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CEAP PROJECT - DRAFT SCOPE OF WORK - JAMAICA 51-1274

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A REPORT TO THE USDA NUTRITION ECONOMICS GROUP

UNDER CONTRACT NO. 53-319R-0-86

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subject:
Short Term
Policy
Impact
Studies

Under RSSA 3-77 (Economic Analysis of Agricultural Policies) with the
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JAMAICA

CEAP PROJECT -- DRAFT SCOPE OF WORK

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CEAP PROJECT -- JAMAICA

Draft Scope of WorkI. PROJECT BACKGROUNDA. Consumption Effects of Agricultural Policies (CEAP)

In recent years there has been an increased awareness that government development policies and programs, particularly those related to agriculture, can have a significant impact on people's nutritional status. Nonetheless, there has been very little analysis of how development policies affect nutritional status or the magnitude of the impacts on specific groups of people. The CEAP project is designed to provide examples of such analysis. The primary focus of the project is on agricultural development policies and programs. This focus reflects the belief that agricultural policies are at least partially determined by other development policies and, in any event, most directly affect the supply and distribution of food products.

A more complete statement of the CEAP project is attached as Appendix A.

B. Country Selection: Jamaica

AID missions throughout the world were informed of the general objectives of the CEAP project and invited to

participate in the project. It was found that the need for assistance in analyzing the consumption effects of agricultural policies exceeded the availability of project funds. Therefore, it became necessary to carry out a selection process to identify studies that would not only illustrate the importance of consumption impact analysis, but also would be of immediate value to government agencies in participating countries. Jamaica was selected as one of four countries in Latin America and the Caribbean for which a detailed scope of work would be prepared as one of the final steps in the selection process.

According to a food balance calculation for 1975, daily dietary energy supplies were, on the average, 114 calories above recommended allowances and protein supplies 20 gm above. There is, however, a marked difference between amounts of protein and energy available to low income groups compared to those available to higher income levels, including a sizable number of tourists each year. Thus, according to the August 1978 food and nutrition plan, the dietary energy intakes of the low income group fell short of requirements by about 27 percent and dietary protein by about 14 percent. It was also estimated that the low income group constitute about 70 percent of the population. Furthermore, 95 percent of the most important food sources of energy and protein for low income

groups was being imported in the mid-70s. With the crisis situation in the balance of payments, food imports have had to be limited and it may well be that the energy and protein shortfalls for low income groups have worsened.

The GOJ's response to the food availability element of its nutritional problems has included a number of programs to increase local production of food, food subsidies and food distribution programs for the poor, and programs to increase the export of agricultural exports to help pay for the needed food imports. In addition, stemming from the emergency situation in food imports, a Food Intelligence Division was established in June 1977 with a responsibility to: (1) systematically collect data on food prices, food supply and demand, food elasticities, income distribution; (2) analyze the food distribution systems for imports, processed foods, and locally produced food and identify bottlenecks, constraints; (3) coordinate the data on local production and imports; (4) continuously monitor food supplies and prices and the preparation of projections to provide "warning signals" of impending crises; and (5) on the basis of the information collected, advise on policies in such areas as foreign exchange allocation for food imports, farm-gate and market prices, inter-government dealings in food, etc. A nutritionist has been assigned to the planning office in the Ministry of

Agriculture. A Nutrition Advisory Council was established to formulate a food and nutrition policy and program; this was revised and up-dated in August 1978.

The problem of insuring that all elements of the population obtain adequate food has been exacerbated in recent years by the rising level of unemployment. For example, the food and nutrition plan of 1974 gave a 1973 unemployment figure of 9 percent of the population; the most recent plan gave 1977 unemployment at 24 percent of the population. Thus, for the GOJ it is important that investments in agriculture or in other parts of the food chain be reviewed comprehensively, i.e., in terms of the balance of payments effects (since foreign exchange availability is crucial to feeding the population), the impact on food availability and the impact on incomes of the more nutritionally vulnerable. Given the severity of the current economic crisis, it is an urgent requirement for the government to review past policies in the foregoing framework and devise new more effective policies for the future.

C. Nature of Host Country Interest

The CEAP pre-feasibility team met with members of USAID/J's offices of Rural Development and Health/Nutrition/Population and with officials of the Ministry of Agriculture,

the Ministry of Health and Environmental Control, and the Caribbean Food and Nutrition Institute (CFNI). The Director of Nutrition and Dietetics in the Ministry of Health and Environmental Control stated that the GOJ had evaluated nutrition intervention programs but that there had not been an evaluation of programs designed to increase food availabilities, particularly of those foodstuffs proposed to substitute for food imports, and she felt that such an evaluation would be most useful. This view was repeated during a meeting with the CFNI.

The Director of Planning in the Ministry of Agriculture was concerned about the need to increase food production and how it could best be accomplished. He stated that one suggestion was to take some of the land out of sugar production and devote it to food crops for local consumption (sugar cane occupying a large percent of land being farmed and a very high percent of the most productive lands). Both the Director of Planning and the Director of Production in the Ministry of Agriculture welcome any studies that would help in policy formulation. They were particularly anxious to have any analytic tools that could lead to more rational decision making.

II. JAMAICA'S AGRICULTURAL POLICIES

A. Overview

Even though Jamaica is fairly well endowed with natural resources, possesses relatively adequate physical infrastructure and has reasonably well developed institutions, in recent years the economy has suffered rapid and steady decline. As a consequence, food and raw materials are in short supply, capital and skilled labor are leaving, and the once extensive government services are declining.

The GOJ's fundamental goal has been to develop a socially responsive economy, and the government's position has been that a mixed economy with state intervention and regulation is necessary. The state has undertaken fundamental institutional and structural reforms, especially since 1972, to the point where governmental and state enterprises account for 50-60% of the Gross Domestic Product. The country's economy can also be characterized by its dependence on foreign trade which represents 60-70% of national income. One of the major objectives is to "reduce the acute external dependency...and to secure increased economic autonomy." In the agricultural sector this goal has been translated into the need to increase export earnings while simultaneously substituting domestic food stuffs for imported commodities.

Although agriculture has been the traditional source of employment and income, it has only been recently emphasized.

Until the recent National Development Plans, the sector has suffered from a policy bias against agriculture. The government has embarked upon a series of ambitious programs and projects to stem the flow of rural to urban migration, diversify production, redistribute land and incomes, and reduce foreign dependence. Yet foreign exchange earnings and stagnation of domestic food supplies have resulted with the flight of private capital, labor problems, inadequate management and low productivity together with external rises in the price of petroleum and unfavorable terms of trade of raw material exports. These events will undoubtedly put pressure on GOJ's commitment to social programs that have attempted to insure adequate food consumption and nutritional status.

B. Policies to Be Studied

The government's policies in the early 1970's stressed structural changes in the agricultural sector, but recently there has been a discernible trend towards increased emphasis on production and productivity. In 1973, the famous "Green Paper on Agricultural Development Strategy" established the following principal goals:

- (1) Use to its fullest potential all agricultural lands.
- (2) Improve the standards of living of the rural population which implies not only an increase in farm incomes but also the provision of adequate infrastructure and social amenities.

- (3) Establish appropriate and achievable income targets for existing and potential farmers, without which performance in the sector is unlikely to improve.
- (4) Produce as much food and raw materials for domestic consumption and export as is economically and technologically feasible.
- (5) Improve the "climate" within which agriculture operates in order to attract greater and sustained private sector participation.
- (6) Structure the production so as to reduce the growing reliance on imports, and reverse the adverse trade balance in agriculture.

These goals were to be achieved through the following strategies:

- (1) The achievement of a more equitable distribution of agricultural land consonant with the optimisation of social and economic goals.
- (2) Improved training and education and the development of skills among agricultural workers and farmers.
- (3) Improvement of extension services including a more effective coordination in the provision of these services.
- (4) The re-organization and expansion of research activities.
- (5) The introduction of new technologies in some areas and a wider application of existing and appropriate technologies.
- (6) The production of non-traditional export crops for markets which exist and which can be exploited, e.g., Avocadoes and Mangoes.
- (7) The creation of a coordinated and efficient credit system capable of rendering the type of services required by the agricultural sector.
- (8) Improving the organizational structure and staffing of the Ministry of Agriculture and its agencies.

Policy was focused upon structural changes in the means of production, investment into human capital, and the organization of agencies to provide services to farmers.

In 1974, the Nutritional Advisory Council (NAC) published a Food and Nutrition Policy for Jamaica for incorporation into the 1975/76 - 1977/78 national development plan. This document combined nutritional and self-sufficiency objectives:

- (1) ensure availability by 1980 of sufficient food, i.e., adequate quantities of essential commodities, to maintain good nutrition and dietary well-being of all segments of the population;
- (2) ensure annual increases in the proportions of energy and protein requirements supplied from local production;
- (3) eliminate malnutrition in vulnerable groups of the population, and in particular:
 - (a) serious protein-calorie malnutrition and anaemia in children up to five years of age;
 - (b) nutritional deficiencies in pregnant and nursing women.

The NAC revised its Food and Nutrition Policy in 1978, using essentially the same objectives with minor changes, and expanding its scope to include production targets and assign responsibilities. These objectives were incorporated into the 1978-82 Five Year Development Plan:

- (1) to maximize the production of food and agricultural raw materials to meet the requirements for:
 - (a) adequate food and nutritional levels of the population;

- (b) agro-industrial development;
- (c) export markets;
- (2) to structure production so as to reduce reliance on imports;
- (3) to ensure that all agricultural land is retained and used for agricultural purposes, efficiently and soundly;
- (4) to improve rural amenities and social infrastructure as a basis for raising the standard of living of rural people;
- (5) to increase rural incomes (particularly farm incomes);
- (6) to provide more employment opportunities so as to reduce unemployment and underemployment;
- (7) to ensure that the necessary inputs for agricultural production, including credit facilities, are readily available to farmers and that adequate provisions are made for the marketing of their products;
- (8) to develop measures to protect farmers from praedial larceny.

These objectives establish the commitment of the GOJ to social responsiveness and expanded production for both export earnings from agricultural commodities and import substitution. The Plan in its current stage of development contains preliminary estimates of investment requirements. Yet there still remains the difficult task of reconciling the objectives (which are at times competitive) with the constraints of limited foreign exchange, shortages of qualified personnel, the ability to plan and implement projects to achieve these program goals,

and to attract private capital that will additionally stimulate the sector.

During the period 1969-77, the agricultural sector remained fairly static in relation to GDP, averaging an 8.4 percent share. Domestic agriculture tended to represent an increased share of GDP (2.4 to 4.0 percent) while export agriculture's share declined from 2.2 to 1.5 percent. Accompanying the declines in real GDP since 1973/74 have been a decrease in export agriculture's real earnings and slow growth in constant dollar value of the domestic food crop sector.

Between 1973/74 and 1978/79 estimated governmental allocations (capital and recurrent expenses) invested into the agricultural sector rose from an estimated J\$ 43.8 to J\$ 140.3 million, an increase of 24.4 percent when measured in real terms. The Jamaican Five-Year Plan (FYP) proposed continued high levels of investment into the primary sector with the 1978/79 to 1980/81 expenditures estimated at J\$ 483.4 million. With past performance disappointing, foreign exchange an increasing constraint, and the view that the agricultural sector is to play a vital role in the revitalization of the country, investment decisions and implementation of projects for both domestic and foreign market crops will be critical.

Of major concern will be the consumption effects of the government's programs to achieve increased self-sufficiency in domestic foods and simultaneously increase the foreign exchange

earnings of export crops. The past and expected performance of the following import, domestic and export crops and their interrelated and combined consumption/nutritional impacts on the target group should figure in the proposed study.

Food Imports

The value of food imports has dropped drastically with the combination of scarce foreign exchange and the policies that are pushing self-sufficiency. Food import's share of the total import bill dropped from 14.4 to 7.0 percent from 1972 to 1977. The following table which balances the payments of agricultural exports and food imports during this period reveals the substantial changes that have taken place in recent years.

Food and Agricultural Balance of Payments, Jamaica, 1972-77

Year	Ag. Exports in J\$ million	Food Imports in J\$ million	Balance
1972	56.0	71.3	-15.3
1973	70.3	76.4	- 6.1
1974	108.8	111.2	- 2.4
1975	173.6	118.1	+55.5
1976	88.4	79.8	+ 8.6
1977	112.8	48.7	+64.1
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Total	609.9	505.5	+104.4

Imported foods represent the extremes of cheap and expensive sources of calories and proteins. Cereals, specially rice, comprised 20-38% of the import bill between 1972-1977, followed by meat and meat products (18-33%), fish and fish products (12-19%) and dairy products (13-19%). Imported products have been traditionally favored in the diet. Grains and salted fish have provided the cheaper proteins and calories. Import reductions, it can be postulated, are a source of food consumption alteration.

Export Crops

With the exception of 1975 when the price of sugar was very high on the world market, the growth and value of agricultural exports has been disappointing when compared with annual rates of inflation. The GOJ expects to invest \$J 144.3 million into crops for export during the first three years of the Five Year Plan (FYP). The following crops would most likely be included in the analysis:

Sugar: Production declined from 373,000 to 357,000 tons in the 1972-1976 interval. The 1977 estimated value of production was J\$ 67.2 million. The GOJ has invested considerable monies into structural changes in the industry. Continued reductions in sugar production are considered to be due to slight reductions in planted acreage, poor cultural practices, inadequate water

supply and inefficient use of irrigation, low labor productivity and factory efficiency. The government plans to rehabilitate the industry, deal with the problems of the sugar cooperatives, and improve the efficiency of land and labor. This would allow production to expand to 400,000 tons by 1983, principally through increases in productivity. Sugar plantations occupy much of the prime agricultural land.

Bananas: Exports have declined steadily from 127,000 tons in 1972 to 77,000 tons in 1976. Marketing is controlled by the Banana Board which is targeted for reorganization. Low levels of production have been traced to lack of incentives, high marketing costs, lack of quality control and low productivity. The FYP proposed to increase production from 75,000 tons in 1977 to 150,000 tons in 1982. Small- and medium-sized farmers are expected to substantially benefit from expanding production area, replanting and provision of irrigation.

Coffee and Cocoa: Coffee production increased from 214,000 boxes in 1972 to 230,000 in 1976 after an all time high of 380,000 boxes in 1975. Cocoa production fell in the same period from 2,333 to 1,573 tons. The estimated combined export value in 1977 was J\$ 4.1 million. Both industries are expected to expand substantially, impact upon the small- and medium-sized farmer and earn additional foreign exchange.

Coconuts: Reduced production has been due primarily to lethal yellowing and droughts. Copra production dropped from 17,936 to 6,128 s.t. from 1972 to 1976. Production has been mainly on large farms, but the rehabilitation program could provide the opportunity to include more small farmers and diversify production through intercropping with plantains, bananas, coffee, cocoa and pasture. Increased production has implications for local industry and import substitution of oils, soap, etc.

Non-Traditional Exports: The possibilities of increasing fresh fruit and winter vegetables is viewed to have tremendous importance to GOJ. The expansion of this sub-sector -- including mango, avocado, pawpaw, guava, tomatoes, green pepper, cucumbers, eggplant, squash and cantelope -- will impact on both the domestic demand, export market and local industry. Orchards will be established on a cooperative basis on government-owned lands. Careful considerations will have to be made with regards to cost of production, input availability, and marketing problems. Labor-intensive, irrigated culture of vegetables for the proximate U.S. market could conceivably replace some of the sugar lands.

Domestic Crops

As Jamaican policies of import substitution and self-sufficiency begin to impact, the role of agricultural production for domestic production becomes critical. Expansion of traditional crops and the introduction of new enterprises will have to substitute for imported nutrients, save on scarce foreign exchange and compete for resources going into export crops. Policies that establish incentives for the expansion of locally grown and consumed foods include price supports, extension outreach, more efficient marketing, provision of inputs, credit and land. Risks will have to be reduced through research, improved varieties, diversification, irrigation, pest control and guarantees. Whether domestic agriculture responds to these policies will be crucial to the FYP and the stabilization of the economy.

Domestic food production has been traditionally small farmer based on marginal (especially hillside) lands. According to the 1968 Agricultural Census, only about 7.7 percent of the 607,050 hectares devoted to agriculture were used for domestic crops. Efficiency of local food production is relatively low due to land quality, low levels of fertilizer and other modern inputs, low levels of capital and management techniques, and traditional practices. Wastage, insects and disease, and post-harvest losses are even more exacerbated by inefficient marketing. Questions have been raised as to whether

the current higgler marketing system will be able to adapt to the needs for expanded domestic food production. Erosion, loss of fertility and soil moisture are now principal concerns.

Production of the more important root crops (yams, potato, cassava and coconuts) remained fairly static over the five-year period 1972-1976, with production falling from 452 to 408 million pounds. Vegetable production also remained fairly static moving from 214 to 223 million pounds in the same period.

GOJ expects to invest J\$ 60.6 in a program of services for domestic crops under the FYP together with J\$ 178.0 in credits. The plan calls for an expansion of available land, bringing idle lands into production, draining swamps, terracing steep slopes and providing irrigation. More intensive land use practices, such as multiple cropping, inter-cropping and crop rotation, will increase overall production. Emphasis will be placed on the production of legumes, cereals and vegetables.

Proposed Additional Hectares and Tons Required
by 1982 to Alleviate Caloric Deficiency

Hectares 1976	Crop	Additional Hectares	Additional Tons	Additional Calories	Percentage of Shortfall (3.45×10^{11})	Additional Protein (Metric Tons)
3,873	Red Peas	983	1,519	4,575	1.30	298
6,090	Corn	6,556	28,164	90,862	26.3	2,365
-	Soya Bean	1,416	5,080	16,389	4.70	1,725
665	Cow Peas	194	2,027	6,177	1.80	436
578	Peanuts	2,254	5,171	26,066	7.56	1,201
-	Rice	6,323	28,258	93,188	27.00	1,868
11,066	Yams	2,288	81,991	76,939	22.3	1,758
1,970	Sweet Potato	659	8,108	8,477	2.46	94
1,019	Irish Potato	376	6,162	4,515	1.30	110
25,261		21,049	166,480	327,188	94.72	9,855

C. Target Groups of Interest

In the 1978 Food and Nutrition plan the Jamaican population was categorized into nutritionally significant groups; the table is reproduced below.

Operationally Significant Groups in the Jamaican Population

<u>Children</u>	<u>Number</u>	<u>Percent</u>
0 - 5 years	316,410	15
6 - 15 years	632,820	30
 <u>Adults</u>		
Pregnant and lactating mothers	63,282	3
Heavy labourers	274,222	13
Unemployed	506,256	24
Persons over 70 years of age	63,282	3
Paupers and indigents	21,094	1
Other adults	232,034	11
	<hr/>	<hr/>
Total (1977 estimate)	2,109,400	100

The most nutritionally vulnerable groups are children under five (especially those under two) and pregnant and lactating women. It is estimated also that the heavy laborer group does not receive adequate energy during the period of heavy labor (a large part of this group would be seasonal workers cutting sugar cane). Since the bulk of the unemployed are in the

urban centers, one might assume that malnutrition problems would be greater there. However, in 1976 only about 5 percent of urban hospital admissions of children were for malnutrition, while the figure was as high as 22 percent in some rural hospitals. It appears, therefore, that any analysis of the impact of agricultural policies on food consumption should attempt to assess the impact on the urban poor, rural workers and small farmers. It appears that while the latter two groups may be able to produce some of their own food, their requirements are greater because of less healthy living conditions. Also the urban poor, while theoretically more vulnerable, appear to have been sustained through subsidies and food distribution programs.

D. Hypothesized Nutritional Impact

For a number of years the GOJ has had a policy of simultaneously promoting agricultural exports and reducing food imports by increasing domestic production of foodstuffs. During the last two years, the deterioration in the balance of payments has been so severe that food imports (as well as other imports) have had to be reduced. This has meant high prices and food shortages because local production has not taken up the slack. Given the current foreign exchange reserve position, prospects for export and tourism earnings and the increasing food requirements for an expanding population, a

reduced level of food imports is likely to be a fact of life for the next few years. Under these circumstances, it is important to review the impact of recent agricultural policies on: (1) earnings or savings of foreign exchange; (2) food availabilities; and (3) income of the more nutritionally vulnerable segments of the population (small farmers, rural workers, urban poor). The policies and programs to be reviewed would be both those designed to increase agricultural exports and those designed to increase production of local foods to substitute for imports.

It is postulated that the government's policies to increase local food production have not achieved the desired results because in a period of limited budgetary and foreign exchange resources greater priority has been given to increasing agricultural exports than to domestic food production. It is also postulated that, even with priority attention, the response of the agricultural export sector has not been satisfactory -- even after allowing for exogenous problems. Two explanations are offered for this: (1) GOJ policies and programs were not sufficiently integrated and consistently and effectively carried out; and (2) in some instances there were better policies or programs that could have been adopted. It is postulated that a continuation of these policies during coming years will result in a decline in food consumption by, and thus a deterioration in the nutritional status of, some of the nutritionally vulnerable

segments of the population.^{1/} Even if it is assumed that the current balance of payments problem is primarily the result of exogenous factors, it is nevertheless important to review the impact of recent policies and programs in order to seek optimum policies and programs for the difficult period ahead.

Given the extremely unfavorable balance of payments situation, and the likelihood of its continuance for a number of years, increased attention is being given by planners to means of improving the balance of payments. It has been proposed, for example, that the GOJ should take some lands out of sugar production and put the lands into other tree crops for export -- or alternatively, into food crops to replace imports. An analytical framework to facilitate the estimation of the probable results from such alternate uses of land. Such a framework, however, should focus not only on foreign exchange earnings or savings, but also on changes in food availabilities and changes in incomes of nutritionally vulnerable population groups.

1/ The urban poor might not be seriously affected because of the government's food subsidies and food distribution programs largely targeted on the urban poor.

III. SCOPE OF WORK

A. General Outline

The contractor, in collaboration with appropriate GOJ officials, will review the changes that have taken place in recent years^{1/} in the exports of agricultural commodities, the imports of foodstuffs and the domestic production of foodstuffs that could substitute for food imports (e.g., those food crops listed in Appendix Table 5 of A Food and Nutrition Policy for Jamaica with Programmes for Incorporation into the National Development Plan, GOJ Nutrition Advisory Council, August 1978). One aspect of the review will be to calculate the annual trend in the net food balance. Another aspect will be to compare the benefits from the policies and programs to increase agricultural exports with the benefits from the policies and programs to increase the production of food items to substitute for the principal food imports. The contractor is encouraged to recommend appropriate comparisons; the following types of comparisons are suggested for consideration: (1) annual net foreign exchange earnings (savings); (2) total foreign exchange earnings (savings) during the review period per dollar of investment during the period; (3) the implied change in employment and income from the farming by the three

^{1/} A base year of 1974 might be appropriate because that was the year in which the previous food and nutrition plan was prepared, a plan in which a specific target was established for reducing food imports.

target groups; (4) the implied change in the annual net food balance; and (5) the implied change in food consumption by the three target groups resulting from (3) and (4).

The contractor will also ascertain which policies, programs and actions carried out since the base period appear to have had a significant impact on agricultural exports, food imports or the availability of domestically produced foods that could substitute for food imports (hereafter referred to as substitute food production). Such policies could include:

- (1) macroeconomic policies such as exchange rate policy, foreign exchange management, import licensing, other import and export policies;
- (2) policies that could affect the demand for specific food items, e.g., food distribution programs, food subsidies, establishment of ceiling prices, nutrition education or other promotional campaigns to change food consumption patterns; and
- (3) policies designed to increase the quantity available of a specific commodity, either for export or for local consumption, examples of specific commodity-related policies that could be relevant are provided in the following table:

POLICIES AFFECTING AVAILABILITY OF LOCALLY PRODUCED PRODUCTS

<u>Production Stage</u>	<u>Processing Stage</u>	<u>Marketing Stage</u>
Agricultural credit new investment inputs/other working capital	Credit new investment working capital	Credit new investment working capital
Price policy/subsidies on outputs on inputs	Price policy on outputs on inputs	Price policy on outputs on inputs
Tax incentives on profits on inputs (incl. tariff) on equipment (incl. tariff)	Tax incentives on profits on raw materials (e.g., tariff) on equipment (tariff) on investment	Tax incentives on profits on equipment on investment
Infrastructure build/improve roads storage facilities open new lands	Infrastructure build/improve roads establish industrial park	Infrastructure road maintenance markets storage facilities
Research & Extension improved production methods new varieties disease control on-farm storage other farm technology price information	Research & Extension processing methods new products/ by-products price information grades and standards	Research & Extension better containers better product for shipping price information grades and standards
Land tenure/ownership food farms land lease	Plant ownership	Participation restrictions
Institution-building cooperatives	Institution-building producer associations	Institution-building marketing associations
Labor unions skills	Labor unions management	Labor higglers

After ascertaining which policies are of interest, the contractor will: (1) assess the effects of these policies on agricultural exports, food imports, substitute food production and employment and income generation among the three nutritionally vulnerable groups; and (2) evaluate the relative effectiveness of the different policies and the reasons therefor. In evaluating the reasons for the relative effectiveness of the different policies, the contractor should focus particularly on: the financial resources made available (foreign exchange and local budget); personnel resources made available (technical, management, support); support of top level government officials; the extent of follow through and consistency of approach; and the existence of conflicting policies or programs.

Based on the impact assessment of GOJ policies and programs and the evaluation of the reasons for the results obtained, the contractor will recommend policies and programs for the near term which should be effective in meeting the GOJ objectives of increasing agricultural exports and reducing food imports, while achieving overall food availabilities targets and increasing incomes of the three target groups. Priority attention should be given to identifying policies and programs that can support concurrently the two objectives (increased agricultural exports and reduced food imports). Next best would be to identify programs to support one

objective that can be initiated by piggy-backing on a program that supports the other objective, thereby reducing the resources required and hopefully speeding up implementation. The recommendations must take into account current and anticipated constraints, e.g., the balance of payments, government finances, inflationary pressures.

Drawing on the foregoing analysis, the contractor will develop an analytical framework and/or mechanism for facilitating the estimation of the probable costs and benefits resulting from alternate uses of agricultural land. The shift in land use could be from one export crop to another, from an export crop to a food or other product for local use or from a crop for local use to an export crop. The analytical framework could also be used to evaluate alternative production technologies for the same crop. The framework, as a minimum, should include the following:

- (1) a checklist for reviewing technical feasibility;
- (2) a checklist for reviewing economic feasibility at the micro level, i.e., insuring that the proposed activity is profitable to the producer given his/her constraints and limitations;
- (3) a checklist for determining policy and program requirements and reviewing their feasibility;
- (4) a checklist for determining and/or reviewing ecological implications and costs;
- (5) a checklist for insuring that all costs (direct and indirect) have been estimated;

- (6) a checklist for insuring that all benefits (direct and indirect) have been estimated;
- (7) a simple model for calculating project results in terms of:
 - (a) net foreign exchange earnings;
 - (b) changes in food availabilities;
 - (c) changes in the incomes of the target groups; and
 - (d) changes in implied food consumption of the target groups.

Representative national nutrition status surveys were carried out in 1970 and in 1978. In addition, household expenditure surveys were carried out in 1972-3, 1975, 1976 and 1977. The contractor should explore the possibility of utilizing the results of these surveys in developing some of the factors that would need to be established in the model, particularly item (d).

B. Type of Study Team, Timing of Study

The proposed study will require the services of an Agricultural Economist and Food Economist, one for six months and one for four months, and some local technical and secretarial assistance. The Food Economist should have previous experience related to food production, marketing and supply and demand analysis in tropical areas, preferably in the Caribbean. The Agricultural Economist should be experienced in agricultural planning and policy analysis and familiar with small farmer

production and decision-making. One of the team, preferably the team leader, should be knowledgeable about the development of simple models for policy analysis.

It is anticipated that the contract team would start either in late September or early October or in early 1981. The team would spend one to two weeks in AID/Washington, depending upon the extent of the team's familiarity with Jamaican agriculture and food situation. The team would be in-country for 3½ to 4 months collecting data, developing findings and conclusions with appropriate GOB officials, and preparing a draft report covering the policy impact analysis set forth in A. above (less the last paragraph). While the GOJ was reviewing the draft report, the team would prepare a special report on the analytical framework called for in the last paragraph of A.

Following the review of the draft report, the chief of party would participate in seminars for policy makers on the conclusions and recommendations of the report and the other economist would return to the U.S. to have the draft report, revised if necessary, printed in 100 copies and submitted to AID, within 60 days of the team member's return to the U.S., for transmission to the USAID and the GOJ. The chief of party, concurrent with participation in policy seminars, would be working with GOJ planning authorities to test the analytical

framework model with a specific proposal. Following this, the team leader would return to the U.S. and finalize the report on the model which would be submitted to AID as Volume 2 of the Jamaica report. This report would be submitted to AID in 100 copies within 30 days of the team leader's return to the U.S.

Within two weeks of the submission of the final report to AID, the contractor will submit a separate report to AID which will discuss the methodology utilized in the study -- its strengths and weaknesses and probable general utility. Observations will also be included on data acquisition and manipulation, general findings regarding policy analysis, etc. The contractor will also indicate the feasibility of utilizing the analytical framework model in other countries.

C. Host Country Participation, Local Contacts

The principal host country counterpart will be the Director of Planning, or his designee, in the Ministry of Agriculture. Other offices that are particularly interested in the study are the Directorate of Nutrition in the Ministry of Health and the Caribbean Food and Nutrition Institute, a regional organization headquartered in Jamaica. It will also be important to develop good working relations with the Ministry of Commerce and Industry, the Statistics Office in the Ministry of Finance, and the Ministry of Planning and the Scientific Research Council (SRC). Additional GOJ contacts are listed

under sources of data in Section D. below. The contract team will also wish to consult with representatives of other lender/donor organizations operating in Jamaica, e.g., IBRD, IDB, OAS, UNDP, FAO, ILO, PAHO.

It is anticipated that the Division of Planning in the Ministry of Agriculture will work very closely with the contract team, but it may not be able to provide an office in the Ministry. Similarly, secretarial assistance probably will have to be arranged by the contractor, at least for the typing of the draft report. It is unlikely that either the Ministry of USAID will be able to provide the transportation within Kingston or for field trips. Therefore, the project budget provides for local transportation, office space, and secretarial assistance. There is also provision for local technical help, e.g., in the collection and presentation of statistical and policy impact data.

D. Data Availability

There are many studies that have been made regarding agriculture in Jamaica, many of which relate to small farmers. Numerous statistical series on production, prices, imports and exports are available. Periodic household expenditure and income surveys have been conducted since the mid 1950's, although those data sets that still contain quantities consumed are from 1971/72 until 1977 (see biblio). Nutritional status surveys

were conducted in 1970 and 1978. Various types of rural surveys have been taken. Attached as Appendix B is a list of reference documents. This list is annotated in a number of cases (see Erickson's Annotated Bibliography ... for greater depth and detail) and includes as attachments in some cases the table of contents or summaries of conclusions and recommendations. A review of the documents in the reference list will undoubtedly lead to other documents or to organizations which may be involved in survey or analytical activities in Jamaica at this time.

The principal organizations to be contacted with regards to data availability and analytical studies includes the U.S. AID Mission, the National Planning Agency in the Ministry of Finance and Planning, the Divisions of Agricultural Planning and Policy Review, Production, Marketing, and Data Bank and Evaluation in the Ministry of Agriculture (MOA), the Nutrition Division of the Ministry of Health and Environmental Control (MOHEC), Jamaica Nutrition Holdings (JNH), the Ministry of Industry and Commerce, the Scientific Research Council (SRC), the Caribbean Food and Nutrition Institute (CFNI), University of the West Indies (UWI), Jamaica School of Agriculture (JSA), Nutrition Advisory Council, Jamaica Industrial Development Corporation (JIDC), Jamaica Development Bank, Department of Statistics, the Sugar Council and Banana Board, the Agricultural Marketing Corporation (AMC), InterAmerican Institute of

Agricultural Sciences (IICA), and the Caribbean Agricultural Research and Development Institute (CARDI).

F. Budget for Jamaica Food Consumption Study

I. <u>Salaries and Per Diem</u>		
A. Agricultural Economist		\$35,500
Salary (6 months)	\$25,000	
Per Diem (5 months)	10,500	
B. Food Economist		23,500
Salary (4 months)	15,000	
Per Diem (4 months)	8,500	
C. Local Secretarial/Technical Asst.		10,000
1 secretary:		
4 months @ 900/mo	3,600	
2 economists:		
4 months @ 800/mo x 2	6,400	
II. <u>Travel</u> 6,500		
International:		
3 round trips Jamaica/U.S.	1,500	
In-Country	5,000	
III. <u>Office Space:</u> 4 months @ \$500/mo		2,000
IV. Report Preparation & Miscellaneous		7,500
		<hr/>
	Sub-total	85,000
V. Overhead (100 percent of salaries)		40,000
		<hr/>
	<u>GRAND TOTAL</u>	\$125,000

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APPENDIX B

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The important policy paper of the present (1977) Jamaican Government. Produced by a commission including W. Arthur Lewis. Sets as objectives full use of agricultural lands, improved rural living, income redistribution, produce as much food as economically feasible.

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Office of the Prime Minister. The Emergency Production Plan - 1977-78. April 22, 1977. Paper No. 13. Pp. 127 + Appendices. April 22, 1977.

New temporary economic policies established to deal with the current acute foreign exchange crisis. The plan calls for increased food output to substitute for imports. Existing programs are to be accelerated and new measures instituted.

GOJ/MOA. Agricultural Planning in Jamaica. Kingston, 1972. Pp. 32 + Appendices. [MOA/JAM]

Discusses history of development planning (including colonial history) and a description (not evaluation) of projects 1950's, 1960's, and general review of planning critiques.

GOJ/MOA. Planning and Policy Review Division and Ministry of Finance, the National Planning Agency. Five Year Development Plan 1978-83: Agricultural Sector Plan, Vol. 1, Vol. II (Draft). [FDS/AID/JAM]

First volume has short summary chapters on resources available to the sector, recent programme of the sector and its major problems. Present and future actions proposed for land reform, soil conservation, irrigation and drainage projects are then outlined. Project goals for

each of the domestic food crops are given, though not justified in great detail. The cattle expansion programme is outlined, as are programmes for small stock poultry and fisheries. Programs and projections for export industries - coconut, coffee, cocoa, sugar and bananas are given. In Vol. II spices, fruit trees, forestry, citrus, tobacco industries of program are covered. Credit, domestic food markets, certified seed production and agricultural cooperations and research have separate chapters. Alternative institutional systems for credit are given. A quite detailed discussion of marketing is provided and a detailed programme for co-op development and detailed suggestions for agricultural research.

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This document is an analysis and critique of the 1978-1982 Five Year Development Plan. Carefully done, detailed and specific. It provides an alternate view concerning nearly every aspect of agricultural policy, structure, plans and potential. Must reading as a companion to the 5-Year Plan. Points out clearly problems with the Plan's expanded role in AMC in marketing.

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A copy of the very detailed, 40-page questionnaire is in RDS/AID/JAM library. The Department of Statistics has the data tapes, though they were not in a usable form in March 1978. An editing tape was being tested at that time with plans to have the report readied by mid-1978. The survey has a highly detailed employment classification (the same as used for published labor statistics) and identification of rural/urban, parish and Kingston metropolitan area is included. The survey was applied twice within a two-week period to the same households. The follow-up, Schedule B, is a repeat of the first five sections of Schedule A and deals with basic consumption and income questions.

The 1971-72 survey covered 3,800 households (planned sample 4,000); the 1975 survey 4,300 (5,500), and the December 1977 survey 1,700 planned.

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