend to sell

more frequently to institutions, far more women sell a wider range of products both to institutions, factories and town markets, and at the farm gate.

Women show a wide distribution of sales across four major types of markets, indicating their ability and willingness to access a range of buyers, their tendency to sell on a more individual and personalised basis, and their patience in selling. Extension officers have also reported that men tend to "stick out for price," forego sales and suffer the loss of product more so than women, who would be willing to drop the price of an item in order to make a sale. Given the female farmer's level of participation in the production and management of the crop, as well as her reproductive responsibilities in providing income for her family, it is not surprising that she would ensure that all of her efforts in bringing commodities to a marketable condition are not in vain.

The major types of transportation available to the small farmer are privately owned vehicles (mainly vans and cars), and public transportation in the form of minibuses or mini-vans, taxis and buses. Many female farmers own or have access to a vehicle.

Given that most sales are transacted at the farm gate or with institutions, time dedicated to marketing consists mainly of time spent on the telephone providing information to buyers, and negotiating sales, and time spent delivering produce to consumers. Deliveries are normally made when the farmer goes out on other errands, for example, when she is purchasing inputs, or transporting children to and from school. The tendency for female farmers to sell from the home base (via telephone or at the farm gate) facilitates time management. Despite the convenience of selling from the home base, many female farmers are now opting to sell in town markets or set up their own sales depots, primarily because of increasing competition from other farmers, hucksters and supermarkets.

IV. THE TECHNOLOGICAL CONDITIONS OF WOMEN FOOD PRODUCERS AND THE TRANSFER OF TECHNOLOGY

The use of inputs such as planting materials, fertilisers and crop protection chemicals is dominated by women on the farm. Even where use by men is relatively significant (as with the use of chemicals for pest and weed control), it is still at a much lower level than among women. The major cause of loss is due to pests and diseases. As such, agricultural chemicals used for weed, insect and pest control are used extensively by small farmers, particularly those within the size range of < 0.4 ha to 2.0 ha.

The main chemicals used include Malathion, Diazinon, Ambush, Sevin, Tambo, Grammoxone and Roundup. The heavy use of chemicals by women in small-production systems warrants concern for the effects on the health of women, particularly those of child-bearing age. It also represents danger with respect to the effects on groundwater sources, the ultimate build-up of residual levels of chemicals in the soil and in subsequent crops, and in the health of the nation on the whole.

The use of hand tools (such as fork, hoe, rake, and shovel), irrigation equipment (hoses, overhead sprinkler systems and drip or trickle irrigation systems), and sprayers for application of crop protection chemicals, are the major equipment types used by on the farms in the survey. Use by female family members far outweighs use by male members for these three equipment types, indicating that the majority of labour involved in land preparation, weeding, crop protection, and irrigation is undertaken by women.

The predominance of women in the use of inputs is confirmed by their participation in vegetable production activities. The data show that all of the major activities are undertaken primarily by women, with some participation by men in the areas of planting, crop care, purchase and use of fertilisers and chemicals, harvesting and marketing.

The adoption of improved technologies reportedly varies by gender. Technical and extension officers have reported that women tend to listen more carefully, and carry out recommended practices more diligently than their male counterparts, and that in fact, because of this, women food producers tend to be better farmers than men.

The agencies involved in technology generation and transfer have all stated that the information produced is geared towards the farmer, and that there is no gender perspective to the development or application of the technology. As such, both male and female farmers receive training in technical aspects of vegetable and livestock production.

Except for the Caribbean Agricultural Research and Development Institute's (CARDI) Sheep Production and Marketing Project, technology interventions by most of the major agricultural research and development institutions have been "gender blind." Agricultural diversification programmes have focused on technical and economic factors (such as increase in export earnings, increased production levels, decreased cost of production, increase in income and number of farmers trained). Gender issues such as the distribution of income in the household,

timing of training activities, information loss, decision making in the household, and disaggregation of tasks by gender have not been addressed. As a result, agricultural diversification policies and programmes have led to shifts in division of labour which have in turn, led to displacement of women and loss of women's control over their income (particularly in the marketing of produce), conflicts between men and women, increased praedial larceny of high value crops, loss of bio-diversity, and uneconomic, inefficient use of time on export crops.

The appropriateness of technology for women food producers must therefore be considered, not only with respect to the technical aspects of a new method or technique, but also with respect to how the application of the technology fits in with activities that arise out of her existing multiple reproductive, productive and community managing roles, and with gender relations in the farm family. Analysis of the daily activities of women farmers shows that women incorporate their productive tasks into their daily reproductive responsibilities, spending on average of 90 hours/week on household tasks, primarily on child care, food preparation and "gardening." The availability of the female farmer for training depends on whether or not she has responsibility for school-aged children who have to be prepared for school, transported to and from school and other activities, supervised and cared for. Technology offerings therefore have to take into account:

- The size, location and quality of the agricultural holding that can be realistically managed by a female farmer, to satisfy domestic and commercial needs.
- Support mechanisms which must be put in place at the farm family and community levels, to allow women to participate in training activities. These mechanisms may include the provision of health, laundry, daycare for children and elderly, and legal services.
- Incorporation of ergonomic and occupational health and safety factors into the design of tools and equipment which are used by women.

In terms of technology improvements for women food producers, there is need for:

- Design of appropriate systems for rainwater catchment, storage and distribution, so as to reduce the cost of irrigation, particularly in the dry season, and design of animal feed formulations which utilise locally available forages (such as lucerna), and reduce the need to import costly feeds.
- Trials on the increased use of organic fertilisers (such as compost, pen manures, blood meal, fish meal), and reduced use of chemicals for crop production.

V. AGRICULTURAL POLICIES AND THE INSTITUTIONAL FRAMEWORK VIS-A-VIS WOMEN FOOD PRODUCERS

Agricultural policies have generally not focused on gender and women's issues in attempting to solve the problems facing the sector. Previous research has shown that women are key in agricultural and rural development. They play important roles in nutrition and in the production and marketing of food. Failure to incorporate a gender approach results in a failure to count women's unwaged work, to recognise the link between women's productive and reproductive work and to recognise the existence of gender-based hierarchies in the household, community and society (Antrobus 1992). Despite this, some of the policies have had a positive impact on women, assisting them in gaining more titles to land, to access more credit and other resources. It is being suggested, however, that they continue to be at a disadvantage to male farmers.

A. Land Management Policy

Land distribution in Barbados is extremely skewed, with small farms operating on some 15.6 per cent of the arable land, just over 3 300 hectares. In contrast, the plantation sector controls 84 per cent of agricultural land, representing approximately 18 000 hectares. Although there have been attempts to help persons gain access to land through legal reform and land lease programmes, there has been no attempt to bring about fundamental land reform.

Law reform has regularised the issue of property distribution among family members. Examples of these reforms are the Succession Act 1975, the Property Act 1979 and the Family Law Act 1981. The Succession Act allowed the court to grant a testator's spouse and children a share of the estate if they are deemed worthy. In cases where a person dies intestate, children born outside of marriage can inherit with the in-wedlock children from both parents. In the case of the father, however, there has to be legal recognition of paternity. A woman in a common law union also has succession rights to her spouse's estate if she is not named as a beneficiary.

The Property Act enables husband and wife to be treated equally and as separate persons in terms of the acquisition of any interest in property, whereas previously they were treated as one person. Married women's rights also became the same as a single person in relation to holding, enjoying and disposing of property.

The Family Law Act gives the court the right to alter the existing property interests of parties based on certain listed factors such as financial contributions, property improvement and the contribution made by either party as homemaker or parent. Common law unions which have lasted for a continuous period of five years are given legal recognition under this act, to be treated like legal marriages. These changes were important achievements for rural women and other women alike and had positive implications for them in the area of inheritance and acquisition of land.

The Tenantry Freehold Purchase Act of 1980 and the Agricultural Land Options to Purchase Act of 1982 were also important pieces of legislation which enabled modest persons, many of whom would be farmers, to acquire titles to their land. These Acts virtually ended a system of renting house spots and land from plantation owners and other persons. This system had been in existence since the end of slavery, that is for over 100 years. A manual count of purchasers of lots in plantation tenancies under the first Act revealed that slightly more women than men have acquired titles to the land. A total of 1 457 women (52 per cent) took the opportunity to purchase land; the percentages of women were particularly high in the rural parishes of St. Thomas (59 per cent) and St. John (52 per cent) respectively.

According to the Census, 54 per cent of the land operated by female small farmers is owned by them or is family land. At first glance, these ownership patterns suggest a favourable situation, especially when the national Census shows that some 43 per cent of household heads are women. However, a different picture emerges if the situation is examined at a national level and the data on female and male controlled holdings are combined. Of 17 112 holdings, only 21 per cent are owned by women, whereas 32 per cent are male-owned.

B. Credit Policy

Credit policy is formed by the Barbados National Bank (BNB), Agricultural Division which acts as an intermediary through which the government's financial resources are disbursed. Its purpose is to ensure the agricultural sector's access to credit. However, most of the funds have gone into the sugar industry, i.e., large estates, to the detriment of the non-sugar sector where most of the small farmers and women farmers can be found. The sugar estates and the Barbados Sugar Industries Ltd. (BSIL) were indebted to the BNB by approximately US\$110 million. Many of these debts became bad, and there was little chance of recovering most of the credit, thus putting the BNB itself in jeopardy.

There has been provision of at least some agricultural credit on concessional terms to encourage agricultural expansion and development. The more business-oriented sugar plantation owners have benefited most from this, whereas little funding has reached smaller farmers or the non-sugar sector. This has happened despite the fact that the policy is that agricultural credit disbursed by the BNB is to be equally available for all agricultural activities.

There are also a number of other public and private institutions offering credit to the agricultural sector, some targeting those unable to qualify for loans from the commercial sector. These include the Barbados Development Bank (BDB); the Barbados Agricultural Society (BAS); the National Development Foundation of Barbados (NDFB); and Women in Development Ltd. (WID). An analysis of these agencies reveals that the credit available to food production for local consumption is relatively low.

Other sources of credit for women include credit unions, credit from suppliers of agricultural goods and services, friends or family and the informal credit system, popularly known in Barbados as a "meeting turn" or "sot sou."

Most of the public and private agencies offering credit to the agricultural sector report that women comprise a minority of their clients. The Agricultural Division of the BNB reported that more men than women approach that institution for loans, whereas women tend to be involved in joint arrangements with their spouses or partners. The NDFB aims for an equal ratio of men and women in the distribution of its loans, but few women are applying for agricultural loans. The BAS presently has 58 loans outstanding for some US\$15 000; only one of these loans is to a female. Prior to 1991, there had been approximately 10 to 15 women who had loans.

It has been suggested that women do not have the same level of access to formal sources of credit because of their non-ownership of resources including land which could be used for collateral. This relationship, although valid, is not as straightforward as is often asserted since there are other factors in operation against women and small farmers receiving credit (Knudson and Yates 1981). This includes their reluctance to approach formal institutions in situations where they may feel uncomfortable, as well as the effect of past or existing official policy towards them. An unwillingness to take economic risks, especially in situations of vulnerability, low returns and a lack of the possibility of covering losses through insurance are also other possible factors. As a result, many women prefer to make use of the informal means available to them and over which they have a greater measure of control. Most of the public and private agencies offering credit to the agricultural sector report that women comprise a minority of their clients. A different picture emerges from WID Ltd. as the majority of its clients are female.

Personnel from the various agencies made a number of observations about female farmers and clients. They suggested that women tended to apply for smaller loans and to utilise their savings rather than credit; were not risk takers; preferred to build up their businesses over time in contrast to men; honoured their loan commitments better than men; were better managers, but were hampered by their dislike of credit; young women were the ones coming forward with the most creative ideas.

C. Technology Generation and Transfer Policy

Over the past two decades, there have been several developments which have had significant impact on the level of technology applied in agriculture in Barbados. The low level of employment in the sector (caused primarily by the decline in acreage of the primary crop, sugar cane) created the need for a high degree of mechanisation and increased technology in non-sugar agriculture. Work carried out by the Ministry of Agriculture in applied research and extension on new technologies (particularly during the 1970s) led to the creation of production systems characterised by the use of improved varieties, mechanised operations (land

preparation, crop seeding, harvesting, and crop drying), the establishment of drip irrigation systems, and the use of crop protection chemicals and fertilisers. The application and utilisation of high levels of technology have been encouraged through a number of national projects on export agriculture, integrated rural agricultural development, irrigation development and allocation of lands under land settlement/land lease schemes. Under these projects, the government provided subsidies for tractor cultivation, mechanical land preparation and for the establishment of approved irrigation systems. Access to and adoption of technology has also been facilitated through the trickle down of technologies from the plantations to the small farming sector.

The existence of well-established trade and distribution systems, combined with the infrastructural development (transport and communication networks) have facilitated island-wide access to machinery and material inputs for production, and have led to the creation of a relatively modern agricultural sector.

The generation and transfer of technology to small-scale production sectors in Barbados are carried out primarily by the government through the Ministry of Agriculture, Food and Fisheries (MAFF), the Barbados Agricultural Development and Marketing Company (BADMC), as well as by other agencies such as the Caribbean Agricultural Research and Development Institute (CARDI), the National Development Foundation of Barbados (NDFB), the Bureau of Women's Affairs and various organisations involved in rural development and development programmes for women.

There is a notable absence of any gender perspective in the generation or transfer of technologies by agencies such as the MAFF and BADMC. In general, the small-scale sector is seen by agricultural planners, researchers and extension officers as a homogenous lot. The planners in the MAFF have stated that the technologies offered are for "farmers," whether they be male or female, and that there is no discrimination in the extension of information. In this sense, these institutions can be described as "gender-blind" on the issue of women food producers in Barbados.

Prior to its recent restructuring, the MAFF generated and transferred technology to the farming sector through its Crop Research Department and Extension and Development Division. With restructuring, the Ministry has moved away from performing "traditional" extension services, and now adopts an integrated, developmental approach to food crop research. Agricultural officers now operate with a "commodity approach," which comprises a combination of research and extension on specific product areas, production of extension materials and transfer of technical information through seminars, symposia and other media.

The impact of this restructuring on the small-farmer sector has been detrimental with respect to access to technical information and assistance. The Ministry's services are now concentrated on those farmers who demonstrate a capability for growth and development, and who can have a meaningful impact upon national agricultural results. These services are now being provided

to larger farms (>10 ha) which tend to have better lands, machinery and equipment for land preparation and irrigation, and fewer problems with weed control than small farmers.

While the Planning Unit of the MAFF has indicated that there is a very real danger of marginalisation of the small-farmer sector, they have indicated that small farmers access the technology (particularly planning technology) provided to larger farms through a trickle down effect, observing what is done on larger farms and applying similar technologies on their plots. There is, however, no strategy employed on the part of the MAFF to evaluate or monitor the extent to which this "trickle-down" effect occurs, or to identify problems faced by the small farmer in adopting technologies that are aimed primarily at larger farmers. The MAFF has stated that it intends to keep the small farmer abreast of technological developments through the publication of flyers and brochures, and via radio and television programmes.

In the case of agencies which deal directly with rural development and the development of women, the generation and transfer of technology are achieved through training seminars and workshops, funded technical assistance and projects targeted at specific production groups.

Until recently, CARDI's approach was similar to that of the MAFF in that it did not incorporate gender awareness in agricultural projects. However, in 1990 CARDI embarked on an ideological turnabout in the approach and methodology used in its projects with a Canadian International Development Agency (CIDA)-funded sheep production and marketing project. The project's main goal was to improve the overall **welfare** of low-income **farm families**, with special attention paid to **women** farmers. It integrated scientific/technical and economic perspectives with social and gender aspects in order to examine the effects of on-farm technological interventions on the farm family welfare. To date, the project has facilitated a holistic approach to farming and to the recognition of the need for gender-equal partnerships in realising project goals.

D. Extension and Training Policy

The delivery of extension services to all sections of the farming community is seen as an important part of agricultural development by the government. The needs, the Ministry of Agriculture, Food and Fisheries (MAFF) provides extension services, supplemented by the former Barbados Agricultural Development Corporation (BADC), which was the government's small-farmer development arm. The government also gave an annual subvention to the Barbados Agricultural Society (BAS) to assist it in carrying out its programmes, including the provision of extension services. This subvention was drastically reduced from US\$125 000 to US\$20 000 in recent years, and removed altogether in 1994, causing the BAS to out back its extension workers. At the same time, the MAFF's and the BADC's budgets were also cut, effectively reducing extension services to farmers.

The government's export thrust has influenced its policy on extension to the extent that emphasis is placed on delivering support services to those with the most potential in this area,

that is, the large farmers. It is felt that since large farmers control more land, they stand a better chance of increasing their output and earning more foreign exchange. The most recent agricultural sector plan for 1993-2000 states that there will be improved extension services to farmers producing export commodities. These policies would adversely affect small and women farmers' access to extension services since they tend to be more heavily involved in crops for the local market.

Although there are no restrictions by sex in the area of agricultural extension, officers noted that they make contact with more men than women. Although this was felt by some to occur because of the higher ratio of men to women farmers, another factor mentioned was the tendency to work with male farmers in visits to family operations. One extension officer who worked as an interviewer on the survey for this project expressed surprise at the number of women involved in agriculture, and the fact that even when males are present in the household, the women are the ones managing the farm. However, more women were reached through farm visits than through formal training sessions since women generally did not attend the latter. One determining factor, it was suggested, was women's lack of time because of home management responsibilities, as well as the timing of training courses. The extension officers generally believe that women are potentially better farmers, are more responsive to advice, and place more trust in the extension officers than their male counterparts.

The Barbados Government has committed itself as a matter of policy to training farmers as well as professionals and technicians. It considers its role to be the provision of a cadre of persons trained in the various disciplines of agriculture for employment both in the public and private sectors. In addition to extension services, more formal training programmes are available through the public sector with both academic and practical training being provided by the Samuel Jackman Prescod Polytechnic.

Women are under-represented in the training programmes for which information is available. Approximately 25 per cent of the participants in the National Development Foundation of Barbados' agricultural training course for example are women. Similarly, the average female participation on the Diploma in Agriculture course offered by the Samuel Jackman Prescod Polytechnic is only 20 per cent. Contributing factors were felt to be women's reproductive responsibilities; the timing of the training; the teaching methods used and, for the younger woman, a lack of interest in agriculture as a viable career.

E. Marketing Policy

The marketing policy of non-sugar agricultural produce in Barbados is constrained by a number of factors. These include:

- the limited domestic market
- the lack of marketing outlets and organised distribution systems
- inadequate market intelligence systems
- grossly inadequate marketing facilities for vendors

While the 1988-1993 Agricultural Development Plan does not articulate a specific marketing policy per se, the following marketing issues were identified:

- the production of high-quality products through the provision of adequate technical support for production, the application of proper postharvest methods, and through the organisation of producers into cooperative groups
- the improvement of domestic distribution systems, through the realisation of more efficient collection centres which will have facilities for sorting, grading, and postharvest treatments
- the provision of a package of marketing services through upgrading of the BMC/BASIS service
- improvement of physical marketing facilities, particularly the Cheapside Market
- control of importation of agricultural produce, particularly from extra-regional sources, in order to reduce instability of prices and supplies on the domestic market
- expansion of the demand for locally produced agricultural produce through the mounting of promotional campaigns aimed at encouraging consumers and the tourist sector to purchase and consume more local produce
- Development of the export market for Barbados produce, through:
 - the development of market research and information profiles for all markets
 - the establishment of appropriate infrastructure for grading and packaging of produce
 - the provision of incentives such as an export credit revolving fund, a crop insurance scheme, price incentives to producers participating in the export programme and a production credit scheme.

Agro-processing is recognised for its significant potential impact on reduction of the food import bill, export growth, increased domestic consumption and extended shelf life of Barbados produce. As such, the Agricultural Development Plan promoted the establishment of large- and medium- sized agro-processing operations as well as small cottage industries.

A number of the initiatives proposed for achieving the above objectives were, however, not pursued for various reasons. These included lack of funds, the limited size of the domestic

market and weak market intelligence for export agriculture. As a result, marketing remains one of the greatest challenges facing small farmers.

F. Rural Development Policies, Programmes and Projects

Barbados does not have a clearly defined division between rural and urban areas. This is due in part to its small size, its relatively flat landscape, the fact that services are generally available throughout the island and a well developed physical infrastructure.

The Barbados government has concentrated much effort on the development of infrastructure and the provision of basic services such as electricity, water and telephones across the island. Schools and public medical care in the form of polyclinics and a public hospital are easily accessible from every parish. There is also a comprehensive public transportation system which has increasingly been supplemented by private concessionaires. Despite the cutbacks in social services because of the economic problems and the process of structural adjustment, these services continue to be available at what can be termed an adequate level.

The major recent rural development projects in Barbados were:

- a) **The Rural Development Project (1980-1986)**, through IDB support, aimed to increase agricultural diversification and increase food production in Barbados to supply the domestic and tourism demands for foodstuffs, as well as raising the productivity and incomes of those small farmers, both tenantry and smallholder families participating in the project.
- b) **The SpringHall Land Lease Project** sought to make arable land available to small farmers on a long-term leasehold basis. The project was aimed at developing 163 hectares of land at Spring Hall in the northern part of the island for settling 22 farmers who would produce sugar cane, food crops, other economic crops and livestock produce for local and export markets. Women's participation in the project has been low partly because they were never specifically targeted nor were their unique needs taken into account in the design of the project.
- c) **The World Bank Agricultural Development Project**, whose main components included the introduction of new high-value crops and varieties; and strengthening and upgrading systems and services such as extension, research, training and marketing. This was a major diversification project which sought, among other things, to reduce payments made for agricultural imports and to increase agricultural export earnings. Small farmers and women were unlikely to be involved with export crops, so its impact on them is likely to have been minimal.

A statutory corporation, then the Barbados Agricultural Development Corporation (BADC), administered these projects as well as its ongoing activities such as Mechanical Cultivation Services. The BADC was partly the small-farmer arm of the government and was recently amalgamated with its marketing arm into the Barbados Agricultural Management and

Development Corporation (BADMC). The demand for the cultivation services is so great that requests cannot be fulfilled. Analysis of the services reveals that over 5 000, primarily smaller farmers, had benefited by 1991. It has been argued, however, that servicing very small plots has become un-economical and that the time allocated to them has adversely affected larger full-time farms (Nurse 1992). If it is decided to exclude very small farms, although based on the economics and reality of the situation, this would further reduce the services available to women farmers. Again, the viability of these small plots and the need to address the skewed land distribution in Barbados are relevant here.

Almost of the rural development programmes discussed comprised part of the government's diversification policies by seeking to reduce the mono-crop nature of the sector. They also formed part of the land distribution policies in terms of both legal access to land as well as long lease possibilities. The discussion on the major rural development projects in Barbados confirms that emphasis has been given to agricultural components. Although these programmes have been important for women both as residents of rural communities and as farmers in their own right, programme impact on women and small farmers has been varied. There is generally no reference to women in the various programmes nor an acknowledgement of gender differentials and the need for an awareness of these in planning and implementing projects.

G. Existing Policies on Rural Women

An examination of the women's programmes and women-directed policies reveals that agriculture has not been given priority emphasis. Rural women have been involved in many of the programmes, but only two were identified which specifically focused on them. Since many of the programmes are located in urban areas, this limits the participation of rural women.

Most of the programmes fall into what is being termed "Other Productive Activities," which includes programmes designed to increase family income. These have been primarily skills training programmes in handicraft, cookery, and dress-making, in other words, skills traditionally associated with women. This is in keeping with the traditional equation of women's projects with skills training projects. These programmes have tended to be organised and offered by NGOs, specifically women's groups, and can generally be described as welfare-oriented. Generally, few of these groups have conducted market surveys or feasibility studies before launching their programmes. Despite this, these skills training programmes have met an increasing need by women to upgrade their skills or acquire new skills to generate employment and income.

There are few programmes aimed at women's empowerment and few integrated community-based programmes. In addition, none of the regional and international organisations based in Barbados are involved in sustained local activities. This is particularly striking in the case of the Women and Development Unit (WAND), one of the outreach arms of the University of the

West Indies. WAND incorporates a community approach with women's empowerment and alternative development approaches as its key tenets.

The policies would have had some impact on women farmers and rural women, particularly in the area of skills training and credit through agencies such as WID and NDFB. The training in a variety of skills would have enabled women to acquire new talents for employment and income-generation. However, as discussed above, the main thrust of the training programmes have been on skills traditional to women rather than attempting to branch into non-traditional areas and thus increasing the potential for job-creation.

There has been a relatively high level of support to the small farming sector both from the government, NGOs and the private sector. However, although women have generally benefited from this support, because there has been little or no acknowledgement of gender differentials, it has been argued that women have been adversely affected in some cases. The most mentioned problem by the women was that they faced discrimination as a woman -this was identified by 14 per cent of the respondents. Labour problems were mentioned by 9 per cent. As explored earlier, women farmers expressed difficulties in terms of finding men willing to work for them and subsequently in gaining respect and cooperation from male employees. Lack of financing was suggested by only 12 per cent of the respondents.

VI. CONCLUSIONS AND PROPOSALS

A. Conclusions

The research on women food producers in Barbados has highlighted a number of important issues. It has highlighted the paucity of data on women in the agricultural sector and the fact that women's contribution is not reflected in official statistics. It has pointed to the declining importance of agriculture as a means of employment, in particular full-time employment, for women. It has nevertheless suggested that increasing numbers are "going back to the land" as a survival strategy for themselves and their families. The crucial but often unacknowledged role that women play in food production and the marketing of food was also discussed.

Women, as do small farmers, operate on very small plots of land. This makes the whole issue of land reform of major importance if effective agricultural development is to take place. Small farmers including women are responsible for the majority of the island's produce which is consumed locally. Despite this, the government's extension policy is increasingly geared towards the large, male producer who is involved in export crops. This policy, it is argued, could have an adverse effect on the smaller producers.

The study has shown that the government and the private sector have set in place a number of support services for small farmers. However, women farmers have limited access to some of these services such as credit, extension services, improved technology and training programmes. They also benefit little from the government's rural development programmes and all of the related services. However, in the area of land titling and law reform as it relates to property distribution among family members and related issues, women farmers and rural women have made important gains.

It has been argued that the failure to take cognisance of these issues and to approach agricultural planning and policy formulation from a gender perspective means that the full potential of all available resources is not being utilised. Increasing the productivity and viability of small farmers and women farmers can only have a positive effect on the local food supply, food security and the agricultural sector in general.

B. Proposals

Title: Gender Awareness Training Programmes

Definition of problem/justification

- The concept of gender is generally unknown or misunderstood. Gender relations are socially constructed and are reinforced and sanctioned by societal institutions and structures, and by widely accepted practices and arrangements. Gender relations are based on male dominance and power. This has implications for the way in which female farmers operate.

- Policy makers and planners generally regard farmers as being a homogeneous group that can be described as "gender blind" with respect to the activities of women food producers.
- Available government resources and services have not adequately met the production-related needs of women working on small farms. The cost of this, in terms of economic growth, can be significant.
- Women have much responsibility for production on small farms and are therefore the source of much of the food produced, processed and marketed in Barbados. In view of this, it is imperative that policies be oriented towards women food producers.
- Working hours of extension officers do not always coincide with the time that women are available, given women's heavy involvement in non-agricultural productive activities and reproductive activities.
- In cases where a farm is managed jointly by a man and a woman, it is often assumed that the man is the farmer, and the woman's productive activities are not even taken into account. The data from the project survey have indicated that on many farms where there are male and female partners, it is the woman who is the farmer, more so than the man.

Specific objectives

- To develop an awareness of gender among targeted personnel (including policy makers, planners, credit officers, extension officers, trainers and technical personnel) in order to:
 - improve planning and policy formulation
 - improve access to and transfer of information, technology, credit and other services and resources to women food producers
 - assist personnel in recognising women's participation as farmers
- To validate the operations of women

Expected outputs

- Increased awareness of the existence of gender relations and their implications

- An improvement in agricultural production, processing and marketing
- An increase in women's access to agricultural services and credit
- Optimisation of women's efficiency as producers
- An understanding of the effect of male/female relationships on the lives of rural men and women and their families
- An increase in the well-being of the farm family unit and the population as a whole

Activities to be executed

- Identify relevant and appropriate agencies and personnel
- Conduct a series of gender training programmes aimed at meeting the specific requirements of each target group. The training programmes will cover the following general areas:
 - The concept of gender, and how it impacts differentially on men and women (women's multiple roles, women's needs, social relations (male/female, female/female, male/male))
 - The characteristics of small-scale food production systems, with focus on the female farmer

For policy makers and planners, special attention will be given to:

- The inter-relationship between women's reproductive activities and agricultural production
- The characteristics inherent to development programmes that contribute to maintaining women's secondary position in society
- The main resources which the woman, the family and the community must have in rural development programmes in order to change women's status
- Incorporation of women, family and community in project design

Credit personnel will also be exposed to the above areas. In addition, their training will focus on:

- Re-evaluation of negative perceptions of women as poor risk takers, and as poor candidates for large-scale loans
- Creative financing strategies for funding women's projects

For extension officers and technology transfer specialists, attention will be given to:

- Level of participation in farm activities vis-a-vis men and women, and power relations with respect to decision making and control of resources
- Special characteristics of women with respect to use of time, availability for activities such as training, field days, demonstrations, etc.
- Effects of technological innovation and application on women (e.g., use of heavy or unweildy tools and implements; the effect of cultural practices and use of agro-chemicals on women's health)

Possible implementing organisations or agencies: Bureau of Women's Affairs, Centre for Gender and Development Studies, IICA, WAND.

Title: Dissemination of Project Findings

Definition of problem/justification

- Involvement of participants is critical to the success of projects. Experience has shown that projects which seek to involve the target group or participants in designing, planning and execution have a greater impact and have a better chance of sustainability.
- As part of the ongoing search for alternative development models, the need exists to find ways of putting people at the centre of their own development. This is a necessary step towards their empowerment.
- The findings and project proposals developed in the project on women food producers need to be shared at the community level with women farmers for their verification of the findings, and their reactions to the proposals in terms of whether they respond to the issues and problems identified, their feasibility, and their possible levels of involvement.

Specific objectives

- To hold community workshops to disseminate the results of the project on women food producers and to the farming community in general
- To obtain feedback from the target group as to the relevance of proposals made
- To encourage farmers' involvement in the implementation of proposals, and to the sustainability of the work

Expected outputs

- Critical assessment and fine-tuning of project and proposals from the farmers' point of view
- Information and guidelines for follow-up action and future planning of projects
- Confidence building and trust between farmers and researchers, and facilitation of information flow
- Validation of people's knowledge and understanding of the situation within which they operate

Activities to be executed

- Zoning of farmers to organise them into manageable units for the workshops
- Planning and conducting a series of participatory workshops

Possible implementing organisations or agencies: BADMC, Community Development Division, IICA, MAFF, WAND.

Title: Credit for Agricultural Development and Land Lease Project

Definition of problem/justification

- Barbados' land distribution is extremely skewed; most small farmers operate on lotson which expansion is virtually impossible. Data from the 1989 Agricultural Census show that most small-scale production takes place on holdings of less than 0.5 hectares each. Included in this category are over 4 000 "landless" holdings. Women small farmers operate on approximately 0.14 hectares each.

- If policy-makers want to encourage agricultural production and development, they need to assist small farmers in expanding their operations if desired and becoming viable entities.
- There are large tracts of government land presently lying idle.
- The Ministry of Agriculture, Food and Fisheries in its 1993-2000 Sector Plan has indicated its intention of making some of this idle land available to landless farmers.
- In addition to making land available to farmers, other support mechanisms such as credit facilities and technical support have to be in place to enable the successful development of agricultural enterprises.

Specific objectives

- To encourage and assist small farmers with potential (although inadequate) loan security, to establish profitable enterprises through the provision of finance, training and technical assistance
- To assist in the sustainability of the farm family unit by increasing farm income
- To bring idle land back into production through the diversification of the agricultural production base

Expected outputs

- Increased productivity of the farming sector
- Increase in farm incomes
- Continued expansion of the government's current diversification programme
- Establishment of links between agricultural production, processing and export
- Expansion of financing agencies' loan portfolios through inclusion of small farmers previously outside the banking system

Activities to be executed

- The establishment and management of a special credit fund for agricultural development

- Establishment of agreement between government and financing agencies to make available land on a leasehold basis to project participants
- Establishment of agreements with relevant training institutions (Ministry of Agriculture, NDFB) to provide technical assistance
- Selection of farmers with interest, commitment and potential
- Preparation of business plans
- Approval of loans

Possible implementing organisations or agencies: BADMC, Barbados National Bank (Agricultural Division), MAFF, NDFB, WID.

Title: Linking the Small Farm and Tourism Sectors

Definition of problem/justification

- Tourism is a major contributor to the GDP of Barbados
- Barbadian hoteliers have reported that the major barriers to the development of greater linkages with the farming sector are lack of availability of commodities, and poor and inconsistent quality
- Weak linkages exist because of lack of communication between hoteliers and farmers
- The development of economic linkages between the tourism and the agricultural sectors would induce an internally generated development process through the generation of additional employment and incomes, and through the conservation of foreign exchange.
- The extent to which the small farmer can take advantage of the market opportunities in the tourism and hospitality industries therefore depends on access to **market information**, particularly with respect to purchasing schedules, quantity requirements, grades and quality standards, and prices. It also depends on access to **technical assistance** with respect to production and postharvest handling methods and techniques to achieve required quality levels, and **training** in marketing strategies and techniques to achieve better price returns.

Specific objectives

- To create and/or strengthen linkages between small-farmer production and tourism through the identification of market opportunities and facilitation of trade between farmers and buyers in the hotel and hospitality industries

- To create a pool of high-quality farmers through the provision of training in the techniques of production, postharvest handling and processing which will enable them to meet the required specifications and standards of the buyers
- To provide basic training in market development and promotion, in order to enable the farmer to achieve optimal price returns
- To compile and disseminate relevant supply and delivery information to the farmer

Expected outputs

- Generation of higher farm incomes through the establishment of targeted markets, and increased sales levels
- Employment generation at the levels of production, processing, distribution and marketing
- Increased utilisation of locally produced goods and services by the tourism sector
- Conservation of foreign exchange
- Positive spill-over effects on domestic consumers, in terms of greater appreciation of local foods and local cuisine, and consequently greater demand for and utilisation of locally produced agricultural commodities and agro-processed goods.

Activities to be executed

- Selection of farmers with the capability, interest and commitment to the production of high-quality agricultural produce and processed foods for the tourism sector
- Identification of potential buyers within the tourism industry
- Determination of distribution and purchasing systems for fresh agricultural produce and agro-processed products
- Training in production and postharvest handling technology and processing techniques for specific commodities, and training in marketing.
- Formulation and implementation of operational/marketing plans for the development of identified areas of opportunity. These plans would include promotional activities such as trade shows specifically geared to the hotel and hospitality industries, gourmet cooking demonstrations using local foods, and "Buy Local" campaigns. Plans would

also include the establishment of information data bases on specifications, and demand/supply conditions.

Possible implementing organisations or agencies: BADMC, Barbados Hotel and Tourism Association, BIMAP, Bureau of Women's Affairs, EEC (funding), IDB (funding), National Council for Science and Technology, National Development Foundation, WID.

Title: Establishment of a Women's Processing Cooperative

Definition of problem/justification

- Marketing is the one of main constraints faced by small farmers. Processing offers an alternative market for small farmers' produce, and the opportunity for higher returns because of added value input.
- Many small farmers are not aware of the possible processing applications for their commodities and/or their commercial potential.
- Processed items currently produced by small farmers and micro-enterprises lack competitive edge because of non-differentiation of product types, and non-compliance with regulations governing packaging and labelling.
- The establishment of a processing cooperative would enable pooling of resources for the production of commodities to standard specifications. It would also facilitate access to cheaper production inputs through bulk purchase and access to bulk buyers in local, regional and extra-regional markets (hotels, food service establishments, government institutions, downstream processors).

Specific objectives

- To establish a facility for the operation of a cooperative processing operation
- To expand the market opportunities available to the small farmer and micro-enterprises
- To offer alternative ways to utilise products both for home consumption, as well as for commercial production
- To upgrade the quality of processed products currently available on the market
- To develop sustainable linkages between the rural sector and other sectors of the economy

Expected outputs

- Higher levels of earnings in the rural sector
- Increased employment and incomes
- Greater utilisation of locally produced commodities
- Improved nutritional status of farm families and of the general population

Activities to be executed

- Conduct of research to identify processed products with market potential
- Matching of market opportunities with capability of farmers, in terms of agricultural commodities available, technical skills and level of interest
- Selection of product mix and determination of throughput capacity of processing operation
- Identification of an appropriate location for the cooperative (bearing in mind location of production areas, women's time and availability, and legal and engineering requirements)
- Design of layout of facility (bearing in mind the possible need for on-site support services such as daycare)
- Identification and selection of equipment and machinery for processing operations
- Construction and commissioning of facility
- Identification and selection of farmers and micro-entrepreneurs for training
- Training in theoretical basics of food processing, and practical application of methods and techniques, for the production of specific products
- Training in the establishment and operation of a cooperative
- Training in marketing

Possible implementing organisations or agencies: BADMC, BIMAP, Bureau of Women's Affairs, FAO (funding), IDB (funding), National Council of Science and Technology, National Development Foundation, UNIFEM (funding), WID.

Title: Commercialisation of the "Bridgetown Market" Concept

Background

Bridgetown Market is an annual event in the Crop Over celebrations in Barbados, which showcases the work of micro-entrepreneurs in handicraft, agricultural production, food processing, and food preparation. It is an ideal opportunity for locals and tourists alike to sample local fare and to discover the tremendous potential of the small business sector.

This proposal is aimed at making the Bridgetown Market a more permanent feature on the Barbadian landscape, in order to facilitate increased linkages between rural and urban sectors, increase the utilisation of and appreciation for local foods, and exploit export market opportunities by offering visitors local cuisine and handicraft products.

The project will involve the establishment of an open-air facility with attractive booths, seating accommodation, and entertainment areas. Booths would be rented to concessionaires at reasonable rates. In terms of site, Baxter's Road, Pelican Village or Cheapside would be ideal. In the case of both Baxter's Road and Pelican Village, the siting of the facility would lead to upgrading of these landmarks and a resurgence of business. In the case of Cheapside, the facility could be located in the existing market.

This proposal has tremendous potential for participation and investment by the private sector.

Justification

- Marketing is the one of main constraints faced by small farmers and micro-entrepreneurs. The establishment of this facility would provide a daily market for the supply of fresh produce and fish to food preparation areas, and processed products (such as seasoning, fruit juices, syrups and sauces)
- The Bridgetown Market would provide significant employment opportunities for management and operation of the facility, as well as for supply and delivery of inputs to the facility.
- Visitors and locals alike would be able to sample local cuisine at affordable prices, in comfortable, pleasant surroundings.

Specific objectives

- To establish a structured open-air street market for the promotion and sale of prepared foods, agro-processed products, handicraft, art and agricultural produce.

- To invite private sector participation in the establishment of the facility
- To increase consumption of locally produced foods and goods
- To provide employment opportunities, particularly for women and youth
- To develop sustainable linkages between the rural sector and other sectors of the economy

Expected outputs

- Upgrading of current marketing infrastructure and marketing systems
- Higher levels of earnings in the rural sector
- Increased employment and incomes
- Greater utilisation of locally produced commodities
- Improved quality of life

Activities to be executed

- Preparation of an investment profile, and identification of possible private sector participation. This profile would include preliminary engineering design and architectural drawings for the facility, identification of possible sites, description of operation and management procedure, and financial projections.
- Securing of financial resources
- Construction of facility
- Tendering for concessionaires
- Hiring of employees
- Promotion of the facility

Possible implementing organisations or agencies: BIDC, CTO, EEC (funding), IDB (funding), MAFF, NDF, WID.

Title: Technology Design for Small-Scale Food Production

Definition of problem/justification

Women food producers have highlighted the provision of adequate extension services, cheaper inputs and access to modern equipment as areas in which improvements are needed in the production, processing and marketing of food crops and livestock in Barbados. In an effort to address these constraints, this proposal aims at technology improvements with respect to irrigation, animal feeds, and use of chemicals and fertilisers.

Specific objectives

- To design appropriate systems for rainwater catchment, storage and distribution, so as to reduce the cost of irrigation, particularly in the dry season
- To design animal feed formulations which utilise locally available forages (such as lucuena), and reduce the need to import costly feeds
- To conduct trials on the increased use of organic fertilisers by using locally available materials, such as compost, pen manures, blood meal, and fish meal
- To investigate methods and techniques for minimising the use of chemicals for crop production, so as to protect the health of the farmer and consumer alike, and to protect the groundwater resources of the island
- To disseminate the information to farmers through documentation, training and demonstrations

Expected outputs

- Reduced production costs due to reduction in the cost of major production component, namely water, animal feed inputs, chemicals and fertilisers
- Increased extension support in the application of new technologies
- Increased agricultural productivity and increased incomes
- Progress towards a more sustainable form of agricultural development through the use of locally available and indigenous materials and by-products, and protection of natural water resources from chemical pollution
- Improved health of farmers and consumers through the consumption of more healthy foods and reduced exposure to and ingestion of agricultural chemicals

- Spin-off benefits to industry with respect to commercial design and manufacture of water catchment and storage systems, silage and composting systems,

Activities to be executed

Water catchment systems

- Evaluation of water resources in selected small-farming communities
- Identification and design of simple on-farm systems for water catchment, storage and distribution, which utilize a high percentage of local materials and which can be established using farm labour
- Training of farmers in the installation and operation of systems

Feed formulations

- Identification of local plants and ingredients which can be used in feed formulations
- Design formulations which are cost effective, nutritionally adequate and appropriate to current feeding systems
- Conduct of feeding trials with various classes of livestock
- Training of farmers in the use of the formulation

Use of organic fertiliser

- Identification and assessment of locally available ingredients which can be used as fertilisers or in mixes
- Conduct of fertiliser trials (including cost analysis)
- Training of farmers in the use of the fertiliser

Use of non-chemical methods of pest and weed control

- Identification of alternative methods for controlling economically important pests
- Development of programmes for reduced chemical use, including such techniques as crop rotation, use of natural predators and protective plant species, and use of stickers.
- Training of farmers in application of techniques

It is envisaged that these programmes will be included in the research and development programmes of the existing institutions which offer agricultural research and extension, and that close liaison among these agencies will maximise limited resources, and reduce duplication of effort.

Possible implementing organisations or agencies: BADMC, BAS, CARDI, FAO (funding and TA), IDB (funding), MAFF.

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**This book was printed
at IICA Headquarters
in February 1996, with a press
run of 120 copies.**

FECHA DE DEVOLUCION			

at the Eleventh Annual Conference
of the Caribbean Agricultural Development Bank
at Barbados
Development Strategies for Barbados
the English-speaking Caribbean: The
of the Barbados Agricultural
Development Bank
ing to it.

IICA
E51-731

Autor _____

Título Women food producers in Barbados: National Summary

Fecha Devolución	Nombre del solicitante





PROGRAM FOR THE ANALYSIS OF AGRICULTURAL
POLICIES VIS-A-VIS WOMEN FOOD PRODUCERS
IN THE ANDEAN REGION, THE SOUTHERN CONE
AND THE CARIBBEAN

This Program, executed by the Inter-American Institute for Cooperation on Agriculture (IICA) and financed by the Inter-American Development Bank (IDB) under Technical Cooperation Agreement ATN/SF-4064-RE, covered 18 countries in Latin America and the Caribbean. The first phase was implemented in 1992-1993 in six countries in Central America, under the auspices of the Council of Central American Agricultural Ministers in its XII Ordinary Meeting in March 1992. Results were published in the book *Mujeres de Maíz* (IICA/IDB 1995).

The second phase was carried out in the Andean Region (Bolivia, Colombia, Ecuador, Peru and Venezuela), the Southern Cone (Brazil, Paraguay and Uruguay) and the Caribbean (Barbados, Guyana, Jamaica and Suriname), by request of the First Ladies during their Summit Meeting on the Economic Advancement of Rural Women held in Geneva, Switzerland in February 1992.

Three documents were prepared for each country presenting the technical results from the four areas of research of the Program: a) assessment of the participation of women in the agricultural sector and their contribution as food producers on small-scale farms; b) analysis of agricultural policies and programs and their effects on rural women as food producers; c) evaluation of the technology used on small farms by women in food production processes; and d) analysis of the role of women in processing and marketing farm food products.

Other Program activities included the elaboration of regional comparative documents, the formulation of policy proposals and related actions, national and regional seminars for discussion of Program recommendations, and the publishing and distribution of the final results.