

DRAFT PROJECT

**REGIONAL PROGRAMME FOR FOOD SECURITY (RPFS)
IN MEMBER COUNTRIES OF THE
CARIBBEAN COMMUNITY
(CARICOM) CARIFORUM***

CARICOM: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago.

CARIFORUM: CARICOM plus Haiti and the Dominican Republic

Prepared with the collaboration of the Food and Agriculture Organization of the United Nations (FAO)

May, 2002

CARIFORUM

REGIONAL SPECIAL PROGRAMME FOR FOOD SECURITY (RSPFS) FOR CARIFORUM COUNTRIES

TABLE OF CONTENTS

	Page
Abbreviations	v
A. INTRODUCTION	1
A.1 Agriculture in the economy of the CARICOM countries	1
A.2 Land use, farming systems and productivity	2
A.3 Trade	3
A.4 Prospects for trade in agricultural products	4
A.5 Agricultural production promotion policies and programmes	5
A.6 Main constraints to small holder development	6
A.7 Food security issues	7
A.8 Food insecurity and poverty	8
A.9 Objectives of the programme	11
A.10 Beneficiaries	11
A.11 Programme cost	11
B. TRADE FACILITATION COMPONENT	12
SP1: Commodity Market Information, Marketing and Trade Development	14
SP2: Agricultural Trade Negotiations Capacity Enhancement	19
SP3: Promoting Agricultural Product and Food Safety, Standards and Control	20
SP4: Transportation Systems Facilitation and Transaction Cost Reduction	41
SP5: Enhancing Phytosanitary System Capacity	43
SP6: Responsible Fisheries: Post Harvest Product Development and Trade	51
C. SMALL HOLDER ENHANCEMENT COMPONENT¹	62
C.1 Project Rationale and Design Considerations	62
C.2 Project Objectives	63
C.3 Project Description	64
C.4 Project Cost Estimate	69
C.5 Project Impact	72
C.6 Project Management	74
C.7 Issues and Risks	75

¹ Detailed country specific project proposals will follow as a separate volume to this document.

APPENDIX 1 - GENERAL STATISTICAL DATA

Table 1 - Per Capita Income by countries 2000	77
Table 2 - Population	78
Table 3 - Annual Growth rate of Gross Domestic Product	79
Table 4 - Exports: Sugar (Centrifugal Raw) 1980 – 2000	80
Table 5 - Exports Cocoa 1980 – 2000	81
Table 6 - Exports Citrus Fruit 1980 – 2000	82
Table 7 - Exports: Bananas 1980 – 2000	83
Table 8 - Food Import – Export Ratio 1985 – 1999	84

APPENDIX 2 - SMALL HOLDER COMPONENT SUMMARY COUNTRY TABLE

Antigua y Barbuda	85
The Bahamas	86
Barbados	88
Belize	90
Dominica	92
Grenada	94
Guyana	96
Jamaica	98
St. Kitts and Nevis	99
St. Lucia	101
St. Vincent and Grenadines	103
Suriname	105
Trinidad and Tobago	107

Abbreviations

ACP	Asian Caribbean and Pacific Countries (associated to EU)
CARDI	Caribbean Research and Development Institute
CBI	Caribbean Basin Initiative
CET	Common External Tariff
DES	Dietary Energy Supply
EU	European Union
HACCP	Hazard Analysis Critical Control Point
IPM	Integrated Pest Management
LIFDCs	Low-Income-Food-Deficit Countries
NAFTA	North American Free Trade Area
NPC	National Project Coordinator
OECS	Organization of Eastern Caribbean States
PMU	Project Management Unit
RTP	Regional Transformation Programme
SPFS	Special Programme for Food Security
TCP	Technical Cooperation Programme
WTO	World Trade Organization

A. INTRODUCTION

A.1 AGRICULTURE IN THE ECONOMY OF THE CARICOM COUNTRIES

The agricultural sector in the CARICOM countries is based on the one hand on a limited number of traditional export crops (sugar, bananas, coffee, cocoa, rice) which are cultivated mainly but not exclusively in large estate farms. Governments focused attention on these crops because of their foreign exchange earning capacity and because they provide employment and income to a considerable number of the rural work force. On the other hand, small holders, who may also cultivate some export crops, usually with lower productivity than estate farms, mainly grow food crops, particularly tubers, plantains and a variety of vegetables both for their own consumption and for the domestic markets. Overall, the agricultural sector's contribution to the GDP in the Region is on average 12 percent (as low as 3 percent in Trinidad and Tobago, an oil exporting country, and as high as 32 percent in Guyana). Agriculture also provides employment to between 4 and 33 percent of the total labour force.

In some countries (Grenada, St. Kitts and Nevis, and St. Lucia), food production and export agriculture have been seriously affected by the Hibiscus Pink Mealybug and/or the Tropical Bont. Furthermore, hurricanes have a significant impact on the performance of the sector in the region. Indeed, every single year, one or more CARIFORUM countries are hit by hurricanes, which are the cause of extensive agricultural damage and temporary situations of food insecurity. In other cases, like Haiti, the reduction in production volume is chiefly due to the economic and political crisis.

The agro-processing sector of CARICOM countries is a mix of a few large scale agro-industrial firms processing traditionally exported crops (e.g. sugar and rice), new technologically sophisticated firms concentrating on the export of non traditional products (e.g. frozen fish products, canned fruits and vegetables, jams and preserves and breakfast cereals), and many small scale processors. Most agro-industrial businesses are relatively small by international standards although, in terms of employment and output, their contribution to the economies of most CARICOM countries is important. This is especially the case of Jamaica, where agro-processing is a major component of the manufacturing sector, accounting for 50 percent of the total manufacturing production and 20 percent of the manufacturing work force.

Capture fisheries make a significant contribution to the economy of CARICOM countries. In most countries the contribution is important in view of the general scarcity of opportunities for productive employment. Per caput fish consumption ranges from a few kilograms per year to 60 kg per person and year (Antigua). Most of the countries are net importers of fish, and in some as much as three quarters of the fish consumed is imported. In the island countries, most inhabitants eat fish often and local fisheries make an essential contribution to food security. This is not the situation in the larger island countries and on the continent. Still, also in these countries, fisheries are essential to food security for many isolated coastal communities.

In the past decade or so, considerable changes have however taken place in the sector. On the one hand preferential terms of trade of traditional export crops in European and American markets have been reduced as a result of trade liberalization following WTO agreements. Such preferential trade arrangements are likely to disappear progressively by 2006, leaving CARICOM countries' exports vulnerable to competition with higher efficiency

producers from outside the Region. On the other hand higher incomes in most countries of the Region and the development of the tourism sector have resulted into increased demand for high quality and processed foods. A considerable proportion of this demand has been satisfied from extra-regional imports aggravating the food trade deficit of the Region, now standing at over US\$400 million. At the same time, the food self-sufficiency ratio for the Region as a whole has dropped from 101 in 1980 to 74 in 1995 and is likely to have declined further since then. The main reason for this is the fact that food production has been unable to respond with competitive prices – with few exceptions – to the demand, both in terms of volume of production and in terms of quality of produce. As a result, a low input and low productivity agricultural sector is faced with high costs (in particular of labour but also of fertilizers, chemicals and water), low quality and strong competition from cheaper imports which are advantaged by regular transport facilities. The lack of established regular transport circuits within the Region has contributed to this trend. However, the 11 September events in the USA, brought to the general attention another aspect of the heavy dependency from imported foodstuff, namely the uncertainty of supplies from foreign sources. The debate has thus been relaunched on reducing food dependency from imports, reducing the food trade deficit, increasing food production and improving competitiveness

A.2 LAND USE, FARMING SYSTEMS AND PRODUCTIVITY

More than 80 percent of the total land area of CARICOM countries is covered with forest and woodland. The share of arable land and land under permanent crops is less than 3 percent, and the share of permanent pasture around 4 percent. These percentages have remained basically stable over time. The high incidence of forest and woodland is due to the large areas under such land use in the continental countries Belize, Guyana and Suriname. The share of arable land and land under permanent crops is much higher in the islands, which have generally much lower land per person ratios (see Table A.1). The major crops, in terms of land use, are rice, sugar cane, bananas, coffee and cocoa.

Table A.1: Land use – 1995

Country	Total Area (1000 ha)	Land Area (1000 ha)	Agric. Area (1000 ha)	Arable Area (1000 ha)
Antigua and Barbuda	44	44	12	8
Bahamas	1388	1001	12	6
Barbados	43	43	19	16
Belize	2296	2280	132	60
Dominica	75	75	18	3
Dominican Republic	n.a.	n.a.	n.a.	n.a.
Grenada	34	34	13	4
Guyana	21497	19685	1726	480
Haiti	n.a.	n.a.	n.a.	n.a.
Jamaica	1099	1083	476	177
St. Kitts and Nevis	36	36	15	8
St. Lucia	62	61	21	5
St. Vincent and the Grenadines	39	39	13	4
Suriname	16327	15600	89	57
Trinidad and Tobago	513	513	133	75

Source: FAOSTAT database

The land tenure pattern in the Caribbean has its origin in the legacy of the colonial system where the majority of the land was owned by a few landowners who used it for plantation crops, mainly sugar cane and later bananas. Food crops were and continue to be mostly cultivated on often-marginal lands and in the case of countries with rugged topography on sometimes steep hillsides. Generally, these lands are difficult to manage and productivity is low. The structure of agricultural production in the Caribbean has remained a dual system over several decades.

In many countries, land distribution is highly skewed. The small holders with up to 5 acres represent the great majority of the farmers. Besides, many small holders are categorised as "landless" as they do not have a title and they squat on either government-owned or abandoned private land, which they cultivate. Others have a short-term lease or longer-term lease, which is not registered. All these categories of small holders are unable to provide collateral and therefore are excluded from the credit facilities when available.

Productivity for both traditional and non-traditional crops is constrained by several factors the main ones being:

- low agricultural productivity due to traditional farm practices and sub-optimal use of inputs with the attendant high unit cost of production making it difficult to compete on both the domestic and export markets;
- inadequate supply of high quality planting material and absence of improved cultivars;
- lack of technology packages especially for non-traditional crops;
- high cost of labour (especially in the OECS countries);
- infrastructure deficiencies at the farm level, namely poor access roads and water management infrastructures;
- significant levels of post-harvest losses and the absence of post-harvest technology packages and facilities (sorting, packaging or cold storage centres) and of marketing advice available for both farmers and traders;
- high incidence of farm theft. This is probably the largest category of crop loss for non-traditional high value crops as reported by farmers especially for vegetable and root crops;
- poor information gathering and analysis for planning purposes. The database on non-traditional crops is deficient and unreliable. Very little is known about acreage under cultivation, costs of production, optimum production mixes, marketing margins, product flows, seasonality, etc; and
- poor levels of organization among producers at the local and national levels.

A.3 TRADE

Agricultural trade has considerable economic importance for most CARICOM countries, representing 40 percent or more of the total export value in 1994 in seven out of thirteen countries. A problem common to most countries in the region is the heavy concentration of their agricultural exports in a small number of products. Dependence on sugar exports is very high for Barbados (52 percent of the value of total agricultural exports in 1994) Belize (46 percent), Guyana (64 percent), Jamaica (31 percent), and St. Kitts and Nevis

(81 percent). Bananas represent 85 percent of the agricultural exports of St. Lucia and 80 percent of those for Dominica and an important share of trade also for other countries. Most of the countries highly dependent on these two crops also have a high share of agriculture on total exports. Rice is an important export commodity for Suriname (73 percent of agricultural exports) and Guyana (30 percent).

In comparison with trade for all commodities and services, which has been rather sluggish over the last two decades, agricultural trade has experienced important developments in CARICOM. While the value of agricultural exports increased by 30 percent since the beginning of the 1980s, the growth of agricultural imports has been much higher (+70 percent over the same period). The poor performance of overall trade and the comparatively low growth of agricultural exports reflect the difficult economic situation experienced by several countries.

The production of domestic food products for the national and regional market is expanding. Fruit and vegetable production in Trinidad and Tobago, and yam production in Jamaica, are important examples in this regard. At the same time, there are some domestic food-production sectors, such as livestock, poultry and the milk industry, which are increasingly under stress from trade liberalisation. In all other respects the structure of CARICOM's trade has practically remained unchanged over the past 15 years. The main export outlets are the EU and the US, the latter being also the main source of imports. Exports to the two most important trading partners are effected within the framework of special trading arrangements.

A.4 PROSPECTS FOR TRADE IN AGRICULTURAL PRODUCTS

The agricultural production structure has been influenced by increasingly market oriented macro-economic policies. Indeed, in some of the countries of the region (Belize, Guyana, Jamaica, Trinidad and Tobago, and Suriname), there is an increasing presence of larger scale private sector entrepreneurs entering the agricultural sector although the small farmers are still important for food crops and vegetable production. Furthermore, support services have increasingly moved from public sector agencies to private sector operators. However, small holders have difficulty in benefiting from such support services at commercial rates. Trade liberalisation policies often resulted in the removal of Government monopolies (the Jamaica Commodity Trading Corporation) and less control for Government Marketing Boards (rice in Guyana). This often translated into a reduction in Government revenues, and resulted in the reduction of production and marketing activities by the Ministry of Agriculture and in a larger role for the private sector.

The major export markets have different conditions of market access. It is the changes in these access terms that constitute the major challenge facing the region. Market access into Europe is governed by non-reciprocal preferential agreements enshrined in the Lomé Convention and the Protocols attached to it. Preferential access, again non-reciprocal, to the US and Canadian markets are contained in the Caribbean Basin Initiative (CBI) and CARIBCAN agreements respectively. CARICOM has negotiated non-reciprocal preferential access to the markets of Venezuela and Colombia. As WTO members, each country has most-favoured-nation access to the market of other WTO members. In addition, the countries of the region benefit from the GSP of Japan and other developed nations.

With the expansion of WTO membership among CARICOM countries (all but the Bahamas are now members), the trade barriers facing exports from the region tend to decrease. The EC has already announced changes in its preferential import regimes for Bananas and sugar, including the EBA (everything but arms) initiative, increasing regional concerns over the long term export earnings and employment potentials of these industries. Similarly, NAFTA has reduced the relative benefits of the preference that the Caribbean countries had in the US and Canadian markets.

The import pattern is not currently dominated by preferences. There is free trade among CARICOM members, whilst imports from all other countries face the Common External Tariff (CET), which for agricultural commodities can be as high as 40 percent. The major changes in the import pattern in the next few years will come about as a result of increasing access for WTO member countries and eventually of moves towards freer trade in the Americas, based on trade reciprocity.

Declining preferences in some markets do not necessarily mean declining exports overall. Other markets are growing, and could take over some part of the slack, though the non-preferential markets generally imply lower prices and more competition. For agricultural goods, most export markets are outside CARIFORUM and most imports come from outside the region. This points to opportunities within the local market, in terms of production by one country for sale to the whole region.

In summary as far as trade and agriculture are concerned, there is a need to simultaneously improve productivity and marketing skills on the one hand, and trade policy on the other. If agricultural change is too slow, the sector could be drastically reduced in size over the next decade or two.

A.5 AGRICULTURAL PRODUCTION PROMOTION POLICIES AND PROGRAMMES

Within the region, a number of countries, e.g., Jamaica, Guyana, and Trinidad and Tobago, have launched agricultural sector reforms. As an example, the Agricultural Sector Adjustment Loan signed by the Government of Jamaica and the World Bank in 1990 sought to correct a number of distortions (overvalued exchange rates, producer prices, import restrictions) and institutional inefficiencies.

CARICOM countries have traditionally pursued policies to foster the development of the agro-processing sector. Until the eighties, these policies continued to have an import substitution character - with high import duties and quantitative restrictions on imports - and with a strong role of the public sector. A policy shift began emerging in the eighties, with a wave of divestment and privatisation.

Many programmes in CARICOM countries are implemented under the umbrella of the Regional Transformation Programme (RTP). The RTP, as a support to the sectoral transformation processes initiated at national level, is co-ordinating action and providing assistance to the member States in the following areas¹:

¹ Among other agencies, FAO has participated in the implementation of some of these programmes

- agricultural policy support: training of public sector officials, and generation and analysis of data;
- human resources development: short courses, undergraduate and postgraduate degrees;
- technology generation, validation and transfer: research development extension co-ordination via PROCARIBE;
- agribusiness development: training courses and regional harmonisation of incentive packages;
- marketing development: provision of market support services, including a market information and intelligence service;
- fisheries: support to Regional Fisheries Programmes;
- forestry: support to National and Regional Forestry Action Plans;
- water resource management: preparation and implementation of sectoral water resource utilisation plans.

A.6 MAIN CONSTRAINTS TO SMALL HOLDER DEVELOPMENT

The constraints faced by small holders in the Caribbean countries are twofold: i) those that relate to the prevailing agricultural practices, inherent to small holder agriculture; and ii) those that, although directly impacting on agricultural development, are outside the control of the sector or are institutional or policy in nature.

The main constraints of the first type concern the substantial seasonal dependability of production based on rainfed agriculture. Besides inter-country competition, the narrow range of crops cultivated resulted in seasonal gluts, lower prices and off-season shortages, which discouraged sustainable marketing, transport arrangements. The traditional farm practices and inappropriate use of inputs result in low productivity and uneconomic production in spite of a sometimes-large degree of protection that certain commodities enjoy. Mechanization is low due to the lack of appropriate farm machinery adapted to small holders' needs and capacity. Finally, the wage differentials between agriculture and other sectors act as disincentive to agricultural expansion and investment with many farm labourers moving to other sectors and small holders becoming part time farmers. This, from a point of view of food security, may be as much an advantage, to the extent that off-farm income helps improving nutritional status, as a constraint, to the extent that it may hamper agricultural modernization.

The main constraints of the second type relate to the deficient infrastructure for marketing of produce resulting in high, post-harvest losses. This includes the need for country collection points, storage and packaging, transport, intra-regional transport facilities, on a regular basis, and high costs. Shortage of extension staff and lack of training possibilities, coupled with limited research facilities and more important with inadequate interaction between research and extension, hamper small holders to adopt improved cultural practices. Land tenure is another problem related to leasehold arrangements not formally recognized for credit purposes, lack of ownership titles and squatting. To this, the issue of credit availability and terms, including collateral, should be added. The small size of domestic markets and the insufficient geographic and seasonal concentration of production discourage processing initiatives. Finally, there appears to be serious incidence of praedial larceny in many countries of the Region.

A.7 FOOD SECURITY ISSUES

A.7.1 Factors affecting food security

The increasing dependency on extra-regional food imports and the augmenting degree of poverty pockets amongst the population in a considerable number of countries ought to be considered as the two main problems affecting the food security situation in the Caribbean region. Access to food is not ensured either through own production of food or through earning sufficient income to purchase enough food to satisfy the minimum calorie intake or Dietary Energy Supply (DES).

In fact, in the Caribbean region, the per caput DES has on average has declined from 2,330 kcal/caput/day in 1979-81 to 2,250 kcal/caput/day in 1994-96² and perhaps slightly less if Haiti were not included. Modest decrease has also been noted in Barbados, Belize, Guyana, St. Vincent and Trinidad and Tobago.

National and overall regional agricultural production is not sufficient to satisfy total demand and good part of DES is provided through considerable amounts of extra-regional food imports under commercial terms. This results in considerable food trade deficits and a growing dependence from foreign supply sources for essential commodities. Food imports are a significant component of the total food supply in the CARICOM region. Total food imports in the region have increased significantly over the last decades, from US\$ 1,330 million in 1980 to US\$ 2,270 million in 1996 (current prices). The major categories of imported food are cereals, rice, meats, in particular chicken meat, dairy products, oils and fats, and other processed canned foods.

The overall trade and current account balances and levels of indebtedness are important factors determining the ability of a country to import food. The ratio of total debt service to total exports of goods and services in 1980 was 15 percent for the region as a whole; it grew to 21 percent in 1990 and declined to 17 percent by 1995. Most countries of the region have run current account deficits in recent years, with the exception of Trinidad, which is an oil exporter, Suriname, and Guyana. CARICOM as a whole has been facing an increasing trade deficit for foodstuff during the last two decades. While imports and exports of food taken as a whole were almost balanced at the beginning of the 1980s, there is now a considerable food trade deficit. The deficit is especially large for basic food. The bill of food imports has fluctuated during the same period around 12 percent of the total income derived from goods and services exports.

Thus, as shown in the table A.2 below self-sufficiency, both in terms of value of food consumed and of calorie intake, has steadily declined.

² An average 2700 kcal per caput/day is roughly estimated to be necessary to satisfy the food needs of the population's vast majority.

Table A.2: CARICOM- Self-sufficiency Indicators (percent)

Indicators	1969-71	1979-81	1989-91	1994-96
Value Prod/Demand ¹	99	87	81	80
Calories Prod/Demand ²	130	101	77	74

¹ Total food production value/Total food demand value (production + imports + exports + net stocks) at international prices.

² Total food production calories/Total food demand calories.

Trinidad and Tobago's food security, for example is tied closely to the fortunes of the oil industry because of this industry's considerable impact on the level of foreign exchange, employment and income in the economy. Here, like in another relatively high income country of the region, Barbados, there has been a worsening of some social indicators, as a result of particular macroeconomic policies, suggesting that in particular, those households in the lowest strata of the income distribution, were less able to access food in 1995 than in 1986. However, like in Barbados, the relatively high level of the GDP per caput means that purchasing power, though in decline, is still high enough to allow access to food supplies for all but the poorest. For St. Lucia, like in other small island states heavily dependent on banana production and export, the food security challenges are faced primarily in the rural areas and are closely associated with the vulnerability and performance of this industry. In other countries, the low level of average income suggests that there is a real problem of accessing commercial food supplies. However, in the land abundant continental CARICOM economies (Guyana, Belize and Suriname) this is probably mitigated by widespread own-production of food in informal agricultural activity.

A.7.2 Major challenges and constraints

Trade challenge: The achievement of food security involves challenges to agricultural supply, trade and food access. As far as sectoral performance is concerned, the main challenge derives from the shifting conditions of access to export markets and access of imports into the domestic markets. Traditional exports are threatened, and the pressure is strong on the CARICOM countries to diversify their agricultural economies and increase their productivity and competitiveness. Furthermore, given the important role of agro-processing in some countries and the increasing flow of imports of processed food, the competitiveness of the agro-industry needs to be strengthened.

Holdings size and competitiveness: One important constraint at sectoral level concerns the lack of linkages between the large commercial estates and small-scale farming. The main problems faced by the latter sector are the small size of farm holdings that limit competitiveness, the lack of physical infrastructures (roads and bridges, drainage and irrigation, hillside terracing, sea defences, food storage, cool storage, and other post-harvest facilities) and the weakness of the institutional infrastructure: research, extension and marketing information services, education system, and rural credit, limited access to agricultural land and weak land tenure systems.

Weak post-harvest and processing facilities: In the agro-processing sector, the major constraints are the lack of capital, the inadequate and irregular supply of raw material, the limited local knowledge base on processing options, and the weakness of post-harvest management (poor quality control, inspection and certification capabilities, high cost of packaging).

Land tenure: Inadequate land titling for small farmers also affects the rural poor. Much of this relates to the historical land use patterns before independence where plantations predominated. Following independence, governments bought large estates that are still state owned (for example in the Dominican Republic, Jamaica, St. Kitts and Nevis and Guyana). The remaining agricultural land is generally privately operated under a dual system of customary use and a formal legal framework. The distribution of land is, however, somewhat inequitable with the majority of farmers only owning a small proportion of agricultural land. In Jamaica, Belize, and the OECS, most of the land occupied by farmers is in mountainous areas of hillside slopes and the parcels are relatively small. In Guyana, small rural farmers who own plots on former sugar and coffee estates are constrained by the deterioration of drainage and irrigation systems originally designed for management by one landowner. Policies that expand tenancy, provide clear land rights where traditional systems fail, and improve the management of common-property resources would create opportunities for the rural poor.

Most Governments of the CARICOM member states have now among their priorities three national food security related objectives: i) higher levels of food self-sufficiency; ii) increased agricultural productivity; iii) increased diversification of agricultural production and export. The recognition within the CARICOM region of the need to diversify its agricultural production and exports has led to the implementation of projects promoting diversification over the past three decades. An evaluation of the data over the past ten years indicates limited success in terms of the numbers of products whose export volume and values have consistently increased over the period.

The Regional Transformation Programme (RTP) (see Section A.5 above) provides the framework for the transformation of the regional and national agricultural sectors, in search of enhanced competitiveness and improved performance. The RTP does include many considerations and activities of direct relevance for the improvement of food security, but it does not include a specific food security component.

A.8 FOOD INSECURITY AND POVERTY

Poverty and unemployment data indicate the presence of significant segments of the population that may not have access to sufficient food. The distribution of income in the region has historically been highly unequal and even though the economic adjustments involved in the liberalisation of the economy have generally been beneficial, in some cases, like Jamaica and Suriname for example, inequalities have increased. On the basis of the World Bank poverty head count index, the share of poor in total population in 1996 was 8 percent in Barbados, but above 20 percent in most other countries and as high as 47 percent in Suriname and 60 percent in Haiti.

Approximately 25 percent of the total population in the Caribbean, or more than 7 million people, can be classified as poor. While it is difficult to make global comparisons in poverty given the differing methodologies in measuring it, this estimate would likely place the

Caribbean below Africa and South East Asia, yet above East Asia and Eastern Europe in terms of poverty levels. The incidence of poverty is highest in Belize, Dominica, Guyana, Haiti, Jamaica, and Suriname, although rates higher than 20 percent are found in the Dominican Republic, St. Lucia, and Trinidad and Tobago. Poverty levels are lowest in Antigua and Barbuda, the Bahamas, Barbados, and St. Kitts and Nevis. Income distribution appears to be quite uneven, particularly given the per capita income of the Caribbean. The average Gini coefficient for those countries where it is available is approximately 0.46 compared with 0.49 in Latin America.

In countries such as Haiti and Jamaica, there appears to be increasing problems in accessing food supplies, as a consequence of high poverty levels, high unemployment, declining real incomes and uneven distribution of benefits from economic growth. The supply dimension of food security depends on national average supplies and on how equally they are distributed.

Since poverty is so widespread in Haiti and in the Dominican Republic, all agricultural development programmes are explicitly designed to increase farmers' incomes and improve living conditions. Furthermore, both Governments have designed and implemented, together with a range of international organizations, NGOs, and farmers' organisations, poverty alleviation programmes and social protection systems for the most vulnerable people in the country.

Poverty is a predominantly rural phenomenon in most of the countries in the region, although in the case of Belize and Trinidad about half of the poor live in urban areas. In some of the countries, e.g. in Suriname and Belize, rural poverty is strongly associated with ethnic communities. Vulnerable groups are the old, pre- and primary school children and the disabled. Most countries have programmes (e.g. work-for-food, food stamps, school feeding) targeted to these groups. In some countries (Bahamas, Grenada, Dominica), specific programmes are designed to foster the development of sources of off-farm rural income, through financial and technical help. In the case of Trinidad, those who became unemployed, a predominantly urban phenomenon, joined the traditional poor. While their immediate needs may be short-term subsistence, their real needs are for rehabilitative assistance, in order to help them re-enter the labour force. The Government has begun to respond to the growing needs of these new poor with programmes specifically addressed to them. On the policy side, it has adopted a number of measures that are designed to address the longer-term need for employment creation.

Food aid in cereals to the CARIFORUM zone has decreased from 342,000 to 159,000 metric tons between 1993-1994 and 1997-1998 for the group as a whole, which is equivalent to respectively 14 and 6 percent of the total commercial cereal imports. Food aid remains higher in proportion for Guyana (86%) and Haiti (18%). Although Jamaica and Suriname were important recipients of food aid at the beginning of the decade, these two countries now cover virtually all their needs in cereals by commercial imports. There are occasional needs for food aid in the region because of damage from hurricanes. Many Leeward Islands for example received food aid in 1995-1996, while no food aid is usually shipped there.

Faced with the issues and concerns outlined above, there is scope, justification and commitment for a regional programme that would concentrate on facilitating trade and providing the basis for significant improvements in productivity and competitiveness. In particular, it is necessary to make local production more competitive to target high value and exotic food crops for the hospitality trades and for local markets.

A.9 OBJECTIVES OF THE PROGRAMME

The fundamental goal of the CARIFORUM Food Security Programme is to improve the food security situation of the CARIFORUM states individually and as a whole by improving the productivity and incomes of the small holders and increasing the overall value and quality of regional agricultural produce traded. Specifically, the programme would establish the required capacity to address general trade issues (quality, safety; trade negotiations), and test and demonstrate the practical, technical and financial feasibility of improved and alternate production and marketing systems. This would establish the basis for future attraction of investment in production and trade.

Towards these ends, the programme has two related components (1) Trade Facilitation, and (2) Enhancement of Smallholder Production, Productivity and Marketing. Specific objectives of the Trade Facilitation component include facilitation of the flow of information to improve production and marketing choices; reduction of transaction costs; improvement in negotiating capacity; improvement in attainment of market food safety; and phytosanitary standards.

Objectives of the Enhancement of Smallholder Production, Productivity and Marketing Component are to improve production and productivity, increase the ability of smallholders to lower costs of production, produce more quality products on regular and sustainable basis, and as a result to facilitate their competitiveness in both external and domestic markets.

A.10 BENEFICIARIES

The main beneficiaries of the programme would be small farmers, traders, and consumers. Farmers will be able to intensify production, produce off-season, and ensure a more regular supply on the market, thereby deriving increased incomes. Backyard farming will provide the most food insecure, including female-headed households with improvements in diet through involvement in the production of food crops and small livestock. Enhanced human resource capability through training and appropriate legislation would facilitate the work of institutions established to facilitate trade, for example, in the processing and distribution of market information; sanitary and phytosanitary standards; and in trade negotiations. Consumers will benefit from more regular supplies, improved standards and better food quality.

A.11 PROGRAMME COST

The Trade Facilitation component of the programme outlines six projects relating to market information and trade development; improving trade negotiating capacity; food safety; transaction cost reduction; enhancing phytosanitary capacity; and responsible fisheries. The budgeted cost of this component is US\$16.13 million.

The Smallholder Enhancement component of the programme deals with measures to improve smallholder productivity and competitiveness including irrigation; demonstrations of improved production and processing technology; training, research, extension and marketing. The cost of this component is budgeted at US\$14.5 million.

The total cost of the overall food security programme for CARIFORUM countries is US\$ 30.63 million.

B. TRADE FACILITATION COMPONENT

In the context of trade facilitation, the following five problem areas were identified as needing assistance to promote the identification and accessing of trading opportunities in order to promote agricultural and rural development.

- (i) At the production, trade and policy level there is an absence of access to basic information related to marketing opportunities, processes, and regulations. It is now well accepted that improving competitiveness, among the highest priorities of CARIFORUM agricultural development goals, requires adequate attention to issues at the production, marketing and trading ends simultaneously. It is not enough to consider only the cost of production of a commodity and compare this to world market prices. From the very inception of the production decision it is necessary to be familiar with alternative input and product market prices, input and product market regulations, and marketing infrastructure capacity and services related to the production and trading of your product. The absence of this information and an information system to supply it on a regular and timely basis continues to be a constraint to increasing agricultural product competitiveness.
- (ii) Entrepreneurial and institutional weaknesses related to the development of marketing strategies for agricultural products limits the diversification of markets, the development of higher value added products as well as trade expansion across current products and market outlets. Processing, product packaging and distribution, pricing and sales promotion strategies are areas in which there needs to be investment and training to increase the opportunities and returns. This will allow rural entrepreneurs to raise their production levels and product standards, enabling them a greater possibility of integration, influence and benefits across the entire commodity chain.
- (iii) In the new international trading environment, resulting partly from the results and commitments of the Uruguay round, and the recently started trade negotiations under the Doha Development round, the importance of trade negotiations in the future survival and development of the agricultural sector is well appreciated. This is very much the case for CARIFORUM countries that trade a number of commodities into specific markets that are most vulnerable to change in these negotiations. Against this background one of the most serious gaps in the region's agricultural policy and planning frameworks is its capacity to support the ability to negotiate market access. Currently, the agricultural trade units and institutions of the individual CARIFORUM countries, where they exist, are too weak to negotiate access to markets in an effective and sustainable manner. The deluge of requirements related to the WTO, FTAA and post Cotonou agreements entered into by the CARIFORUM countries demonstrated the need to reinforce both national and regional capability in the trade negotiation area. This need is greatest in terms of human capital, information management, coalition building, negotiation strategy development and equipment, to enable these countries to promote and defend their agricultural and rural development trade related interests. Further, producers and marketers investing to increase their competitiveness need an operating environment characterised by policies and programs that have some degree of certainty and are associated with transparent and reliable trading rules and regulations.

- (iv) The new trading environment has resulted in greater demands related to product quality and safety standards. CARIFORUM country capacity to be familiar with the existing quality and safety legislation and regulations, to develop their own standards, to inspect and analyse products with regards to compliance with all standards, and to evaluate and enforce quality control, safety and information standards needs strengthening. Governmental resources, private sector capacity and civic organisation participation all need to be increased to facilitate success in this area. The support for capacity building includes laboratory development, training of personnel, development of legislation, communication with producers and consumers. These activities are as important to protecting the domestic production and marketing environment as it is to promoting the delivery of quality and higher valued products in accordance with the demands of consumers in intra-regional and extra-regional markets. This requires special attention to ensuring that quality, food safety and labelling standards are consistent with the expectations of purchasers.
- (v) The physical infrastructure and support services related to the movement of agricultural products from the CARIFORUM area has long been identified as one of the major constraints to trade development. This includes storage facilities at bulking points, water and air transportation, availability of customs and health inspection services critical to promoting external trade linkages. As a result, transportation and other transaction costs have often been a much greater determinant of competitiveness than production costs. Modern transport technology has not offered a solution to this age old problem; however, enhanced, better quality information on markets, marketing services, transportation options and their respective prices within and outside the region could assist in making progress in this area. There have been a number of regional and private sector interventions in the past with regard to this issue and approaches to resolving this issue in the project starts with understanding the lessons from these experiences.

Based on preliminary analysis, the remainder of this section provides outlines of six sub projects related to trade facilitation and trade development. The tentative titles and budgeted amounts are as follows:

I)	Commodity Market Information, Marketing and Trade Development:	US\$ 1,005,000
II)	Agricultural Trade Negotiations Capacity Enhancement:	US\$3,180,000
III)	Promoting Agricultural Product and Food Safety, Standards and Control:	US\$2,200,000
IV)	Transportation Systems Facilitation and Transaction Cost reduction:	US\$3,450,000
V)	Enhancing Phytosanitary System Capacity:	US\$4,970,000
VI)	Responsible Fisheries: Post Harvest Product Development and Trade:	US\$1,325,000
	Trade Facilitation Total:	US\$16,130,000

D) SP1: Commodity Market Information, Marketing and Trade Development

Although agricultural trade has considerable economic importance for most CARIFORUM countries, representing 40 percent or more of the total export value in 1994 in seven out of fifteen countries, a problem common to most countries in the region is the heavy concentration of their agricultural exports in a small number of products. Dependence on sugar exports is very high for Barbados (52 percent of the value of total agricultural exports in 1994) Belize (46 percent), Guyana (64 percent), Jamaica (31 percent), and St. Kitts and Nevis (81 percent). Bananas represent 85 percent of the agricultural exports of St. Lucia and 80 percent of those for Dominica and an important share of trade also for other countries. Most of the countries highly dependent on these two crops also have a high share of agriculture on total exports. Rice is an important export commodity for Suriname (73 percent of agricultural exports) and Guyana (30 percent) and coffee is the main agricultural export of Haiti (44 percent).

Traditional agricultural exports, which are facing the loss of preferential markets, must be made more competitive if the industries are to survive. Where efficiency levels are achievable to make the industry viable in the long run, a regional marketing strategy towards the international market should be developed. There is a more important and urgent need to intensify efforts to foster the development of non-traditional exports. Virtually all Caribbean countries implemented agricultural diversification programs in the 1980s, with the shared objective of reducing dependence on a narrow range of agricultural exports. In spite of modest incentives accorded the agricultural sector, most Caribbean countries experienced fairly limited success in increasing both the volume and range of agricultural production and exports. It is now recognized that the national strategies to promote non-traditional commodities should be supported by a regional research program for product development and production techniques, and by regional co-operation to defend existing markets and to seek new markets for non-traditional exports. In this respect, the Caribbean Agricultural Research and Development Institute (CARDI) could play a central role to foster the intensification and diversification of the production.

Absolutely critical to any success in diversification is marketing development: including provision of market support services, market information and market intelligence.

PROJECT PURPOSE

Supporting the capacity of nation states and the region as a whole to market competitively.

Increasing the competitiveness of CARIFORUM agriculture should be the highest priority on the regional and national agricultural agenda. It is not enough to consider the cost of production of a commodity but also distribution strategies and markets before concluding an assessment of competitiveness. Being a high cost producer should not always limit the marketability of a product both within and outside the region (e.g. Jamaican Blue Mountain coffee). The perceived need is to encourage institutional frameworks within CARIFORUM to place relatively more emphasis on marketing than they have in the past.

The establishment of the Caribbean Agribusiness Marketing Intelligence and Development (CAMID) Network is a promising initiative. The Network is comprised of public and private sector organizations, firms and individuals within the CARIFORUM

region. For a detailed description of the Network and the foreseen activities, see the draft program proposal prepared by the CAMID network.

This sub-project aims to strengthen the CAMID Network, as well as developing additional market support services not covered by CAMID. This sub-project concentrates especially on activities concerning non-traditional exports and regional trade and aims to make the information collected within the Network more accessible to producers, agro-processors and traders.

Project Activities and Results

Improvement in the Region's Capacity to Identify Markets and Develop Trading Opportunities

Activities:

1.1 Improvement in Services and in Product Marketing Standards for non-traditional agricultural exports:

- Provision of funding and consultancy services to national and regional export marketing programs, including the Eastern Caribbean Export Development Agency (ECEDA), the OECS/ADCU's Tropical Products Support Project (TROPRO) and CARICOM's Caribbean Export Project, with the goal of improving services to the non-traditional agricultural export sector.
- Support for regional workshops involving CAMID, national standards organizations, agricultural societies, small and medium scale agro-processors and Ministry of Agriculture officials to move towards uniform regional food standards and labeling requirements for the marketing of both fresh and processed agricultural products coming out of the diversification effort. Resources to supplement component E2 and E4 of the CAMID proposal.
- Training of 15 government officials, 15 national standards organizations and 15 agro-processors in product market standards via national and regional courses, using standards required by the major export markets in Europe and the US as benchmarks. Resources to complement component E3 of CAMID proposal.

1.2 Strengthening and expanding the Agricultural Marketing and Production Database of CAMID

Develop the CAMID marketing database into a market information system, including a website to enable marketing organizations, export promotion authorities, farmers and traders to have real time market prices in national, regional and international markets for non-traditional export products, including inter alia, hot peppers, yams, small ruminants, poultry, spices, tropical fruits and vegetables. This website should be easily accessible to producers, agro-processors and traders (fees should be waived for resource poor farmers, e.g. by giving them access through terminals at local extension offices). The database will expand its information on the supply, demand and price situation for the major tradable agricultural products in all the member states; non-tariff barriers in all member states; and the possibility for members to explore opportunities derived from

the information available. Member countries will be assisted to establish or upgrade their own web-sites.

- Implementation of a pilot project in at least three countries with strong hotel/tourism industries to link by electronic means hotel catering managers to horticultural or agricultural societies in order to provide real time marketing opportunities to local producers of fruits and vegetables which would otherwise be imported.
- Provision of appropriate hardware and software to enable the above systems to operate effectively, including 60 terminals available to farmers and traders at credit unions, banks, in extension offices and at local agricultural society offices and cooperatives.
- Training for, farmers, hotel buyers and traders in the effective use of such systems (total 600). In addition to component D4 of CAMID proposal.
- Support to one full time CARIFORUM marketing specialist in the UK and one in the US to feed information into the marketing system and solve problems faced by exports once they arrive in export markets, with the time for each specialist not to exceed three years, or until the system is functioning effectively.
- Training of officials in export marketing programs, in monitoring trade, the functioning of the market information system, analysis of the information provided through the system, demand and supply projections, and formulation of agricultural diversification policies and strategies. Resources to supplement component C and D of the CAMID proposal.

On the basis of the information provided through the market information system, development of a program to promote key non-traditional export crops in member states. Specifically provide support to those producers and entrepreneurs who have decided to diversify based on the information provided by the market information system. This could include technical assistance in product development or assistance in developing market linkages. Inter alia do a research on the profitability of alternative markets for hot pepper farmers (Component F5 in CAMID proposal). Activities will also be coordinated with the marketing activities at national level as identified in the country reports for the Regional Special Programme for Food Security (RSPFS.)³

1.3 New product development for hotel/tourism industries

- Identification of product quality, presentation and packaging needs for regional tourism industries (e.g. one-serving cups of jams etc.), by a national consultant. This activity could also include component F1 and F20 of CAMID proposal.
- Training of 15 agro-processors on requirements of tourism industry and to inform them about opportunities for new products.
- Development of promotional material for regionally produced products targeted for tourists.

³ Country reports for RSPFS, 13-14 March 2002: Antigua & Barbuda, Belize, Dominica, St. Kitts & Nevis, and Trinidad & Tobago.

Results

1.1 Improved Services and Export Marketing Standards for non-traditional products

- Improved services to the non-traditional agricultural export sector through ECEDA, TROPRO and CARICOM's Caribbean Export Project. The technical assistance is expected to improve the technical capacity of member states in the analysis and formulation of agricultural diversification policies and strategies. The five regional workshops will contribute to the establishment of a network among institutions involved in agricultural marketing policy formulation and monitoring of agricultural trade. This will sustain and deepen member states' technical capacity in the area of trade facilitation.
- For the products coming out of the diversification effort, regional food standards are harmonized, both for fresh and processed agricultural products. Government officials, officials from national standards organizations and agricultural processors are trained in standards required by the major export markets, resulting in increased marketability and reduced rejection of products upon arrival.

1.2 Development of a market information and promotion system

- By the end of the program, the assistance provided will have resulted in the establishment of a comprehensive market information system for enhanced and sustainable agriculture trade development within CARIFORUM member states and beyond. The database will provide all information necessary to identify market opportunities for exportable commodities produced in CARIFORUM member states. This will encourage farmers and entrepreneurs to take diversification decisions based on market demands.
- CARIFORUM's intra-member states trade monitoring will have been strengthened and the capacities of member countries will have been enhanced in the area of early warning, market and price policy analysis, demand and supply projections as well as in the development of market information system and reporting.
- Furthermore, the assistance will have resulted in increased capacity of member states to analyse market information and in the development of a programme to promote key non-traditional export crops and support diversification initiatives with the view to diversifying agricultural exports of member states.

1.3 New product development for hotel/tourism industries. This will lead to a higher share of regionally produced products used in hotels and tourism industries

- New products are identified to supply the regional tourism industry
- Agro-processors are trained on opportunities and requirements for the tourism industry
- Promotional material is developed and distributed.

Budget: SP1: Commodity Market Information, Marketing and Trade Development

	Year 1	Year 2	Year 3	Total
Funding national and regional marketing programs in the CARIFORUM region	50,000	50,000	50,000	150,000
regional workshops on standards and labeling	10,000	10,000	10,000	30,000
Training on standards and labeling	10,000 (government and standards organizations)	10,000 (government and standards organizations)	10,000 processors	30,000
Expand CAMID marketing database	20,000	20,000	20,000	60,000
Pilot Hotel Link	45,000	10,000	10,000	65,000
Equipment (terminals)	100,000	20,000	20,000	140,000
Marketing Specialists	100,000	100,000	100,000	300,000
Training on use of Database (600 persons, 1 or 2 sessions per country)	15,000 (7 sessions)	15,000	15,000	45,000
Training on trade monitoring and market analysis	8,000	8,000		16,000
Support to diversification efforts (300)	50,000	50,000	50,000	150,000
New product development for tourism	1,000 (consultant)	8,000 (training of processors)	10,000 (promotional material)	19,000
Total (US\$)	409,000	301,000	295,000	1,005,000

II) SP2: Agricultural Trade Negotiations Capacity Enhancement

The region lacks human and financial resources and institutional capacities in its efforts to effectively participate in negotiations in the WTO, in the FTAA discussions and in the increasingly complex EU/ACP discussions. These deficiencies impact on the country's ability to comply with obligations under existing agreements and to carry out trade measures within a give time frame, including submission of the required notifications to the WTO. This project element addresses the support to national and agricultural trade negotiations.

PROJECT PURPOSE

Enhance the Capacity to support the ability to negotiate market access.

The agricultural trade institutions of the individual CARIFORUM countries are too weak to negotiate access to markets in an effective and sustainable manner. The deluge of requirements related to the WTO, FTAA and post Cotonou agreements entered into by the CARIFORUM countries show the need to reinforce both national and regional capability, particularly in term of human capital to enable them to defend their own interests.

Project Results and Activities

Result 1. Improved capacity at national and regional level to support trade negotiations, both at a bi-lateral and multilateral level.

Activities:

- 1.1 Selection, funding and training of two specialists in each CARIFORUM country to enable it to make a well informed, substantive and continuing contribution to regional positions in the WTO negotiations on agriculture, the agricultural portion of the Free Trade Areas of the Americas negotiations and EU/ACP discussions, including on reciprocity.
 - This is to include at least one month of training in trade policy analysis and negotiating techniques at a university with a program in this field.
 - Funding can be for specialists in Ministries of Agriculture or other appropriate Ministries dealing with these trade negotiations. Those accepting such positions are to make a commitment to remain in the trade position for at least three years.
- 1.2 Funding and training for a minimum of five professional officers and three support staff for the Regional Negotiating Machinery (RNM) which is currently attempting to represent the CARICOM states in the WTO, FTAA and EU/ACP talks.
 - The five professional specialists are to be trained at an appropriate university offering courses in trade policy analysis and negotiation techniques for a minimum of one month.
 - Funding is to last until at lest 2005, or until the end of the Doha round, the FTAA negotiations or until a new EU/ACP agreement comes into force. Personnel selected are to remain in the RNM structure for at least three years.

1.3 Establishment of two regional centers for information support, including web based systems enabling all countries to interconnect to data bases and information on the negotiations relevant to countries of the region.

- A networked information exchange system is needed. All Ministries of Agriculture, Trade, Commerce, Foreign Affairs and Industry need to be linked into a system which enables them to access trade data for the WTO, FTA and EU, and to use that system to exchange positions, concepts, ideas and inputs into the RNM. While each country needs this capability, two regional centers should be set up to act as focal points for incoming and outgoing data and information.

Results

The region will be able to defend its interests and pursue its goals and objectives in the complex process linked to the WTO, regional and other trade structures which must be faced in the immediate future.

Budget: SP2: Agricultural Trade Negotiations Capacity Enhancement

	Year one	Year two	Year three	Total
Training	100,000	50,000	50,000	200,000
Salaries	800,000	800,000	800,000	1,800,000
Equipment	180,000	50,000	50,000	280,000
Technical support	100,000	100,000	100,000	300,000
Total (US\$)	1,180,000	1,000,000	1,000,000	3,180,000

The logical framework for this sub project is presented in Annex 2.

III) SP3: Promoting Agricultural Product and Food Safety, Standards and Control

PROJECT PURPOSE

Harmonization of the food safety measures in the CARIFORUM Member Countries.

BRIEF DESCRIPTION:

The tendency towards globalisation of international activities together with the requirement to adjust to conditions of free trade under the new World Trade Organization (WTO) Agreement constitutes a challenge that all countries have to meet. This challenge will have grave implications for Caribbean countries unless the current protocols applied to food quality and safety in these countries are in accordance with internationally accepted standards. Evidence indicates that in order for these countries to meet international standards they must review and update their regulatory frameworks and harmonize and implement quality standards for food and agricultural commodities among the CARIFORUM Member

Countries. For some, the developing countries in particular, the challenge constitutes a severe test of their very economic survival.

The transformation of traditional exports to higher value added products as well as the production of new non-traditional products requires that quality be consistent and that labelling requirements of extra-regional importers be adhered to in all cases and more importantly that food safety be guaranteed. There exists a lack of harmonization and implementation of quality standards for food and agricultural commodities among the CARIFORUM Member States.

This constraint hampers the development of trade by increasing health hazards for importing countries and the risk of fraud. This can result in outright impossibility to trade or in excessive costs that in turn are translated into reduced prices fetched by food exports. The increasing importance of this issue is due mostly to an increasing need to ensure consumer protection, but also, in some cases, to attempt to establish new non-tariff barriers to trade by Developed Countries.

This Project seeks to help CARIFORUM Member States in the harmonization of Food Control Regulations, Guidelines and Procedures, thereby improving the safety and quality of goods produced and the competitiveness of food trade within the Caribbean region and global market place. It also seeks to establish an effective National Food Quality Control System designed to inspire greater confidence in food safety and ensure that high quality standards are continually maintained. The objectives include: (a) the review of the existing Food Safety Legislation; (b) the design of model legislation that is harmonised with international standards; (c) the strengthening of National Food Quality Control Systems; (d) upgrading the Staff and analytical capabilities of the food control Laboratories and National Standards Institutes; (e) the establishment of the networking and information systems; (f) the enhancement of the capacity of policy-makers, producers and the general public to comply with internationally accepted standards for production, marketing and trading in foods at the national, regional and international levels through a series of public campaigns to educate consumers; (g) the creation of a corps of qualified individuals through appropriate training activities who are certified to carry out surveillance, auditing and monitoring; (h) the establishment of regional referral laboratory centres.

As a result the Project will strengthen and harmonize a regional food safety network capable of mutual support which provides consumer in the region and importers outside the region with safe products meeting import requirements, and giving trade opportunities not otherwise available.

A. BACKGROUND

Food safety and quality are of extreme importance in today's global marketplace. The setting of standards for trade in food has seen a global initiative to improve the quality and safety of directly consumed foods. These guidelines and standards now extend to the processes and procedures used in food production. The implication of this for small island developing states in the Caribbean is that, in order to remain competitive in the global marketplace, the existing food quality and safety standards currently being used in the developing states must be reviewed, and the necessary changes implemented and adopted, hence, ensuring that the quality of food is kept within reasonably acceptable standards that will allow increased export trade and improve the health of the public in general.

A wide variety of crops are grown in the Region, in addition to the major export crops (**bananas, coconuts, citrus, sugar, coffee and cocoa**). There is also the production of root crops, legumes, vegetables, fruits and cereals as well as milk, meat, poultry and fresh fish. Foods produced in the Caribbean are sold on the local and export market in the raw and processed state.

The economies of many of the smaller Caribbean countries rely heavily on trade in these agricultural products and processed foods. For centuries Europe has been one of the Caribbean's major trading partners; however, recent developments in the global market place have threatened the volume of Caribbean goods exported to Europe. These developments include the ending of preferential agreements and the formation of the European Union which is in the process of adopting stricter safety standards for the importation of goods.

In the United States of America, another major trading partner, safety standards were recently strengthened. The introduction of a Bill in the U.S. House of Representatives that expanded the inspection of fruits and vegetables and stricter standards for seafood and meat has already been implemented. In the past, Caribbean producers have experienced difficulties in meeting the Food and Drug Administration inspection criteria. Their food products have often been rejected as substandard upon arrival into the U.S.A. For example, improper use of pesticides and the presence of pesticide residues in the products has been one of the causes of rejection. With the introduction of these new standards, there is even greater danger of rejection of Caribbean produce if they do not meet the relevant standards.

With the continued migration of Caribbean nationals to Europe and North America, and the increasing acceptance of Caribbean cuisine, there is an enormous potential for increased trade with these countries. A recent report in the Jamaica Daily Gleaner stated that there has been a steady increase in the popularity of Caribbean food in the United Kingdom in the last five years and that Caribbean/Cajun foods presently account for (£21million sterling in sales at retail outlets).

To maintain the current overseas markets and to create new ones, CARIFORUM countries must comply with the rigid standards required by these trading partners. Considering the current irreversible trends in globalisation, free trade and free markets of products and services, there is now a need for Caribbean countries to establish norms and harmonize regulations and standards for food protection, packaging and marketing in keeping with International Standards.

B. PROJECT RATIONALE AND JUSTIFICATION

1. THE PRESENT SITUATION AND PROBLEMS TO BE ADDRESSED

The Caribbean Governments have already endorsed the World Trade Organisation's (WTO) Agreement governing international trading practices. In particular, the Agreements on Sanitary and Phytosanitary (SPS) measures require each signatory country to ensure that its exports are safe for human consumption and free of plant and animal pests and diseases. The SPS Agreement allows each country to set its standards although it encourages countries to harmonize their laws with the existing international standards, recommendations and guidelines developed by other international organizations. These organizations are:

- a) FAO/WHO Joint Codex Alimentarius Commission - Food Safety

- b) Office International des Epizooties (OIE) -World Animal Health Organization
Animal Health
- c) The International Plant Protection Convention (IPPC) - Plant Health

Furthermore, the SPS Agreement will form the basis of the negotiations of the Free Trade Area of the Americas (FTAA) in the area of animal, plant and human health issues. The 34 countries in the Western Hemisphere participating in the FTAA aim to unite their economies into a single free trade arrangement. One of the areas of negotiation is the interrelationship between agriculture and market access.

The Caribbean countries have not been very active in standards implementation; however, this has now become not merely a matter of choice but one of necessity. Considering the current irreversible trends in globalisation, free trade and free marketing of products and services, there is the need for Caribbean countries to establish norms and to harmonize regulations and standards for food protection, packaging and marketing in keeping with international standards.

It is clear therefore, that to compete in the global marketplace, Caribbean countries must make an effort to achieve acceptable standards for food safety and plant and animal health. Considering the small size of the individual resources of the countries, a co-ordinated effort through a trade organization, such as CARIFORUM, will increase the likelihood of achieving these standards.

Besides facilitating exports, a joint CARIFORUM effort will also ensure that food imports into the region are of acceptable quality and safety. The Caribbean is not self-sufficient in feeding its people. While there are a variety of foods produced locally, much of our food, mainly cereals, legumes, salted fish and meats, frozen meats, cheese, dried milk, vegetables, cooking oil, butter and refined sugar is imported, either pre-packaged or packaged upon arrival. These foods are imported from a diverse array of countries, not all of which have rigid inspection standards. If food import control in the member countries is inadequate, this would eventually result in substandard or even dangerous products reaching consumers in the Caribbean.

This Project proposes to work with the CARIFORUM Governments to provide practical guidance in revising national food legislation to meet the needs of modern food control. It will also promote harmonisation of national food quality and safety regulations and standards with those that are accepted internationally. The Project will also enhance the governments' capacity through harmonisation of appropriate legislation to enforce national food quality and safety regulations, thus improving public health protection and facilitating international food trade.

It is also significant to note that among the findings of the assessment carried out by the Caribbean Food Safety Initiative is a recommendation that the involvement of policy-makers at high levels must be secured in order to get legislation enacted at the national level, and to raise their consciousness on the importance of food safety regarding trade barriers and national public health issues. These policy-makers should be advised by national inter-sectoral committees. Food processors and exporters will also be educated on the application of the standards and compliance with the new measures.

It is recognised that tourism represents the major foreign exchange earner in several of the Caribbean countries and that an outbreak of a serious food borne disease could lead to a national economic disaster. This reinforces the need for very strict controls.

2. EXPECTED END -OF-PROJECT SITUATION

At the end of the three years each country will have adopted the model legislation which harmonizes with the requirements specified under the new World Trade Organization (WTO) Agreement and the Codex Alimentarius guidelines. Furthermore, at the end of the Project each country will have achieved the requirement permitting them to trade with their counterparts and the broader international community. There will be greater equity among the countries; thus resulting in a change in behaviour among people in the affected countries which would now be better equipped to comply with internationally accepted standards for safety in the food trade – a sound basis for fairer as well as freer trade.

Harmonization of regulations will also facilitate CARIFORUM Member States with the assistance of the policy-maker, regulator, producer and the general public in complying with internationally accepted standards for the production, marketing and trading of food at national, regional and international levels.

The Project will make extensive use of national capabilities. A substantial part of the work under the Project will thus be carried out by National Consultants with the International Consultant essentially providing guidance and orientation together with technical supervision. The FAO staff will be responsible for training.

The Project will also contribute to national capacity building through the in-country training of all Health and Agriculture Inspectors and ultimately 5,000 industry workers in food quality assurance.

The outcome of the Project will be that the conditions necessary for the establishment and use of internationally acceptable food safety standards and practices are satisfactory and are implemented. With the desired result of improved safety standards in locally consumed foods, produce locally or imported, it will add to an even greater extent the ability to comply with the international trade requirements.

3. BENEFICIARIES

The ultimate beneficiaries will be all personnel involved in the food chain from the farm to the table. The entire population from the CARIFORUM Member States will benefit since the Project will bring improved technological capabilities in terms of personnel and facilities, and improved methods for ensuring that food produced or consumed by locals and visitors to the region is of a high standard.

4. PROJECT STRATEGY

Project Strategy: It is proposed to undertake this work in the following CARIFORUM Member countries: Antigua & Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St Kitts & Nevis St Lucia, St Vincent and the Grenadines, Suriname, Trinidad and Tobago, Dominica Republic and Haiti.

The executing agency will consist of a Project Execution Unit (PEU). This unit will be established to implement the Project and housed at FAO's Subregional Office for the Caribbean (FAO-SLAC) in collaboration with the government of each member country. To assist in the implementation of the Project, the PEU will designate key personnel from the Ministries responsible for Agriculture, Health, Trade, The National Standards Bureau, the Produce Chemist Laboratories and invited Senior representatives of the private sector. This team will be working with the co-ordinator of the Project and the National Consultant designated by FAO.

The Project is divided into the following components:

- Component I. Preparation of model food control legislation
- Component II. Strengthening of the national food control systems
- Component III. Strengthening the analytical capabilities of the food control laboratory
- Component IV. Programmes in support of food control (training)
- Component V. Strengthening networking and information systems
- Component VI. Education and consumer awareness campaigns.

COMPONENT I. PREPARATION OF MODEL FOOD CONTROL LEGISLATION

This component will involve the review and assessment of existing legislation and the development of practical guidance for its revision consistent with WTO requirements and the needs of modern food control.

The National Consultant of each country in collaboration with the Co-ordinator of the Project will compile and evaluate the country's existing regulations and standards related to the control of food quality and safety, and make recommendations with regard to the necessary changes and additions to existing legislation and regulations.

Training workshops will be held in each member country to sensitise and train key persons in improving the organisation of work at national level related to Codex Alimentarius; and to enhance their capacity to deal with the implications of the WTO Agreement.

Duration of this Component - 18 months.

COMPONENT II. STRENGTHENING OF THE NATIONAL FOOD CONTROL SYSTEMS

This component will assess the adequacy of food control administration, inspection services, food analytical services and industry quality assurance programmes in the CARIFORUM countries. Also this component will strengthen the food control system, improving the efficiency of food inspection and laboratory control in order to facilitate compliance to the WTO Agreements on SPS and TBT

Training will be conducted in member countries to upgrade the skill of technical personnel on the various aspects of food control in order to assist countries to meet their obligations under the WTO SPS and TBT Agreements. The "training of trainers" approach will be used to ensure sustainability of training programmes.

There is a need for standard regulations on the movement of live plants and animals within the CARIFORUM States. This should be in the form of a website where importers and

exporters can access the requirements of importing countries for the trade in live commodities in accordance with WTO agreements on SPS.

Duration of this component - 32 months.

COMPONENT III. STRENGTHENING THE ANALYTICAL CAPABILITIES FOOD CONTROL LABORATORY

This component will support selected existing laboratories in specific CARIFORUM Member States to enhance their facilities for food and fisheries products analysis and control through provision of training, equipment and other facilities in order to serve as regional referral laboratory centres (one for food analysis and control, and one for fisheries products analysis and control). This laboratory would be entrusted with (a) supporting national food control laboratories in terms of expertise; (b) providing an accreditation system for national food control laboratories and (c) conducting and co-ordinating risk assessment activities in the region.

Duration of this component - 24 months.

COMPONENT IV. PROGRAMMES IN SUPPORT OF FOOD CONTROL

This component will support the development and implementation of certification programmes to promote the credibility of food control in the CARIFORUM Member States at international level. Also this component will identify the training needs and organise and implement training activities.

Duration of this component - 34 months.

COMPONENT V. STRENGTHENING NETWORKING AND INFORMATION SYSTEM

This component will enhance the networking and information activities on food standards and food control among national bureaux of standards and national laboratories.

Duration of this component - 34 months.

COMPONENT VI. EDUCATION AND CONSUMER AWARENESS CAMPAIGN

This phase will support the development of a social communication and education programme, which will address food quality, safety and protection in several sectors in the society.

Policy makers, management and technical staff will be educated in order to support a food safety system. This requires constant seeking of knowledge through research, science, and technology. The non-technical population should be educated by consumer groups and should express their need for quality and healthy products to exporters, importers and all persons involved in the agro-industrial chain of production. Technical assistance will be given to interested groups in the setting up of a consumer organisation.

The education of the consumer is of critical importance. Also important is an understanding of what quality means to the consumer, and how to incorporate safe food practices into cultural habits. Public service announcements will be prepared for the mass media to

incorporate safe food as a part of the healthy life style package. This concept will include a comprehensive list of needs including excessive ... , safe food, and moderation of consumption.

Duration of this component- 28 months.

5. INSTITUTIONAL FRAMEWORK AND FAO'S CONTRIBUTION TO THE PROJECT

This Project will be executed by the FAO's Subregional Office for the Caribbean (FAO-SLAC), Barbados. The Food Quality and Standards Service of the Food and Nutrition Division located at Headquarters, Rome, will assist in the implementation of the Project. The CARICOM Secretariat will be associated with the implementation of the Project through the Caribbean Food Safety Initiative. The Organization of Eastern Caribbean States (OECS) will be invited to participate in the development of the Project. The Caribbean Food and Nutrition Institute CFNI (PAHO/WHO) will support the development and the implementation of the Social Communication and Education Programme.

FAO-SLAC, through the CARICOM Secretariat, will report to the member countries on the progress of the Project at periodic meetings with the countries' teams. Also, information will be sent to the OECS. Lessons learnt from the Project will be made available to the CARICOM Secretariat.

FAO's contribution to this Project will be numerous and substantial. FAO is devoting regular programme resources to food quality standards under the programme 22130--. These will include substantial labour time contributed by FAO personnel (in Headquarters, Regional and Subregional offices, and national representations). The fact that the organization has a national representation in two of the islands will allow more efficient use of limited Project resources.

6. CO-ORDINATION ARRANGEMENTS WITH OTHER PROJECTS/AGENCIES

There are several Agencies within CARIFORUM Member States that have responsibilities impacting on food safety.

Food and Agricultural Organization (FAO)

Since FAO is responsible for the Codex Alimentarius Commission it will play the lead role in the Food Quality Control aspects of the Project.

FAO will work closely with the recently formed Caribbean Regional Organisation for Standards and Quality (CROSQ) resident in Barbados on the harmonisation of food standards in the Caribbean.

The high risk of a serious economic impact on the tourist-dependent countries of an outbreak of food-borne diseases or contamination makes it essential the Caribbean Tourism Organisation (CTO), headquartered in Barbados, be involved in the Project.

The CTO has a Project called Quality Tourism, which is being implemented by the Caribbean Epidemiology Centre (CAREC) and addresses the development and implementation of food safety standards in hotels and resorts.

FAO will cooperate with PAHO in the drafting of legislation concerning all aspects of plant health and the handling of fruit and vegetables.

Pan American Health Organisation (PAHO)

PAHO is currently working in two areas that impact on food safety in the Caribbean.

PAHO has a project on the Inter American Network of Food Analytical Laboratories (INFAL), which has as an objective the upgrading of food laboratories in the Caribbean.

PAHO has also undertaken a project to produce model food safety legislation in the OECS and Barbados, which hopefully can be expanded to the other CARIFORUM Member States. This project will be funded by USAID. FAO will provide inputs on plant health and IICA will do the same for animal health and quarantine services.

It is expected that PAHO will address the necessary legislation and regulations concerning the movement of live plants and animals within the Caribbean and exports internationally for the OECS and Barbados.

Inter american Institute for Cooperation in Agriculture (IICA)

IICA has taken the lead role in the establishment of the Caribbean Agricultural Health and Food Safety Agency (CAHFSA) as a new Regional Organisation.

Four of the Regional Agencies, namely FAO, IICA, PAHO/WHO and the CARICOM Secretariat have been mandated to carry out a Feasibility Study and Business Plan for CAHFSA. If and when this organisation is established it will oversee National Agricultural Health and Food Safety Agencies NAHFSA in each Member State and will execute on their behalf those States' actions and activities that can be more efficiently executed through a Regional Mechanism.

IICA will cooperate with PAHO in the drafting of legislation concerning all aspects of animal Health and the handling of meats, fish, poultry and eggs.

IICA has a project called Strengthening Agricultural Quarantine Services in the Caribbean funded by the European Union and is due to start on 1 August, 2002. This project will enhance the objectives of the Programme.

7. SUSTAINABILITY OF PROGRAMME ACTIVITIES

Recent assessments of the status of Agricultural Health and Food Safety Systems in the Caribbean have shown the need to modernise and harmonise these systems if they are going to live up to their commitments under the World Trade Organisation (WTO) Sanitary and Phytosanitary Agreement.

Most of the CARIFORUM Member States depend heavily on tourism to provide the foreign exchange necessary for their economic survival and continued development. It is obvious that a sustained programme on food safety will be essential to protect the States from an outbreak of food-borne disease.

8. REASON FOR ASSISTANCE

The Small Island Developing States (SIDS) have a long history of rule by British, French, Spanish and Dutch Colonial Powers. In colonial times the economies of these Islands depended heavily on the trade in agricultural raw materials, leading to very diverse developmental strategies. For example the legislation covering food safety differs from island to island. The standards of living in the various Member States are widely different. Therefore there is a desperate need for a regionally co-ordinated effort to harmonise all aspects of food safety to ensure the future development of this vulnerable part of the world.

C. PROJECT OBJECTIVES

The objectives of the project are the harmonization of the food control regulations, guidelines and procedures in the Caribbean region with those of the broader international community, to provide the basis for the establishment of effective National Food Control Systems, capable of ensuring the quality and safety of food supply in the Region. Specifically, the Project will assist the CARIFORUM Member States and the regional organisation CARICOM (The Caribbean Community Secretariat) to:

- a) develop for adoption - a basic model legislation that is harmonised with International standards, particularly those set by the Codex Alimentarius and the WTO Agreement, through the reviewing of existing food regulations and food standards in each of the participating countries;
- b) establish an effective and integrated national food control system capable of ensuring the quality and safety of food supply in each country;
- c) upgrade the analytical capabilities of the CARIFORUM Member States' food control laboratories, to ensure the monitoring of chemical and biological food contaminants and permit the certification of export products;
- d) create a corps of qualified individuals who are certified to carry out surveillance, auditing, monitoring, and training activities as identified in the Project;
- e) enhance the networking and information activities on food standards and food control among National Bureaux of Standards and National Food Laboratories;
- f) enhance the capacity of policy-makers, producers and the general public to comply with internationally accepted standards for production, marketing and trading in foods at the national, regional and international levels.

D. IMMEDIATE OBJECTIVES, OUTPUTS AND ACTIVITIES

COMPONENT I. PREPARATION OF MODEL FOOD CONTROL LEGISLATION

Objective 1. The development for adoption of a basic model legislation that is consistent with the international requirements, and the drafting of harmonised and updated food regulations and standards, particularly those set by the Codex Alimentarius Commission and other international standard-setting bodies recognised under the WTO Agreement.

Output 1.1 Assessment and evaluation report on the existing food regulations, guidelines and procedures in each member country.

Activities

- a) Collect and review existing legislation in each of the Caribbean countries pertaining to food control, food hygiene and food trade, including existing SPS regulations.
- b) Survey and analyse the present legal framework governing food control, food hygiene, and food trade in the Caribbean sub-region.
- c) Review in each country and at the regional level, the regulations, guidelines and procedures for food import/export. Evaluate their capacities to accomplish the requirements of the WTO Agreement on the application of Sanitary and Phytosanitary Measures; the standards set by the Codex Alimentarius Commission
- d) Review and analyse the institutional legal framework in each participating country of the Caribbean region in matters of food and its relationship with the national legislation, in order to identify gaps, overlapping, and inconsistencies. Sort out the responsibility of each Ministry in the day-to-day operations of food safety and control.
- e) Assess the present situation of the food sector in order to evaluate the regulatory legislation, its application and applicability.
- f) Identify the principal needs and priorities of each country both nationally and regionally, as well as the objectives that they want to reach with the adoption of the legislation.
- g) Hold discussions with the National Codex Committees, Customs Departments, and in particular the Chamber of Commerce (Export), on the International standards set by the Codex Alimentarius regarding Food Control and Food Certification for Import and Export.
- h) Conduct a two-day workshop in each country to sensitise and train key persons on procedures for the adoption of the Codex Alimentarius Commission recommended guidelines and to enhance their capacity to deal with the implications of the WTO Agreement.

Output 1.2 The model legislation that is harmonised with international standards will be developed through the Codex National Committee and the legal department of each country. This model of legislation will include all food commodities, including live plant and animal movements.

Activities

- a) Draw up model legislation for the Caribbean that is harmonised with the International standards, WTO Agreement, and those set by the Codex Commission. The legislation will be collected as indicated at **Activity 1 and 2 of Output 1.1)** reviewed and assessed by a Project staff as designated by FAO.
- b) The model legislation will be circulated to each member country for review and discussion. A two-day workshop will be held each country to review the draft model legislation.

- c) Based on the recommendations of these workshops, the draft model legislation will be further reviewed by the Project Consultant in collaboration with the Coordinator.
- d) Copies of the revised model food safety legislation will be circulated to the participating countries for their review and acceptance.
- e) A two-day regional workshop will be held to present and discuss the food safety model legislation for the Caribbean and also to finalise a draft model of that legislation. Three (3) persons from each country will be invited to participate.
- f) In order to secure the official acceptance of the model legislation, a one-day workshop will be held with policy makers and key personnel of each member country, including representatives of the Legal Drafting Department of the Ministry dealing with Legal Affairs.
- g) Member countries will be expected to implement these procedures within a six-month grace period.

COMPONENT II. STRENGTHENING OF THE NATIONAL FOOD CONTROL SYSTEMS

Objective 2. Establishment of an effective and integrated National Food Control System capable of ensuring the quality and safety of the food supply in each country.

Output 2.1. Food control activities will be organised and co-ordinated in each member country involving all sectors which share responsibilities for food quality control, e.g. Ministry of Agriculture, Ministry of Health, Ministry of Trade and the private sector producers.

Activities

- a) Review the food inspection system and sampling procedures currently being used by various Government Agencies for Food Industries, domestic, imported, and exported foods. Recommend any changes or/and new procedures to unify actions and better coordinate the agencies involved.
- b) Assess the adequacy of equipment and staffing of existing Laboratories in regard to the implementation of diagnostic techniques and quality management systems and examine ways to deepen, if appropriate, existing disciplines provided.
- c) Assist the respective Governments in the definition of the monitoring system which will include the following :
 - A unified protocol, which meets international requirements for food control, especially in the exported foods sector based on the literature already prepared by the Codex Alimentarius Commission.
 - Preparation of an official manual for analytical, quality assurance and diagnostic laboratory techniques based on the approved guidelines, procedures and regulations at the national level, at the international level (Codex, WTO, ISO) or any other creditable literature.
 - Designated staff members participating in food control systems will be given the necessary equipment to identify any developing trend in food adulteration, contamination and violation throughout the food chain.

Particular attention will be paid to Pesticide, Antibiotic and Hormone residues.

- Assist Governments in detailing the list of equipment and supplies needed to improve the operations of the institutions which are engaged in food quality control and normalisation.
- d) Assist and advise the government in implementing the food control system and prepare an action plan for the nationals to carry out.
- e) Conduct a three-day consultation with all partners outlining individual roles and responsibilities within the restructured food control system; to present and discuss the food control, procedures, management and administration activities. Discuss the action plan.
- f) Provide organizational and managerial guidance and consultancy assistance to GNBS with regard to national procedures for food control activities.
- g) Prepare and present ongoing training courses on “Basic Food Inspection and Food sampling procedures and techniques” on domestic foods, as well as imported and exported products which could be implemented to enhance compliance with the terms of WTO Agreement and Codex Alimentarius.

COMPONENT III. STRENGTHENING THE ANALYTICAL CAPABILITY OF FOOD CONTROL LABORATORY

Objective 3. Upgrading of the analytical capabilities of the Government food control laboratory, to ensure the monitoring of chemical and biological food contaminants and permitting the certification of exported products.

Output 3.1 Strengthening the selected existing laboratories in order to serve as regional referral laboratory centre. (The referral laboratory centre will be entrusted with supporting national food control laboratories.)

Activity

- a) Review the analytical capabilities and resources available to identify and quantify chemical contaminants of the CARIFORUM Member States laboratories to identify a regional laboratory to serve as regional referral laboratory centres (one for food analysis and control, and one for fisheries product analysis and control). Identify training needs.
- b) One-week consultation to select and define the role of the regional referral laboratory. This laboratory would be entrusted with supporting national food control laboratories in terms of expertise regional; provided accreditation system for national food control laboratories and conducting and co-ordinating risk assessment activities in the region.
- c) Advise Government in the organization of the Referral Laboratory Centre to serve as a regional referral laboratory centres. Prepare a draft to be discussed and an action plan.
- d) A one-week consultation with laboratory management from CARIFORUM Member States to discuss the organization and the implementation of the Referral Laboratory Centre. Use the draft prepared in (c).

- e) Consult with laboratory management and staff and recommend laboratory equipment, supplies needed, and others facilities to improve laboratory operation. Elaborate a list of equipment, laboratory supplies with specification, needed to improve operations.
- f) Conduct a one-week workshop for laboratory managers and analysts on Good Laboratory Practices (GLP) an Analytical Quality Assurance.
- g) Conduct a two-week training session in each of the laboratories on the use of the new equipment and arrange the necessary lectures, such as safety measures in a chemical and biological laboratory and in quality assurance procedures to update experienced staff.
- h) Prepare a budget for maintenance and running costs for one year for submission to Government and establish cost recovery mechanisms.

Output 3.2 The activities of CARIFORUM Member States laboratories will be co-ordinated and their analytical capabilities strengthened to ensure the detection and monitoring of food contaminants and the certification of exported products. (National Level)

Activities

- a) Review the resources available for food control investigations for use by the food control administration and advise each of the CARIFORUM Member States in the reorganisation of their laboratories. Identify training needs. Prepare a written plan
- b) In consultation with laboratory management and staff for each CARIFORUM Member States, review and recommend laboratory equipment, supplies needed, and others facilities to improve laboratory operation.
- c) Follow up the organization of the laboratory, the purchase of the equipment and advise the Government on possible improvements.
- d) Conduct a two-week workshop on laboratory safety for a chemical and biological laboratory and quality assurance procedures and accreditation in keeping ISO/IEC Guide 25.
- e) Prepare a budget for maintenance and running costs for one year for submission to Government and establish cost recovery mechanisms.
- f) Advise Government in establishing and implementing a cost recovery mechanism. One week consultation

COMPONENT IV. PROGRAMME SUPPORT OF FOOD CONTROL (TRAINING)

Objective 4. Creation of a corps of qualified individuals, who are certified to carry out surveillance, auditing, monitoring, and training activities as identified in the Project.

Output 4.1 A cadre of trained professionals who will be able to identify and anticipate possible hazards in the food, from the raw material to the end product, i.e. growing, harvesting, processing, manufacturing, transport, distribution, and consumption.

Activities

- a) Identified the training need at public and private sector in the areas of food safety.
- b) On-going training activities for 60 national trainers from the National Bureaux of Standards and regional staff in food inspection, and food analysis techniques including methods of sampling and analysis for pesticide residues, heavy metal and other chemical food contaminants, quality assurance procedures and techniques, general principles of good hygienic practice and good manufacturing practice, import and export certification and food regulation, standards and trade agreements
- c) Review the certification system being used by various Government agencies, to implement any necessary changes and/or new procedures based on the approved guidelines, procedures and regulations at the international level (CODEX, WTO, ISO, CARICOM).
- d) Assist Government officials in the preparation of work plans, programmes and manuals required to initiate the operation of the system.
- e) Conduct a two-week regional course to train personnel in order to form a laboratory accreditation audit agency which would be responsible for authorising certification procedures. The official technique will be food analysis, as well as internal quality control and quality assurance techniques.
- f) Suggest a general certification system and carry out pilot tests in five of the countries.
- g) Assist and advise on the preparation of an action plan for the design and implementation of national HACCP-based Quality Assurance Programmes for the Food Processing Industry and the procedures necessary to evaluate the results obtained by the application of HACCP.
- h) On-going training courses in the application of HACCP system and the Codex Alimentarius Commission Standards will be conducted both nationally and regionally.

COMPONENT V. STRENGTHENING NETWORKING AND INFORMATION SYSTEM

Objective 5. To enhance the networking and information activities on food standards and food control among National Bureaux of Standards and national laboratories.

Output 5.1 A networking on food safety standards within the CARIFORUM region will be established and an information system put in place in each of the Member States.

Activities

- a) Review the existing networking on food safety issues within the CARIFORUM Member States. Recommend any changes or/and new procedures to unify action and establish a framework for effective co-ordination and integration. Identify the training needs.

- b) Establish an information system for exchange of agricultural health and food safety information and experiences among Member States. This process will involve establishing linkages to relevant databases, the collection, packaging and dissemination of information; and notification to countries on relevant issues. Establish a website on the regulations governing the movement of live plants and animals within CARICOM.
- c) One-week consultation with the members of the National Bureaux Standards and Food Control Management to establish the Caribbean networking on food safety issues.
- d) A one-week workshop with the members of the National Bureaux of Standards will be held to develop an operational plan of action with an estimated budget and the necessary human and material resources to implement and maintain the networking and information systems.
- e) Assist the National Bureaux of Standards and National Laboratories on the establishment of another website for the exchange, and sharing information and experiences and lessons learned throughout the agricultural health and food safety project implementation.
- f) In order to secure the implementation and the maintenance of the information system, 40 members of the Bureaux of Standards will be trained as instructors.

COMPONENT VI. EDUCATION AND CONSUMER AWARENESS CAMPAIGN

Objective 6. Enhancement of the capacity of policy-makers, producers and general public to comply with internationally accepted standards for production, marketing and trading in foods at the national, regional and international levels will be undertaken.

Output 6.1. Consumers will be informed of the advantages of the food safety system, so that proper habits are created in the population who, in turn, will insist on proper quality food products. Policy makers and the private sector of each country will be educated and made aware of the importance of the international standards for both local and visitor populations. A social mobilisation, education and a consumer awareness campaign for each member country will be established.

Activities

- a) A one-day national workshop in each country will be organised for government decision-makers, and persons from Non-Governmental Organisations in the food industry, media practitioners and other potential advocates of food safety issues, to apprise them of the existing problem and to seek their support, collaboration and input into the upcoming programme.
- b) Data will be collected from primary and secondary sources within each country on knowledge, attitudes and practices of all the target groups to understand what quality means to the consumer and how to modify cultural habits through safe food practices.
- c) Develop a Public Education Campaign in each country. A suitable message and creative support will be developed, and pre-tested packages of radio

messages/spots/mini-dramas to generate awareness on the need to demand the proper quality products. These messages will be pre-tested in three countries.

- d) Develop a programme for the schools, clubs, community organisations and church groups.

(Work Plan to carry out the activities of each component is presented in Annex 1 and in Annex 2 is the programme logical Framework)

E. PROJECT INPUTS

1. INPUTS TO BE PROVIDED BY FAO

For the realisation of the Project objectives, it will be necessary to have resources made available to the CARIFORUM Member States and support for the Caribbean Food Safety Initiative, FAO-SLAC, in order to manage the increased volume of country level activities, synthesise the results, and disseminate the lessons learnt through the agency of the CARICOM Secretariat and other media and training opportunities.

The Nutrition Officer, FAO-SLAC, will provide overall Project management and supervision of Project staff. The project will fund one technical officer.

The **Food Safety Country Support Officer**, qualified in management of Food Control Systems with experiences in the design and implementation of food safety strategies, will be responsible for the launching and implementation of the Activities in the CARIFORUM Member States. This will be done with the support of International and National Consultants and will include organised country level activities, liaison with the Donor, CARICOM, through the Caribbean Food Safety Initiative, the Organization of Eastern Caribbean States (OECS), the Pan-American Health Organization, (PAHO) and the personnel of other Donor and National Institutions. The recruitment of international and national personnel (under the direct supervision of the Nutrition Officer, FAO-SLAC) organised through contractual arrangements at country level, will be responsible for monitoring and evaluation of country-level performance, the synthesis and dissemination of Project results and lessons learnt, and the periodic participation in the training activities. They will also work in close collaboration with personnel from the Ministries responsible for Agriculture, Health, Trade and the National Bureau of Standards.

The FAO will contribute Regular Programme resources to the Project. These will include the services of the Food and Nutrition Officer (P3) who is the FAO Coordinator for the Food and Nutrition activities at SLAC office. She will be the Project Manager with overall responsibility for the Project and supervision of Project-funded staff. In addition, an Associate Professional Officer, will be part of FAO's contribution to the Project. The Project will provide funding for secretarial services. Additional support to the Project will be provided by Officers of the Food and Nutrition Division, FAO Headquarters, Rome.

Representatives from each of these technical divisions will constitute the Project's In-house Technical Task Force, which will be constituted as soon as Project funding is assured. FAO will provide the services of Headquarters and an out-posted Technical Officer in FAO's Regional and Sub-Regional Offices for specialised technical support and advice on work at country-level. The participation of specialised FAO technical units in field Project activities will be covered by the Project under the Advisory Technical Services budget line item.

FAO will provide the necessary office space for Project funded staff and consultants, and will provide access to the available information services and other facilities normally available at the Sub-regional offices.

2. Inputs to be provided by European Commission

- **International and National staff**

One **Food Safety Support Officer**, (36 months) (terms of references annex 3)

Four **International Legal Consult** (7months each in two missions) (28 months total); one for the OECS Countries; one for Trinidad, Suriname and Guyana; one for Jamaica, Belize, Bahamas; one for Dominica Republic and Haiti (term of reference annex 4)

One **International Food Control Administration Consultant** (15 month in three missions) (term of reference annex 5)

One **International Laboratory Management, Administration and Analytical Quality Assurance Consultant** (11 months 3 missions) (Terms of reference annex 6)

One **International Food Control and Food Inspections Consultant** /training expert (26 months in three mission) (terms of reference annex 7)

One **International Information Expert** (9 months in 3 mission) (term of reference annex 8)

One **International Communications /Public Education Consultant** (14 months in 4 mission) (term of reference annex 9)

Eighteen **National consultant in Food Control Administration, and Food Legislation** (648 months) (Term of reference annex 10)

3. GENERAL SERVICES ADMINISTRATIVE SUPPORT

The programme will make provision for the services a Secretary who will assist in management the programme.

4. TRAINING

Building capacities in member states through the development of a comprehensive training programme and its implementation through in services training, workshop and seminars is one of the most important objectives of the programme. The cost of this programme is the budget cover expandable materials related to training.

5. TRAVEL

Travel of Staff associated with the Project and as indicated above, will be required for assessment, operational and training and design of the Project activities at country level. In addition, travel will also be required to give assistance in the co-ordination and implementation of activities with other Technical Agency partner. The total provision under

this budget line is US\$ 95,000 To cover the travel cost of programme staff, international consultant and FAO support

6. NON-EXPENDABLE EQUIPMENT

The total budget line is US 925,000 and will be acquired between the first and the second year . The programme will Strengthening the analytical capability of two referral Laboratory and twelve of the national laboratories to ensure the detection and monitoring of food contaminants and the certification export product

The respective Member Countries' teams for the Project Executing Unit will require computer and media equipment for the development of the "Public Education Campaign"(i.e. VCRs, Digital Cameras, Televisions, and Tape Recorders). Specific hardware, such as up-to-date Lap-top Computers, Portable Printers and at least one high-performance Computer Projector for training and consciousness-raising activities at country level, plus additional office computers will be required to enable effective and efficient dissemination of work. In addition the provision will cover the purchase of 20 desktop computer, printer, two for the office and the rest for the members countries and four laptop.

7. EXPENDABLE EQUIPMENT

This budget section does not cover expandable material related to training programme as provision for that purpose is already covered under the training budget. The provision in this section, which is intended to cover supplies and material for running the office of the programme

8. GENERAL OPERATING EXPENSES

The provision of US\$97,000 (2% of total cost) made in the programme under this Budget line will cover operating expenses of the programme such as fuel, maintenance of the office equipment, telephone and communication cost, reporting and system documentation will be incurred and other miscellaneous expenses.

9. SUPPORT COST BUDGET

This budget line covers indirect cost incurred by FAO for the administration and operation of the programme such as recruitment of staff and consultants procurement of equipment, organisation of travel of participants to training activities and financial management and reporting. The total cost is US\$56,000 (8% of the total programme budget).

(Budget breakdown is presented in Annex 11)

F. CONTRACTUAL ARRANGEMENTS

Contracts will be awarded for specific expertise for the implementation of activities at the country level and to gain cross-country perspective. The execution of these contracts, both at the regional and country level, will create the conditions necessary for establishment, implementation and use of internationally acceptable food safety standards and practices. The substantial contractual resources in the budget represent a major part of the implementation of the Project strategy in the participating countries. During the development

of the Project, contracts will be established to assist in the provision of training for the national counterparts.

G. ASSUMPTION AND RISKS

This Project is based on a few assumptions and risks. Among others we assumed that:

- a) That there will be sufficient interest and capacity in the CARIFORUM Member States to work constructively with the contract staff of the Project and with the Caribbean Food Safety Initiative.
- b) The logic of this Project is co-operation and consensus building rather than competition among donors and technical agencies. The country groups have been established to facilitate such co-operation.
- c) The social communication programmes, educating and training of policy-makers, regulatory bodies, farmers' associations and food industry workers will make them aware of the importance and relevance of nutrition labels.

H. REPORTING AND EVALUATION

The Project will be reviewed and evaluated within the context of the Donor Agency. Project Management will prepare six-monthly progress reports containing budget expenditure; implementation of activities and production outputs indicating comparisons to work plan targets; identification of problems and constraints encountered; recommendations for corrective measures and a detailed work plan for the next reporting period.

At the end of the Project, a terminal report will be prepared for submission by FAO to the Donor Agency.

The Project will be subject to a joint independent evaluation in relation to the FAO and Donor Agency.

Budget : SP3: For Food safety Standard and Control

	YEAR 1	YEAR2	YEAR 3	TOTAL
PROJECT PERSONNEL	<u>92,000</u>	<u>96,000</u>	<u>100,000</u>	288,000
FOOD SAFETY COUNTRY OFFICER	60,000	62,000	64,000	
GENERAL SERVICES	32,000	34,000	36,000	
CONTRACT	<u>415,000</u>	<u>452,000</u>	<u>235,000</u>	1,102,000
MODEL LEGISLATION	65,000	62,000		
FOOD CONTROL SYSTEM	76,000	60,000	65,000	
FOOD CONTROL LABORATORY	87,000	78,000		
FOOD CONTROL SUPPORT	78,000	94,000	80,000	
NETWORKING INFORMATION	74,000	82,000	45,000	
EDUCATION AWARENESS CAMPAIGN	35,000	76,000	45,000	
TRAINING WORKSHOPS	<u>295,000</u>	<u>308,000</u>	<u>200,000</u>	803,000
INSIDE TRAINING/WORKSHOP	65,000	78,000	50,000	
REGIONAL WORKSHOP	230,000	230,000	150,000	
GENERAL OPERATING EXPENSES	<u>35,000</u>	<u>30,000</u>	<u>32,000</u>	97,000
LABORATORY EQUIPMENT	<u>575,000</u>	<u>350,000</u>	<u>0</u>	925,000
SUPPLIES	175,000	150,000		
EQUIPMENT	400,000	200,000		
COMPUTER EQUIPMENT	<u>125,000</u>	<u>83,000</u>	<u>49,000</u>	49,000
COUNTRIES' SUPPLY	90,000	56,000	36,000	
INDIVIDUAL SUPPLY	35,000	27,000	13,000	
TRAVEL (PER DIEM)	38,000	32,000	35,000	95,000
ADVISOR/SUPERVISOR/SUPPORT OFFICER/TRAINING OFFICER				
TECHNICAL SERVICES	<u>45,000</u>	<u>35,000</u>	<u>33,000</u>	63,000
ADVISOR	25,000	20,000	20,000	
SUPERVISOR	20,000	15,000	13,000	
SUB TOTAL	1,620,000	1,386,000	684,000	3,422,000
COST PROJECT SERVICES	<u>17,000</u>	<u>20,000</u>	<u>19,000</u>	56,000
TOTAL	<u>1,637,000</u>	<u>1,406,000</u>	<u>703,000</u>	<u>3,478,000</u>

IV) SP4: Transportation Systems Facilitation and Transaction Cost Reduction

PROJECT PURPOSE

Transport and storage infrastructure, and competitive shipping markets are key elements in the potential success of fresh fruit and vegetable exports, and yet their low availability has been a perennial issue in the region. Modern transport technologies are not a solution to this age old problem unless better storage facilities are increased and quality information systems on markets, prices and market players in the region and outside are in place. The private sector has on occasions found solutions with regard to individual islands or particular trade routes, and their support could lead the way to substantially reduce transactions costs in this much dispersed trading environment.

Project Activities and Results

Activities

1. Studies

- Carry out a survey of cargo capacity within CARIFORUM and with Europe and the United States.
- Make recommendations for reduced port charges among CARIFORUM countries for exports of agricultural products.
- Consolidate a balance sheet of transport and storage costs for agricultural products within and outside CARIFORUM.
- Carry out a consultancy to up-date work done in the 1970s and 1980s regarding the Huckster trade in the Caribbean, to determine its evolution and possibilities for reinforcing this inter-island commerce through technological improvement.

2. Development of human resources

2.1 Training on negotiation skills

- Training of local agricultural society, cooperative and farmer organizations in marketing, transport and post harvest techniques which reduce the role of middlemen in the commodity chains.
- Training of farmers on negotiations with traders and buyers of their produce
- Training of local farm and trader groups on negotiations skills to engage with carriers.

2.2 Training on trade logistics for exports

- Support to local agricultural societies and farmer groups to enable them to combine and manage shipments of products to regional and foreign markets.

3. Market infrastructure for exports

3.1 Building of cold storage facilities at airports in all CARIFORUM countries where fresh fruits and vegetables could be consolidated and stored on a temporary basis prior to exportation.

- Contracting of international consultants specializing in cold storage in order to determine the size of the facilities needed in each country based on the current and potential export volumes of fresh fruit and vegetables.
- Proposals for the construction of such facilities prepared by the consultants in cooperation with national governments.
- Construction of cold storage facilities is open to international bidding.

3.2 Develop an information system on regional cargo capacity, costs and travel schedule.

- Shipping routes, schedules and transport costs and availability to be published on a regional web site linked to the information exchange recommended in the marketing component of this package.

Results

- Reports
 - a) Survey of potential export commodity carriers in CARIFORUM.
 - b) Study of commodities for which port charges may be major disincentives to export within and outside CARIFORUM and strategies to reduce port charges.
 - c) Consultants devise an information system on regional cargo capacity to CARIFORUM countries and ROW
 - d) Consolidated balance sheet of transport and storage costs for agricultural products within and outside CARIFORUM.
 - e) Status of the Huckster trade within the region and how it might be reinforced.
- Qualified Human Resources
 - a) 15 local farm and trader groups with trained personnel to engage in negotiations with shipping lines and air carriers.
 - b) 300 trained farmers in negotiating skills in dealing with export traders of their produce.
 - c) 300 trained farmers on logistics of producing and trading for exports
- Market Infrastructure
 - a) Cold storage facilities for the export of fruits and vegetables are available at airports in all CARIFORUM countries.
 - b) An information system on regional cargo capacity, costs and schedule is fully operational.

The logical framework for this project component is presented in Annex 4.

Budget: SP 4: Transportation Systems Facilitation and Transaction Cost Reduction

	Year one	Year Two	Year Three	Total
Studies: Surveys of export carriers, reduction of port charges, balance sheets, Huckster trade.	500,000	150,000	50,000	700,000
Cold Storage Facilities: Consultancy reports, international call for bidders, cold storage construction	150,000	1,000,000	1,000,000	2,150,000
Market information systems: Consultancies, training, equipment and maintenance	50,000	225,000	25,000	300,000
Training (15) in marketing, transport and post harvest techniques	20,000	20,000	20,000	60,000
Training (300) farmers in negotiating skills in dealing with traders and buyers of their produce	40,000	40,000	40,000	120,000
Training (300) farmers on producing for regional and world markets	40,000	40,000	40,000	120,000
Total (US\$)	800,000	1,475,000	1,175,000	3,450,000

V) SP 5: Enhancing Phytosanitary System Capacity

Introduction

The ability of CARIFORUM countries to trade in agricultural commodities and to benefit from international treaties such as the WTO-SPS Agreement and the IPPC has been constrained by inadequate phytosanitary capacity. Limited phytosanitary capacity has resulted for example, in frequent introductions of exotic pests to the region, unreliable certification and inspection procedures which fail to meet the requirements of trading partners, technically unjustifiable phytosanitary decision making regarding trade in agricultural commodities, loss of markets and reduced access to new markets.

Methodology for evaluating Phytosanitary Capacity

The Phytosanitary Capacity Evaluation (PCE) developed by the IPPC and endorsed by the ICPM for global application was used in this case.

The PCE is a diagnostic tool that allows identification and prioritization of the weaknesses and strengths of the phytosanitary system of the country and identification of strategic directions and activities required to improve the situation.

Under PCE, the weaknesses and strengths of the country's phytosanitary system are evaluated in relation to its capacity to comply with the international obligations in phytosanitary matters as they relate to global trade (SPS/WTO, IPPC/FAO and International Standards for Phytosanitary Measures (ISPM)). PCE modules addressing relevant issues - trade background and status, legislation, pest risk analysis, inspection, exotic pest response, pest diagnoses, surveillance, institutional issues, pest free areas, export certification were applied.

1. Summary findings

Constraints to increased phytosanitary capability at the national and regional level

AREAS OF CONCERN	CONSTRAINTS	RECOMMENDATIONS
1. LEGISLATION	<ul style="list-style-type: none"> Inadequate/Outdated with respect to modern international phytosanitary requirements 	<ul style="list-style-type: none"> New legislation needs to be drafted and adopted in keeping with obligations of relevant international agreements, viz. SPS Agreement and IPPC
2. INFRASTRUCTURE	<ul style="list-style-type: none"> Lack of adequate PQ facilities at points of entry Supporting laboratory facilities are inadequate or non-existent Lack of post entry quarantine facilities Lack of destruction facilities 	<ul style="list-style-type: none"> Development of adequate PQ facilities at points of entry (Equipment/Offices/Inspection sites) Development of functional diagnostic laboratories Establishment of post entry quarantine Procurement and installation on incineration facilities
3. TRAINING	<ul style="list-style-type: none"> Inadequate/Inconsistent/Uncoordinated training for PQ staff 	<ul style="list-style-type: none"> Training of specialists Standardized regional training for various competency levels Standardized regional training for entry level personnel Management training PQ personnel exchange programme
4. SUPPORT SYSTEMS FOR QUARANTINE	<ul style="list-style-type: none"> Inadequate integration of diagnostic capability Inadequate integration of PQ services with other relevant institutions, e.g. extension services, research, private sector, other regulatory agencies 	<ul style="list-style-type: none"> Increased use of CARINET/other institutions Creation of a national committee for coordination of the national PQ systems, where applicable Establishing linkages between relevant agencies and institutions
5. DOCUMENTED PROCEDURES	<ul style="list-style-type: none"> Lack of standard operational procedures at the national and regional levels 	<ul style="list-style-type: none"> Develop harmonized phytosanitary procedures Development of training and operational manual
6. INFORMATION	<ul style="list-style-type: none"> Inadequate information sharing inability to access information on a timely basis 	<ul style="list-style-type: none"> Timely exchange of information, e.g. PRA5; pest Access to contemporary relevant pest databases, scientific journals Provision of internet access to PQ services
7. EMERGENCY ACTION PLAN (EAP) FOR EXOTIC PESTS	<ul style="list-style-type: none"> Lack of EAP 	<ul style="list-style-type: none"> Review and adopt IICA model
8. QUARANTINE TREATMENTS CAPABILITY	<ul style="list-style-type: none"> Inadequate/Non-existent 	<ul style="list-style-type: none"> Identification of types of treatments and possible collaboration with relevant agencies Training of government and private sector personnel Documented procedures for accreditation
9. PERSONNEL	<ul style="list-style-type: none"> Insufficient personnel to adequately cover range of P0 activities 	<ul style="list-style-type: none"> cost recovery scheme accreditation schemes partnerships with other relevant institutions Sensitise governments concerning the relationship between quarantine and trade and obligations under international treaties
10. REGIONAL COORDINATION	<ul style="list-style-type: none"> Absence of regional coordination in agricultural health 	<ul style="list-style-type: none"> Support establishment of CAHFSA Establishing clear linkages between NPPOs and CAHFSA
11. REGIONAL REPRESENTATION	<ul style="list-style-type: none"> Lack of participation in phytosanitary decision making 	<ul style="list-style-type: none"> CARICOM countries should accept the New Revised Text of the IPPC. Encourage national representation/participation in phytosanitary decision making at various international fora
12. PARTNERSHIP5	<ul style="list-style-type: none"> Lack of resource-sharing for P0 development 	<ul style="list-style-type: none"> Foster government/private sector relationships and relationships among other regulatory bodies. Develop a cost recovery scheme

Objectives, activities and outputs required to address constraints

Objective 1. Strengthen facilities at ports of entry

Activity 1. Review existing facilities at seaports airports and border posts for adequacy with respect to trading requirements

Activity 2. Determine the requirements for phytosanitary security and construct the necessary facilities

Outputs

- 4 border posts equipped with inspection, holding, treatment and destruction facilities in strategic locations in Belize;
- similar border posts in the Dominican Republic along its border with Haiti;
- strengthened inspection and pest exclusion capabilities at the high risk seaports and airports, xray machines installed at the most strategic high risk locations in selected countries (2 xray machines for Belize, 2 for the DR, 2 for Trinidad and 1 for Jamaica, 1 for Guyana, 1 for St Lucia)

Objective 2. Establish/develop documented procedures for harmonized phytosanitary measures.

Activity 1: Identify and draft operational and training manuals in key areas for which documented procedures are necessary.

Outputs

- operation manuals and regional standards in critical areas such as Pest risk analysis, inspection of regulated articles, certification, emergency response, training for various competencies

Objective 3. Human resources development for fully functional NPPO

Output

- Trained cadre of personnel in various aspects of phytosanitary control (Approx. 30 people)

Activity 1. In-country and regional skills training in pest risk analysis pest surveillance

Activity 2. In-country and regional training in information technology and management of pest databases

Activity 3. Regional training in plant quarantine procedures

Activity 4. Awareness training in the impact of international agreements and phytosanitary measures on international trade for industry personnel (partnership building)

- Activity 5. Regional training of senior staff in aspects of phytosanitary and laboratory management
- Activity 6. Training for subject specialists in overseas institutions
- Activity 7. Study tours and fellowships for operational and supervisory staff where necessary
- Activity 8. Regional workshop for policy and or Senior Government personnel to promote awareness and regional cooperation.

Objective 4. Institutional strengthening and modernization of legal frameworks

- Activity 1. Review organizational structure and functions of NPPOs for effective operations
- Activity 2. Establish legal requirements to support institutional changes in management structure and functions of the NPPO
- Activity 3. Institutionalize relevant systems e.g. information and communication, pest surveillance and PRA
- Activity 4. Address specific national issues for effective application and harmonization among countries

Objective 5. Establish Information and Networking systems for greater coordination and technical decision making

Activities:

- identify and procure CD Roms and electronic compendia;
- gather trade data and phytosanitary requirements;
- establish relevant data fields and construct agriculture database management system;
- obtain, verify and maintain in electronic format surveillance data;
- establish network among major ports of entry and supporting laboratories and offices;
- provide IT support for data management;
- procure hard and software necessary to support adequate operations;
- establish a national pest database and list of regulated pests.

Objective 6. Establish Supporting Diagnostic Laboratories

Activities

- strengthen existing laboratories,
- establish mini-laboratories to support entry points where high risk activities are conducted.

Objective 7. Strengthen institutional capacity of the Regional coordinating body- CAHFSA

- examine secretariat's capacity for information exchange and regional standard setting
- assist in capacity building within the Secretariat.

The primary approach to the phytosanitary issues would be through various forms of technical assistance. The expected outcomes of that assistance would result in improved phytosanitary systems:

1. The envisaged technical assistance will result in more effective phytosanitary system through:
 - Increased capacity of CARIFORUM states to update legislation and regulations , bringing them up to international standards (IPPC and SPS/TBT agreements);
 - Increased capacity of national institutions in managing a modern phytosanitary system using modern procedures and equipment;
 - Designation and reinforcement of referral laboratories to operate on a regional basis (two for phytosanitary analysis);
 - Improved information on phytosanitary matters based on active regional networks;
 - Effective regional coordination and cooperation mechanisms in the framework of CARIFORUM.
2. **Result 1:** Improved phytosanitary systems in CARIFORUM member states.

Activities:

- 1.1 Review of phytosanitary legislation and regulations in member states in order to analyze differences among countries and deviation from international norms, with the view to their harmonisation and improvement on the basis of international standards established by the IPPC and the SPS/TBT Agreements. This activity involves:
 - Visits to selected countries by the phytosanitary and legal specialists (international consultants) to review national legislation and regulations;
 - Organisation of two workshops for 20 national experts each who will come with their national legislation and regulations to discuss them;
 - Preparation by the consultants of reports based on the discussions held during the workshops and their assessment from the country visits, with recommendations for improvement. They will also build on results of a similar review being conducted within SADC member states;
 - Negotiations on phytosanitary matters conducted in the framework of the appropriate CARIFORUM bodies, using the reports of the consultants as inputs.
- 1.2 Preparation of guidelines and of a timetable for the harmonisation and improvement of national laws and regulations in member states based on the results of 1.1.
- 1.3 Update the quarantine pest and disease list for each country to guide regulatory actions to achieve an acceptable level of protection for each country on the basis of the discussions held in 1.1.

- 1.4 Support to selected existing laboratories in CARIFORUM member states to enhance their facilities for plant and animal disease/pest surveillance and exclusion through provision of training, equipment and other facilities in order to serve as regional referral laboratory centres for phytosanitary analysis. This will require:
- Visits of the international consultants to 5 countries each in order to identify the potential laboratories to be supported, and to determine their needs;
 - Procurement of equipment and supplies to upgrade the selected laboratories;
 - One mission by the consultants to each of the laboratories to train the staff in the use of the new equipment provided.
- 1.5 Identification of training needs by national consultants and organization and implementation of training activities for 30 specialists (two phytosanitary specialists from each CARIFORUM state) in the management of modern phytosanitary systems based on the use of modern procedures and equipment. Training will cover important issues such as identification and diagnosis of plant disease and pest, border and field inspection procedures, epidemiology and quarantine procedures, surveillance and risk analysis and management and reporting (2 weeks);
- 1.6 Review existing networks and information systems on phytosanitary issues and strengthen and/or establish where they don't exist, networks of national institutions responsible for the management and coordination of phytosanitary systems to improve exchange of experiences and early warning information⁴.

⁴ This will involve organising two meetings of national institutions responsible for phytosanitary issues under the aegis of the CARIFORUM Secretariat to discuss cooperation, coordination and information activities in member states.

Budget : SP 5: Enhancing Phytosanitary System Capacity

Countries	Legislation/ Institutional/ Legal/	Human Resources Training	Information/ Communication	Physical facilities laboratory support	Documented Procedures (Regional)	RPPO (CAHFSA) Regional	Total
Antigua & Barbuda	45 000	40 000	30 000	90 000			205 000
Bahamas	45 000	80 000	60 000	90 000			275 000
Barbados	45 000	60 000	50 000	100 000			255 000
Belize	45 000	100 000	80 000	400 000			625 000
Dominica	45 000	40 000	30 000	100 000			215 000
Dominican Republic	45 000	80 000	50 000	200 000			375 000
Grenada	45 000	50 000	30 000	100 000			225 000
Guyana	45 000	100 000	80 000	200 000			425 000
Haiti	45 000	100 000	50 000	100 000			295 000
Jamaica	45 000	100 000	45 000	200 000			390 000
St. Kitts & Nevis	45 000	50 000	30 000	90 000			215 000
St. Lucia	45 000	100 000	30 000	110 000			285 000
St. Vincent & Grenadines	45 000	90 000	30 000	10 000			265 000
Suriname	45 000	100 000	60 000	140 000			345 000
Trinidad & Tobago	45 000	100 000	60 000	155 000			360 000
Regional			75 000		90 000	50 000	215 000
Total	675 000	1 190 000	790 000	2 175 000	90 000	50 000	4 970 000

VI) SP 6: Responsible Fisheries: Post Harvest Product Development and Trade

Project Title: SP 6: Responsible Fisheries: Post Harvest Product Development and Trade

BACKGROUND

Small-scale fisheries contribute significantly to world fish production and to the socio-economic welfare of the developing countries of Africa, Asia and Latin America, as well as in developing small island States of the Pacific and the Caribbean. People in these regions are particularly vulnerable to the economic and social consequences of resource over-exploitation and degradation, and the uncontrolled expansion of fisheries. Securing resource sustainability through responsible fisheries is therefore of especially critical importance in developing country contexts. At the same time, these are contexts that are especially problematical for the promotion of responsible fisheries policy and practice. Existing institutional arrangements and legal frameworks are often weak or not fully functional, logistical conditions are frequently difficult, and fisheries authorities are generally faced with serious budget impediments and shortages of qualified personnel.

There have been major changes over the past few years, with respect to food safety and related policy, in the seafood industry. These changes are due in part to increased consumer demand for quality and safety. In response, the governments of the EU (European Union), United States, and Canada have adopted a new approach for regulating food safety; based on the seven principles of HACCP. These principles, along with the General Principles of Food Hygiene have been recommended by the Codex Alimentarius Commission for the production of safe food (CAC/RCP 1- 1969, Rev. 3 (1997)). Particularly, these principles should apply to foods intended for international trade, as a consequence of WTO/SPS agreements.

CARIFORUM countries exports of fish and fishery products have increased during the past decade from US\$ 110 million to US\$ 180 million. By far the main exporting country is Bahamas, accounting alone for about half of the fish export value. Guyana is second major exporter with US\$ 35 million in 1999. The main export commodity – not surprisingly given the character of seafood production in CARIFORUM countries – is lobster, with US\$ 70 million. Frozen shrimp products are second with US\$ 40 million. Exports are thus based on two main commodities and on two main markets – the EU and the USA. CARIFORUM countries are also important importer of fish products, some of which already originating from neighboring countries, however there is scope for replacement of imports from outside the region with products from the region.

The guidelines for the application of HACCP are based mainly on experiences obtained from large industries with well-developed food safety systems. The implementation of HACCP in smaller businesses without such supporting systems is therefore more problematic, especially in developing countries.

Throughout the CARIFORUM, the significance of the fisheries sector to individual economies shows significant variation. However one factor that cannot be overlooked is the value-added component contributed to the sector by exports. This component is generally overlooked in the evaluation of fisheries contribution to the Gross Domestic Product. In the past, the main export

market for fishery products from the CARICOM was the United States and Europe. These markets have become increasingly inaccessible due to the mandatory requirement of HACCP for exports. Pursuant to this, the main question raised by local processors is “what is the cost to implement a HACCP system?” This includes the “cost of upgrading” (since the processing plants are below the required technical and sanitary standards) and the “cost of maintenance of the HACCP system”.

Post-harvest practices and trade

Improved post-harvest processing is seen as a way of developing the fishing industry without increasing harvests. As well as reducing losses through poor handling, improved processing can raise the value added of fish products and establish uses for otherwise discarded catch. Food safety is a paramount concern, and has become increasingly critical for exported products; in many cases Hazard Analysis and Critical Control Point (HACCP) procedures must be applied by processors. A large share of fish production enters international trade, with about 33 percent exported in 1998 (live weight equivalent). Developing countries play an active part in this trade. In 1999 they supplied around 42% of total global exports in value terms. The important changes taking place in the areas of quality requirements and health and sanitary regulations are of the utmost importance for international fish trade operations, as are changing expectations in major fish importing countries with regard to fishing practices and their environmental impacts.

The economic values at risk for developing countries are enormous. So too are the opportunities, considering the present losses in export earnings every year because of rejections or lowered prices for exported fishery products. Significant technical, legal, institutional, and other adjustments will be required in order to adapt to the new circumstances of global fish trading, but developing countries remain in a position of significant disadvantage in terms of their ability to meet these requirements. At present only one CARIFORUM country is on EC list I (ability to export to all EC countries without restrictions). Others are on list II (they can export to selected EC countries). This position is critical as these special individual permits are likely to be abolished soon.

DEVELOPMENT OBJECTIVE OF THE PROJECT

Increased economic, social and nutritional benefits obtained from fisheries, especially by coastal fishing communities and SMEs in CARIFORUM countries, through the adoption of responsible fisheries post-harvest practices and trade.

IMMEDIATE OBJECTIVE, OUTPUTS, AND ACTIVITIES

Immediate Objective

Strengthened capabilities and capacities for the development and implementation of post-harvest practices and trade at local, national, sub-regional, and regional levels in accordance with the Code of Conduct for Responsible Fisheries.

2. Project Purposes

- a) to provide market information
- b) develop value added product
- c) training of producers and competent authorities in quality control; (Approximately 60)
- d) development of seals of origin;
- e) equip and organize SMEs producers;
- f) disseminate the results of the project
- g) analysis of present situation of fish control agencies

The outputs and activities listed below have been developed for CARIFORUM and will be carried out in conjunction with INFOPECA (Center for Marketing Information and Advisory Services for Fishery Products in Latin America and the Caribbean)

Immediate objective 1: identification of market opportunities

- Activity 1.1 Provide advice, appropriate in scale and scope to the identified needs of particular national, sub-regional, or regional reference case areas, on options for improving fish marketing structures and to enhance responsible fish trade for selected commodities.
- Activity 1.2 On the basis of the above activity, prepare necessary documentation in the form of reviews and guidelines on information acquired and lessons learned, for dissemination at relevant local, national, sub-regional, and/or regional levels.
- Activity 1.3 Identify suitable value-added fish products
- Activity 1.4 Identify possibilities for intra-Caribbean fish trade

Immediate objective 2: Product development

- Activity.2.1 Visit to potential importers, selected fish processing plants and retail outlets in major markets by the group of selected processors and their technologists
- Activity 2.2 Pilot production of selected value added products with market potential by the processing plants with the technical and marketing advice of the processing
- Activity.2.3 Assess consumer acceptability of the new products by sending samples to potential importers and presenting at fish trade fairs.
- Activity 2.4. realization of training courses in value added technology
- Activity 2.5. increase transportability to markets and lengthening of shelf life

Immediate objective 3: Assistance for the adoption of a seal of origin or total quality

Activity 3.1 legal project for the adoption of a seal of origin

Activity 3.2 legal project for the adoption of a seal of total quality

Activity 3.3. assistance in standards

Immediate objective 4: Training in Quality Assurance

Activity 4.1: training course for national competent authorities

Activity 4.2: training course for producers

Activity 4.3. training course for plant workers

Activity 4.4. assistance for the establishment of common quality standards for the processing and handling of the selected value added products

Activity 4.5. assistance for the establishment of common hygienic standards for the processing and handling of the selected value added products

activity 4.6. assistance for the establishment of common aesthetic standards for the processing and handling of the selected value added products

activity 4.7. training in quality control at all levels of marketing

immediate objective 5: Training in Risk Assessment (considering consumer health and environment)

activity 5.1: training course for competent authority

activity 5.2: training course for producers

activity 5.3. training course for plant workers

activity 5.4. development of risk assessment methods for the processing and handling of the selected value added products

INDICATIVE BUDGET

a) Market information

- international survey on markets for value added products from CARIFORUM
Total cost: US\$ 40.000

- regional survey on supermarkets role (CARIFORUM) seafood market, fishmongers, street food and catering and the promotion of the Code of Conduct among operators in this marketing area.
Total cost: US\$ 40.000
- preparation of material for fishery products promotion: video, fairs, posters etc.
Total cost: US\$ 65.000
- identification of suitable products and markets
Total cost US\$ 40.000

b) Product development

- development of products according to market demand and prevailing official quality standards. (in close collaboration with the private processing industry, including courses for QC staff of SMEs and factory workers)
Total cost: US\$ 300.000
- surveys on analysis of the economical viability of industrial production of these products and selection of more profitable ones
Total cost: US\$ 20.000

c) assistance to competent authorities

- surveys on problems and strength of national competent authorities
Total cost: US\$ 20.000
- evaluation of pros and cons to create a CARIFORUM regional fish quality assurance office and suggest action
Total cost: US\$ 5.000

d) manuals and reports

- manual on quality control in domestic and intra-regional fish markets
Total cost: US\$ 35.000
- training manual on quality control for competent authorities
Total cost: US\$ 15.000
- training manual on quality control for QC staff of industry
Total cost: US\$ 15.000
- manual on value added products
Total cost: US\$ 15.000

- manual on the sensibilization of factory workers
Total cost: US\$ 15.000

e) Missions, meetings and study tours

- 15 national courses for quality control staff from the industry and competent authorities.
Total cost: US\$ 210.000
- 15 national courses in risk assessment for staff from the industry and competent authorities.
Total cost: US\$ 210.000
- regional course (CARICOM) on marketing and quality control
Total cost: US\$ 50.000
- 7 national courses on consumers' information and labeling.
Total cost: US\$ 70.000
- regional meeting aimed at the dissemination of the results and lessons learned.
Total cost: US\$ 50.000

Budget: SP 6: Responsible Fisheries: Post Harvest Product Development and Trade

Objective 1: identification of market opportunities	145.000
Objective 2: Product development	320.000
Objective 3: Assistance for the adoption of a seal of origin or total quality	115.000
Objective 4: Training in Quality Assurance	260.000
Objective 5: Training in Risk Assessment	210.000
Manuals and Reports	115.000
Project management and supervision	160.000
TOTAL	1,325,000

Logical Framework Sub project 1

Progr. Hierarchy	Narrative description	Objectively verifiable indicators	Sources of verification	Assumptions
Sub-project	Commodity Marketing and Trade Development			
Sub-project purpose	Increased capacity of nation states and the regions as a whole to market competitively	% increase in agricultural exports % increase in sales in the region of locally produced products	Export statistics and other trade data	decrease of traditional exports is not too disruptive
Sub-project results	(1.1.) Improved Services and Export Marketing Standards for non-traditional products <ul style="list-style-type: none"> Assistance to national and regional export marketing programs workshops to harmonize regional food standards training in product market standards and labeling requirements 	Absolute increase (value) in non-traditional exports and % increase of non-traditional exports in total agricultural exports <ul style="list-style-type: none"> Increased capacity in export marketing programs Workshops conducted Regional food standards are harmonized 45 officials/standards organizations/processors trained in standards and product labeling requirements in major markets 	Export statistics <ul style="list-style-type: none"> Terms of reference of consultants Reports of consultants Accounts on how funds were used Workshop reports Documents containing the new harmonized standards Training reports with list of participants 	Member countries are willing to adopt harmonized standards and implement them
Sub-project results	(1.2) CAMID market information system <ul style="list-style-type: none"> Expansion of CAMID database into market information system hotel/tourism link provision of hardware and software training in use of market 	Producers and processors diversify in response to market demand: <ul style="list-style-type: none"> supply, demand and price information is available and used Hotel link established in 3 countries 60 terminals with appropriate software installed in rural areas 	Export statistics <ul style="list-style-type: none"> The website itself Record of number of visitors of website List of hotels/ producers where terminals are installed List of locations where terminals are installed 	Demand and price data are available in main markets on products that can be grown in CARIFORUM countries. Ministries have enough resources to collect production data. Producers and processors have an interest in the type of information provided by the market intelligence system and sufficient computer skills to use the system

Progr. Hierarchy	Narrative description	Objectively verifiable indicators	Sources of verification	Assumptions
	<p>information system.</p> <ul style="list-style-type: none"> • training in analysis and formulation of diversification policies • marketing specialist in USA&UK • Support for diversification initiatives 	<ul style="list-style-type: none"> • 600 farmers, hotel buyers and traders trained in use of market information system • government officials trained in analysis of market data and formulation of diversification policies • Up-to-date information on developments in major markets • 300 producers/processors supported in their diversification initiatives 	<ul style="list-style-type: none"> • Training report with list of participants • Training report with list of participants • Website contains latest information • List of processors supported, indicating type of product and type of support given 	<p>effectively.</p> <p>Overall internet facilities in member states are sufficient to run the system</p>
Sub-project results	<p>(1.3) New product development for tourism industries</p> <ul style="list-style-type: none"> • identification of needs • training • promotional materials 	<p>% increase in sales to tourism industry</p> <ul style="list-style-type: none"> • new products are identified • 15 processors trained in tourism industry requirements • posters/leaflets etc. developed and distributed 	<p>Sales records of traders/producers</p> <ul style="list-style-type: none"> • List of identified products, packaging requirements • Training report with list of participants • Promotional material itself + distribution list 	<p>Tourists appreciate and have an interest in locally produced products</p>

SP3: Promoting Agricultural Product and Food Safety, Standards and Control

Narrative Description Assumptions	Verifiable Indicators	Verification Sources
---	--------------------------	----------------------

Program Hierarchy	(2) Increased and safe food and agriculture trade among CARIFORUM member states and beyond	<ul style="list-style-type: none"> • Guidelines and timetable for the harmonization and improvement of national food laws and regulations prepared ; • Two regional referral laboratories established; one for food analysis and control, and one for fisheries products analysis and control • Strengthen laboratory analytic capacity for food analysis and control; • 60 national specialists trained as trainers in food quality analysis and procedures; • Improved information systems and networks on food standards and food control among National Bureaux of Standards; • Improved capacity of CARIFORUM to support national food control services and programs. 	<ul style="list-style-type: none"> • Model legislation and Guidelines; • Improved laboratory performance; • Training of trainers reports, with list of participants and evaluation; • Network reports and bulletins; • Improvement in office facilities and human resources 	<ul style="list-style-type: none"> • Revised food safety and standard legislation approved and implemented by majority of the member states; • Increased number of food safety problems referred to laboratories recognized by CARIFORUM member states as capable of the analysis; • Trainers are used by national capacity building programs to train other national specialists; • National programs improve the equipment of national laboratories; • CARIFORUM members involved in food safety utilize web sites and communications networks developed to improve capacity to trade safe foods.
----------------------	--	--	--	--

SP 4: Transportation Systems Facilitation and Transaction Cost Reduction - Logical Framework

Programme Hierarchy	Narrative Description	Objectively verifiable indicators	Sources of verification	Assumptions
	(4) Reduced transaction costs for international trade transactions within the CARIFORUM region.	<ul style="list-style-type: none"> • Cold storage facilities at airports for fresh fruit and vegetable exports are made available to producer associations • A significant increase in the trade of regionally produced goods within the CARIFORUM region and ROW is observed • Prices received by producer associations from international dealers for their produce have increased, and handling costs in ports have decreased • Information about commodity transport prices and volumes within the region can be easily obtained • Information is available on cargo capacity, frequency and costs • Huckster trade is better integrated in regional world 	<ul style="list-style-type: none"> • A market intelligence system on transport costs and port charges for agricultural products is in place • Export statistics 	<ul style="list-style-type: none"> • Market intelligence services are used by all market players • Enhanced market transparency reduces transaction costs • Transaction cost reductions allow some Huckster trade to more effectively penetrate regional markets • Regional and world market exists for commodities produced in the region

SP5 - Enhancing Phytosanitary System Capacity Logical Framework

Programme Hierarchy	Narrative Description	Objectively verifiable indicators	Sources of verification	Assumptions
Programme Results (Outputs)	(1) Improved phytosanitary systems in CARIFORUM member states	<p>Guidelines and timetable for the harmonization and improvement of national laws and regulations prepared;</p> <p>Updated quarantine pest and disease list for each country;</p> <p>Two regional referral laboratories established for phytosanitary analysis;</p> <p>30 specialists of people trained in the management of modern phytosanitary systems;</p> <p>Improved information systems and networks on phytosanitary issues;</p> <p>Improved coordination and cooperation mechanisms under the aegis of the CARIFORUM Secretariat.</p>	<p>Guidelines and timetable;</p> <p>Workshop organized to discuss updated laws and regulations;</p> <p>Updated quarantine pest and disease lists;</p> <p>Two regional referral laboratories;</p> <p>Workshop reports, with list of participants and evaluation;</p> <p>Reports and bulletins on phytosanitary situation;</p> <p>Reports of CARIFORUM meetings.</p>	<p>Negotiations are taking place in the framework of CARIFORUM bodies;</p> <p>Revised phytosanitary legislation and regulations approved and implemented by a majority of the member states;</p> <p>Quarantine lists and procedures implemented;</p> <p>Role of referral laboratories recognized by CARIFORUM member states;</p> <p>The capacity building and development in the modern management of phytosanitary systems augmented by complementary initiatives at country level;</p> <p>Specialists trained return to their working place and apply the skills they have learned.</p>

C. SMALL HOLDER ENHANCEMENT COMPONENT

C.1 Project Rationale and Design Considerations

C.1.1 Rational.

Food security in the Caribbean region has some specific characteristics that should be reckoned with in formulating a food security programme or project for this region.

The first one is that despite overall relatively high levels of GDP in most of the countries, pockets of poverty exist where access to food is not ensured either through production or sufficient income to purchase it. This is of high concern to Governments. Secondly, domestic production is at present unable to satisfy demand and total calorie intake is supplemented by considerable amounts of extra-regional imports of food under commercial terms. This results in considerable food trade deficits and a growing dependence from foreign sources for supply of essential commodities.

Besides Belize, Guyana and Suriname, agricultural sector is a relatively small fraction of national GDP in all countries. In most of them alternative employment opportunities exist with higher labour remuneration than agriculture, making farming activities unattractive, particularly for the younger generation.

As indicated earlier (Section A.8) poverty and hence food insecurity is a predominantly rural phenomenon in most Caribbean countries and vulnerable groups rely on domestic production for their food supply. Smallholders are the main producers of food crops such as vegetables, roots and tubers, fruits and meat. There is, therefore, merit in focusing on smallholders if the level of food security is to be improved. The majority of these farmers cultivate between half and two acres (0.12 to 0.50 ha) and sometimes larger plots in low productivity lands, for both own consumption and for the market. The marketable surplus is generally limited in volume and is often of poor quality due to inadequate production practices and marketing limitation. The poor quality of produce from smallholders and the unreliable nature of supply pose serious marketing problems.

Smallholder agricultural production in particular that of food crops, takes place on poorer soils and often steep slope terrain using traditional methods. This means low and inappropriate use of inputs (fertilisers and pesticides), lack of mechanisation, lack of high yielding varieties and sometimes subject to the unreliable rainfall pattern. All this result in low productivity and low quality of produce. In addition, agricultural inputs, which are almost entirely imported as well as hired labour are costly, making food crop production uncompetitive with cheaper and higher quality food imports. Imported foodstuff is also favoured by more efficient and lower cost transport.

These constraints may not be insurmountable if in their removal efforts are deployed decisively and simultaneously on two fronts:

- (a) On the first, the production front, efforts need to be deployed in increasing the productivity, improving the quality and ensuring the sustainability of production. In this regard and in the first instance more attention needs to be paid in developing and making available high yielding planting material for the traditional root and horticulture crops produced in all countries. Second, it will be necessary to train farmers in the proper use of fertilisers and pesticides using them in an

environmentally friendly manner by combining chemicals with IPM. Third, expand the area under irrigation whenever possible to make crop production less dependable from rainfall and allow for double cropping and off-season production in particular of horticultural products. These measures are likely to bring about an increased volume of marketable produce of higher quality and higher income to the farmer and no less important a more regular supply of produce to the market.

- (b) On the second, the marketing front it is necessary to improve the related infrastructure, ensure a remunerative price to the farmer, but equally important, also ensure marketing outlets which includes regular and affordable transport costs. Marketing intelligence at local, national and regional levels will play an important role. These aspects are dealt with in a separate, but functionally integrated trade facilitation project..

C.1.2 Design considerations

Given the similarity of problems within the CARIFORUM member countries, there appears to be an opportunity and commitment to tackle the current difficulties through a regional focus that concentrates on enhanced productivity and competitiveness. As there are no proven alternatives to current production and marketing systems that can attract new investment to agriculture on any significant scale, there is a need to look for appropriate technical options. Such development should be geared towards achieving results quickly, in a phased manner.

A brief first phase project targeted to small holders to last for three years, aims at testing and demonstrating the technical and financial viability of new approaches. This first phase should also endeavour to build analytical capacity of the countries for preparation of investment proposals. Building such capacity would prove useful during the preparation of a second phase, which would basically expand investment on the basis of the technology and approaches proven under the first phase. Under this proviso, support needs to be given to the governments of the countries in the Caribbean Region to overcome the above mentioned constraints. The main development activities to be proposed would focus on filling gaps through on-farm demonstrations and through technical assistance to the broader agricultural sector - from production to marketing. These activities are in line with the regional and national policies and strategies in the agricultural sector as indicated earlier in this report.

C.2. Project Objectives

The overall objective of the project is to improve food security in the CARIFORUM region by increasing the income of small holder farmers, enhancing nutritional status of the population and reducing food trade deficits both at the national and regional level.

The specific objective of the production, productivity and marketing enhancement project⁵ is to demonstrate and establish the feasibility of livelihood alternatives and improve existing production, processing and marketing systems for food and other agricultural products produced

⁵ The project is based on the principles of the FAO's Special Programme for Food Security which aims at assisting developing countries improve their national food security through a multi-disciplinary and participatory approach that is economically and environmentally sustainable.

by small holder farmers. This is meant to provide a basis for expansion of investment in the agricultural sector of the CARIFORUM countries.

C.3 Project Description

C.3.1 Main Project Activities at Country Level

Following the principles of FAO's Special Programme for Food Security (SPFS), which aims at assisting member countries in improving their national and collective food security through an interdisciplinary and participatory approach that is economically and environmentally sustainable, the project is proposing a series of improvements to be introduced and demonstrated during a three-year period. Specific type of farm-level activities are proposed for each country, according to a number of criteria such as the natural resource endowment, the traditional set-up, the specific physical and marketing constraints to be removed, and the comparative advantage a country may have in producing a specific commodity.

The main type of activities proposed are briefly described below and in the country tables in Appendix 2 and are detailed in the Country Annexes in Volume II.

C.3.1.1 Irrigation and Water Control and Management

Irrigation would be supported in twelve countries (see table C.3 below for the countries concerned by each type of activity).

Irrigation is presently limited either by resource availability or lack of capital. However, a relatively long dry season and dry spells during the rainy season justify the expansion of land under irrigation. Today, irrigation when practised, is not done efficiently, although in some cases, modern methods such as sprinkler and drip irrigation are used. The objective of the project would be to allow an additional, or sometimes two additional crops annually, particularly if vegetables are to be grown.

Irrigation water is coming either from surface water from rivers or creeks, using low-lift pumps, from water stored in small ponds or from groundwater from wells.

In all instances provision is included for training the farmers both in water use as well as in water management aspects.

To take advantage of the availability of irrigation facility, improved farm practices would also be introduced so as to optimize production.

C.3.1.2 Crop Intensification and Optimization

This is an across the board objective of the project and concerns all participating countries either through irrigation, as described above, or by a variety of measures, which would have the effect of improving productivity and increasing profitability by increasing production and reducing costs. It would include the introduction of improved planting material, using shorter growing period varieties and staggering the planting period. Improved farming practices included in the demonstrations would also address problems of optimising planting densities, plant nutrition and pest control, using, where appropriate, IPM methodologies.

Crop intensification would concern root crops (dasheen in St. Lucia, cocoyam in Belize, cassava in Guyana, yam and tannia in St. Lucia, eddoes and cassava in Grenada, Guyana and St. Vincent and the Grenadines), where yields are estimated to increase between 20 and 58 percent over present yields. Crops not previously cultivated by smallholders in some of the project areas will be introduced to help diversify production from traditional crops, for which smallholders are not competitive vis-à-vis large-scale plantation farms (for example sugar cane in Belize and Jamaica).

Integrated Pest Management (IPM) would be promoted on vegetables in Antigua and Barbuda and on rice in Suriname.

Land husbandry practices, including soil conservation measures would be introduced in badly eroded steep hill areas in Jamaica.

C.3.1.3 Small Livestock Development

Small ruminants, mainly sheep and goat, are traditionally reared in almost all countries of the region. There are very few modern units. Animals are usually left grazing without control, or fed on crop residues. Although there are breeds like the Barbados black belly sheep throughout the region, productivity of livestock is generally very low. In addition, freely grazing animals cause damage to crops and are the cause of many disputes between farmers and livestock keepers.

There is, however, scope for rationalising livestock production, increasing its productivity and improving the quality of meat.

The project would assist livestock development in six countries:

- Barbados – the development of community grazing facilities for landless sheep owners would require a preliminary study to assess the economic viability of the project and the availability of grazing land, in view of alternative uses of such land, the carrying capacity of such land and the organisational aspects, including charges per animal grazed.
- Grenada –Landless peasants would be assisted in raising poultry and rabbits as part of a home gardening component.
- St. Kitts and Nevis, St. Lucia and Trinidad and Tobago – smallholders would be assisted in introducing or consolidating small ruminant on a semi-intensive basis as part of a diversified farming system.
- In Suriname the project would assist, subject to a positive feasibility study, to the expansion to six additional provinces of artificial insemination with the aim to improve the breed of dairy cows and productivity throughout the country.
- In addition poultry production would be promoted in a number of countries either as part of a diversification process, or in support of landless peasants under backyard farming models.

C.3.1.4 Fisheries and Aquaculture

Fisheries and aquaculture is relatively well developed in most countries. The project would assist in the few cases where improvements by small fishermen could improve their income by reducing post-fishing handling or introducing aquaculture as part of the diversification efforts.

In Barbados and Grenada artisanal coastal fishing is a well-developed sector, and in general port facilities exist for handling the fish. There is, however, urgent need to train fish extension officers in fish technology, including post harvest handling, inspection and quality control by introducing and developing and of the HACCP concept.

In Guyana, aquaculture would be supported as part of the crop diversification programme, and as an alternative to small livestock production. One-fourth acre ponds and fingerlings are available within the country.

In St. Kitts and Nevis, the project, based on experience gained from previous FAO assistance in the country, will train artisanal fishermen from both islands in the use of the long-lining technology for catching seasonal pelagic fish, thus maximising the potential of the offshore fishing and help control over-fishing in the coastal waters.

C.3.1.5 Backyard Farming

Backyard farming or home gardening takes a different form in each country, but the common characteristic is the lack of land for cultivation and the below the poverty line income and permanent food insecurity in which many of the peasants or inhabitants around the urban communities find themselves in.

In Grenada, the Government has launched a home gardening programme, which has given an encouraging response and results. However, the programme lacks funding, albeit a modest amount per household, and the project would seek to expand the programme to a larger number of beneficiaries under the guidance and supervision of Ministry of Agriculture extension agents already involved in the programme. The project, besides selected vegetable crops, would also support the introduction of small poultry and rabbit production units by providing the initial stock of animals and guiding the construction of the related cages with locally available material.

In Jamaica, rural households, many female headed ones, would be assisted in establishing small-scale broiler production for improving their cash income and the nutritional status. 150 one-day old chicks would be provided initially with feed and other necessary inputs till slaughter and sale. Following this the peasants would be able to buy their own supply of chicks and needed inputs through income earned. In Suriname, apiculture would be supported.

In St. Lucia and St. Vincent and the Grenadines, backyard farming would also be supported for peri-urban and rural landless peasants living under food insecurity conditions, assisting them to improve their nutritional status and their income.

C.3.1.6 Post-harvest Handling, Processing and Marketing

A serious problem of concern to many farmers and to the Government of almost all countries, is the large percentage of post-harvest losses, particularly of fruits and vegetables, due to the lack of post-harvest facilities such as collection, packaging and cold storage centres, processing facilities, in particular of fruit. Similar marketing problems also affect other sectors, such as fisheries and meat production.

The project has included interventions for improving post-harvest handling in seven countries: Antigua and Barbuda, Dominica, Guyana for crops, the Bahamas and Suriname for meat products, Barbados and Grenada for fish handling.

In view of the complexity of the problem of handling of commodities for the market, and the specific handling requirement of each commodity in connection also with its final destination. Activities would be preceded by detailed studies aimed at identifying the type of problem, the point in the marketing chain at which more significant losses take place and proposing solutions which would eliminate or reduce to the maximum such losses.

Primary processing for root crops would be provided in Dominica for the production of starch and in St. Vincent and the Grenadines for primary processing of excess production of such crops as vegetable, root crops, and fruits.

C.3.1.7 Extension and Training.

The success of the proposed technological improvements will greatly depend on well trained extension personnel in each district where the demonstrations would take place, but also of those in the surrounding districts from which farmers would be invited to visit and observe the demonstrations and emulate them on their own plots. To this end, extension officers, technicians and leading farmers would be trained with assistance from the project. Master trainers would initially be trained at regional courses, while extension personnel and lead farmers, including those on whose plots the demonstrations will take place, would be trained within the country, according to modalities to be worked out by the national project implementation unit. Experience acquired in this particular field from the implementation of extension training project by FAO in the Eastern Caribbean States, will be used in implementing these training activities.

C.3.1.8 Other Project Components

The project would also support a number person/months of consultancies to carry out constraints analysis, mid-term review at the country level and as necessary the feasibility studies for the Phase II project, if warranted. Additional studies required to complement information necessary for the implementation of the on-farm activities e.g. water resources availability, technical specifications for the types of equipment to be provided etc. have also been included as implementation of such activities is conditional upon, usually short, consultancies to confirm the assumptions made in some of the proposed farm models. This refers in particular to e.g. water resources availability, or small ruminant development in Belize for which sufficient data was not available in the country at the time of preparation of the project. In addition the project would make provision for supporting the Project Implementation Unit to be established within the respective Ministries of Agriculture.

C.3.1.9 A Summary Overview of the Main Areas of Intervention at Country Level

A summary overview of the main areas of intervention at country level is presented in the Table C.3 below. It gives the number of demonstrations per component, as well as consultancies specific for the country (marked with a C).

Table C.3
Proposed Activities per Country (number of demonstration sites/units)

	Crop Optimisation and Irrigation	Livestock	Backyard Farming	Fisheries and Aquaculture	Processing/Marketing/ Post-harvest Handling
Antigua and Barbuda	10 + IPM				C (2)
Bahamas	10				C (2) + storage facility
Barbados	26	C (1)		1	
Belize	70	C (1)			
Dominica	45				C (1) + equipment
Grenada	40	24	40	1	
Guyana	36	24	6	6	6
Jamaica	125		60		
St Kitts and Nevis	4	12		1	
St Lucia	29	24	30		
St Vincent and the Grenadines	30		20		C (2) + 12
Suriname	26	C (2)	6		
Trinidad and Tobago	48	15			C (1)
Total	499	99	162	9	18

The total number of demonstration plots per country and the potential number of farmers in surrounding areas that could potentially benefit by replicating the farm practices demonstrated are shown in the following table C.4

Table C.4
Number of Demonstrations and Potential Beneficiaries

Countries	Demonstrations (No.)	Potential (No.)
Antigua and Barbuda	10	50
Bahamas	10	50
Barbados	26	360
Belize	70	700
Dominica	45	525
Grenada	104	632
Guyana	66	750
Jamaica	185	570
St Kitts and Nevis	34	170
St Lucia	83	440
St Vincent and the Grenadines	50	320
Suriname	32	500
Trinidad and Tobago	63	545

C.3.10 Main Activities at Regional Level

A number of activities for which there is common interest from more than one country, and for which there could be economies of scale if implemented regionally would be implemented at regional level. These concern the following areas:

- a) Research on agronomic and farming systems' development to intensify and diversify food crop production, mainly of tubers and vegetables would be supported. Such regional research could be based in existing national and Caribbean Research and Development Institute (CARDI) centres.
- b) Training of extension master trainers and other technical staff of Ministries of Agriculture related to project activities. Study tours for these technical officers are also included. There will be an urgent need to organize such training at the very beginning of the project to ensure the adequate transfer of technology through the proposed demonstrations in participating countries. Advantage will be taken of related training undertaken by other FAO-supported projects in the Region.
- c) Training in policy analysis and project preparation and implementation of agricultural projects. The profitability and long term sustainability of the RSPFS and other agricultural development projects relies on proper analytical capacity both at policy-issues identification level as well as the level of crop and farming systems' financial and economic viability. The mission noticed a general lack of perception of the tools required to come up with viable proposals and believes that it is important to train middle-level staff in these areas so that they are able to understand the implications of policy decisions to which they are often called to participate.

Provisions would be made by the project for mid-term and end of project evaluation exercises and for the studies required for the preparation of a Phase II of the RSPFS.

An amount of US\$2 million would be included in the project to allow for on-farm activities for which, because of the lack of information at present, only provision for consultancies has been included with the purpose of ascertaining the feasibility of the proposed intervention. For those proven to be feasible and profitable, field activities could then be funded and implemented during the Phase I project, subject to an approval mechanism which could include the project management at regional level as well as the donor(s) representative(s).

In addition, the mission proposes that CARICOM's on-going efforts in implementing the RTP (A) objectives be supported by funding a study group to examine and propose alternative land uses to be put in place following the expected removal by 2006 of trade preferences for exports of the Region.

C.4 Project Cost Estimate

The total project cost has been estimated at US\$14.5 million. This overall project cost, summarised in Table C.5 below, derives from the individual country level interventions, and of activities to be carried out at regional level.

**Table C.5
Total Project Budget**

Items	Total Costs (US\$1 000)
National components	8 201
Regional Programme management	1 250
Non-allocated component, of which:	
Research & Training	1 229
Evaluations and Studies for Phase II preparation	1 000
Reserve fund	2000
Contingencies (10% of national components)	820
Total	14 500

National Level

The cost of the demonstrations and other activities to be carried out at country level take into account the specificity of country situations in terms of number of potential beneficiaries who would likely form part of the pilot phase, availability of extension staff, organization and management aspects of the executing agency and sustainability issues for future expansion of the project. The project costs corresponding to demonstrations proposed per country are summarised in Table 4 below and detailed in the individual country tables (see attached Appendix 2).

**Table C.6
Country Budgets**

Country	Total Costs (US\$1 000)
Antigua and Barbuda	496
Bahamas	390
Barbados	765
Belize	515
Dominica	482
Grenada	594
Guyana	553
Jamaica	1 357
St Kitts and Nevis	573
St Lucia	467
St Vincent and the Grenadines	615
Suriname	769
Trinidad and Tobago	625
Total	8 201

Table C.7 below provides an overview of the cost per category. It shows that the majority of the costs are expected to be incurred at the field level, through expenses for demonstrations. Cost estimates for the demonstrations have been made on the basis of the farm models that have been prepared by the mission, multiplied by the number of demonstrations. In general, farm models were prepared on a one-acre base, as the mission believes that this would provide adequate space to demonstrate the improved practises and it would give farmers a comparison with the remainder of the acreage of the ‘host’ farmer that would still be managed according to ‘traditional’ practises. However, project management could decide otherwise, for example by having 10 two-acre demonstrations instead of 20 one-acre demonstrations. Finally, in addition to the costs of inputs, equipment and labour, an amount has been included for the organization of farmer field days.

Table C.7
Total Project Budget

Items	Total Costs (US\$1 000)
Demonstrations	4 686
Consultancies	909
Training (national level) and miscellaneous items	1 273
Project management (13 countries)	1 333
Total	8 201

The consultancies budget includes provisions for short consultancies specifically requested by the countries, as well as consultancies for the analysis of constraints that might arise during project implementation. Finally, provision has been made for unspecified consultancies.

The third category of costs includes the costs of training extension officers and leading farmers to be organized in the first months of implementation. The leading farmers are, amongst others, the farmers that will host the demonstrations. Miscellaneous items, such as processing equipment and nurseries, are also included in the third category.

Project management budget for the thirteen participating countries consists of the cost of transport allowances, management allowances including a provision for an assistant to the national coordinator, a vehicle, computer equipment etc.

Regional Level

Costs at regional level or to be managed at regional level consist of the cost of the Regional Management Unit (RMU) and non-allocated component for:

- i. research and training activities;
- ii. mid-term and end of project evaluations to take place for project progress monitoring and results evaluation, and studies for a Phase II preparation; and
- iii. a reserve fund of US\$2 million included to allow for investment activities which could not be included in the country activities subject to confirmation of technical parameters and to positive outcome of feasibility studies.

See detailed cost table in Appendix 2

The corresponding amounts of the non-allocated component would remain with the Regional Project Management Unit. In the case of the Reserve Fund, the funds subject to the approval of the CARIFORUM/Donor Committee (see para 6.6 below) would be disbursed to the requesting country, based on detailed technical specifications and terms of reference.

C.5 Project Impact

C.5.1 Introduction

The project is expected to generate financial, environmental, social and other benefits for the people of CARIFORUM countries, in particular for the members of rural communities, such as smallholder farmers and their families as well as landless peasants. It would ameliorate their food security situation, at household level, but also contribute in reducing national and regional food deficits, hence improving the general food security situation.

The analysis presented below focuses on direct financial benefits expected to be generated by the introduction of project induced improvements at the farm level on the basis of one acre farm models. In order to achieve these results however, there is a need for certain activities at regional level, which thus have an indirect effect on the profitability at the farm level. Beyond that, regional activities, such as training, contribute in a broader and more sustainable way in the technical and institutional capacity building of participating countries.

C.5.2 Financial Benefits

This project during its present first phase has the objective to provide evidence through a limited number of farmer-led demonstrations that the improvements and innovations proposed in the corresponding farm models would have a positive impact on the production level and on the income of small holder farmers and their families. A total of 787 demonstrations will be organised in the 13 CARIFORUM countries. Demonstrations on vegetable production under irrigation are most numerous, followed by demonstrations on vegetable and root crop production under rainfed conditions, and small ruminant production demonstrations. To analyse the financial impact on the farmers, more than 50 farm models have been prepared, covering more than 30 different crops and livestock types. Typical crops have been used in preparing the farm models for illustration purposes but other crops with similar profitability may be substituted depending on farmers' and market preferences.

The Table C.8 below shows the expected incremental net income per acre of land, excluding the value of family labour, which would, in general, increase (column 2). Considering that in all cases annual crops are concerned, this incremental income would be achieved after one year. The table also shows the number of demonstrations to be organized in these specific areas (column 3) and the estimated potential number of small holders likely to replicate and benefit from the demonstrations (column 4).

Table C.8

Quantifiable Project Benefits of Major Interventions (Preliminary)

Demonstration type	Average Incremental Benefits (USD)^a	Demonstrations (No)	Potential (No.)
Vegetables (irrigation)	6,865	224	1,735
Vegetables (rain-fed)	1,892	95	930
Root crops (rain-fed)	1,060	84	930
Small ruminants	1,661	60	657

^a: Comparison of With and Without project situation, per demonstration, simple, unweighted average

The table shows that the proposed interventions are financially attractive, particularly the demonstrations on irrigated vegetable production followed by vegetables under rainfed conditions, small ruminants and root crops also rainfed. The introduction of irrigation for the production of vegetables has the highest profitability as it results in higher yields, an additional crop per annum, and, in the case of off-season third crop in higher sale prices. This justifies project support to improve and expand irrigation, to which the only limitation is water resource availability. The effect on prices of improvements in handling, packaging and cold store which allow for sale to be postponed until after “high supply- low price” season have not been computed.

Although the incremental benefits per acre vary per country, the average quoted in the table provides a good picture. In some countries, for example in Antigua and Barbuda, St Kitts and Nevis and St Vincent and the Grenadines, incremental benefits are higher than the average, mainly because of higher potential yields and a higher potential for cost reduction, and in some countries the benefits are lower than average, like for example in Grenada. Only in Suriname incremental benefit per acre turn slightly negative, caused by low expected yield increments and high investment costs, but since less family labour is needed with the project, incremental income per day of family labour increases. In general, the proposed intervention in all 13 countries will create substantial benefits for the farming families.

The average incremental benefits of vegetables and root crops under rainfed conditions reflect the – on average – higher profitability of vegetable vis – à – vis root crops. With the exception of Dominica, the demonstrations yield comparable incremental benefits in each country. Dominica has higher increments as no current income is included in the without project situation, and if adjusted for that, the averages would be approximately 30% lower.

Semi-intensive rearing of small ruminants, sheep and goats in particular, provide attractive incremental benefits. The livestock models show that goat keeping is more profitable than the rearing of sheep, mostly because of the extra milk production of goats.

In addition to the categories outlined above, substantial benefits will arise to other part-time farmers and their households. The project will support vegetable home gardening, apiculture and broiler production in backyards assisting in household's food security. For example more than 70 demonstrations will be held on vegetable gardening leading to incremental income per household (or replaced consumption expenses) of US\$532 per annum. Another example is the annual income derived from broiler production in Jamaica (US\$922) which will be demonstrated in the backyards of 60 households.

C.5.3 Environmental Impact

The project would have a positive environmental impact, as it would reduce the use of pesticides and make optimum use of fertilisers and make greater use of manure (particularly in organic farming activities) and introduce Integrated Pest Management (IPM) methodology. In other demonstrations sites and countries it may be necessary to carry out minimal operations for pest control at certain critical times in order to safeguard production. These operations would be carried out by trained farmers, wearing protective clothing, gloves and goggles provided by the project. Pesticides used would be those least harmful to the human health and the environment and maintain sustainability in agriculture. The optimum utilisation of water would reduce soil degradation and the leaching of fertilisers and pesticides into the aquifer with all the negative consequences, and would optimise water use on a sustainable basis.

Minimum tillage will be demonstrated on rice, a dominant crop in a number of countries in the region. This will not only assist in maintaining soil structure and fertility but will also be expected to reduce cost and increase yields. Improved land husbandry practices on land that has been badly degraded through poor practices in the past, particularly in steep mountain sites, will be expected to assist in the gradual improvement of the soil, increased fertility and reduced erosion.

A number of projects are being proposed that would reduce the environmental damage caused by free grazing ruminants particularly sheep and goats, owned by landless farmers in practically all countries, leading to soil erosion due to destruction of vegetation, crop losses and disputes between livestock keepers and farmers. This would be achieved through the development of pastures and optimisation of grazing lands during the dry season. Introduction of controlled grazing would not only assist the livestock keepers in maximising their production but also reducing crop and environmental damage currently caused by these animals.

C.5.4 Social and other benefits

Social and other benefits will arise not only through the increased income and employment, but also through the extensive capacity building efforts assisted by the project. At the regional, national and local level a broad range of farmers, livestock holders, backyard gardeners, extension staff and ministry specialists will be trained throughout the life of the project. Topics will not only include technical aspects but also bookkeeping, preparation of investment projects and policy analysis, generating a sustainable, longer-term, contribution to the sustainable development of the Caribbean States.

C.6 Project Management

C.6.1 At Country Level

The project activities at country level would be implemented under the responsibility of the Ministry of Agriculture. The Ministry will appoint a National Project Coordinator (NPC) from within the Extension Division, who under the direction and guidance of the Minister will have the overall responsibility for the proper and timely implementation of the project, the organization of the demonstrations, the farmers field days and training at national level in close collaboration of the line divisions of the Ministry. The NPC will have the support of other line divisions staff of the Ministry for specific activities i.e. irrigation, livestock, aquaculture as the case may be. The Coordinator will be provided with supporting staff and office facilities by the Ministry as necessary. The project will provide a vehicle, computer printer and fax.

The demonstrations will be organized and take place under the responsibility of district extension officers and technicians under the supervision at central level of the national co-ordinator and technical officers of line divisions in the Ministry of Agriculture.

While a number of demonstrations sites have been identified for each type of intervention proposed, flexibility should be maintained regarding the final selection of sites and of participating farmers in each country.

It would be, however, necessary to start project operations by training extension staff in carrying out the demonstrations. In the case of irrigation demonstrations, the government's confirmation that sufficient and sustainable water resources are available, in particular for the expansion Phase II project, would be necessary.

C.6.2 At regional Level

CARICOM/CARIFORUM Secretariat would be the implementing agency of the project at regional level. A small Project Management Unit (PMU) would be established within the Secretariat to follow and monitor the implementation of the project. It would be responsible in reporting progress to the Secretary General of CARICOM and to the donor(s).

The PMU will be also responsible for the management of the non-allocated component. The disbursement of such funds for country level activities could be decided by a committee composed of a CARICOM officer a representative of the (each) donor and selected permanent representatives of CARICOM countries in Guyana acting on a rotating basis.

The PMU will be also responsible for launching mid-term or end of project evaluations and allocate funds for Phase II feasibility studies requested by individual countries on the basis of justification and detailed terms of reference.

C.7 Issues and Risks

During the three year first phase the project does not foresee involvement in supporting farmers other than those on whose plots the demonstration are to take place. Other farmers willing to replicate may have difficulty in obtaining credit as credit facilities shaped around the smallholder needs are not readily available. This brings up the issue of land tenure and titling which is the

main impediment with financing institutions. Considering that many small farmers are either squatting on government or privately owned land or have leasehold arrangements of short duration that do not make them eligible for credit due to lack of collateral, the only other possibility is for them to be auto-financed if they wish to enter the project and adopt the improved practices demonstrated. While this may be possible with part-time farmers who earn cash income from outside the sector this may not be the case with many smallholders whose living depends entirely on farming. Land tenure and credit are however issues that would have to be resolved before the Phase II project.

The significance of irrigation and hence water for the development and intensification of agriculture in the Caribbean Region is well illustrated in the report. Basically the use of water can increase substantially agricultural productivity and hence competitiveness in the Sector. However there is inadequate information, for most of the Caribbean countries on the Internal Renewable Water Resources and/or exact quantities of water that are currently withdrawn. In view of these uncertainties and the current and potential needs of sectors other than agriculture, e.g. tourist development, domestic and industrial use etc. it is difficult at this stage to quantify with any degree of accuracy the role of irrigation in the future of agriculture in the Caribbean region.

The complexity of the project and the participation of fifteen countries requires a strong management structure able to monitor project advance. Considering its responsibility to keep the implementing agency CARICOM/CARIFORUM and the donor(s) informed of progress of project implementation and to be able to take corrective actions as necessary in full consultation with National Project Coordinators, the PMU should be equipped to be able to address problems arising satisfactorily.

There are no risks inherent in the project proposals as most crops proposed are already cultivated in the region. The main risks concern delays in implementation, starting with the appointment of the National Project Coordinator (NPC) and the organization of the training of the extension agents that would be involved in the field demonstrations. It should be underlined that as the project is mainly concerned with annual crops, any delays in start-up activities would result in postponing initiation of on-farm activities until after the rainy season or for a whole year. Since on-farm demonstrations are the backbone of the project, the role of the extension services is crucial to the success of the project. It is important therefore that a sufficient number of extension agents is selected and trained and the risk is that in some countries it would be necessary to recruit them to fill presently vacant posts. Another, but rather remote risk is the possibility that farmers do not show interest in participating in the project or that they do not adopt the practices shown. at the demonstration farms.

Appendix 1

GENERAL STATISTICAL DATA

Table 1 - CARIFORUM: Per Capita Income by countries 2000

	2000 (US dollars)
Antigua and Barbuda	9 190
Barbados	9 280
Belize	2 940
Dominica	3 260
Dominican Rep.	2 100
Grenada	3 520
Guyana	770
Haiti	510
Jamaica	2 440
St. Kitts and Nevis	6 660
St. Lucia	4 070
St. Vincent and Grenadines	2 690
Suriname	1 350
Trinidad and Tobago	4 980

Source: World Bank - World Development Indicators

Table 2 - CARIFORUM POPULATION

	1980	1990	1995	1996	1997	1998	1999	2000
	thousand							
Caribbean Community	<u>16 573</u>	<u>19 898</u>	<u>21 381</u>	<u>21 678</u>	<u>21 981</u>	<u>22 284</u>	<u>22 590</u>	<u>22 893</u>
Bahamas	210	255	283	288	292	296	300	304
Caribbean Common Market	16 363	19 643	21 098	21 390	21 689	21 988	22 290	22 589
MDCs	4 580	4 974	5 149	5 183	5 217	5 251	5 283	5 315
Barbados	249	257	263	264	265	266	267	267
Guyana	761	731	743	746	750	754	757	761
Jamaica	2 133	2 369	2 472	2 493	2 513	2 534	2 555	2 576
Suriname	355	402	409	410	412	414	415	417
Trinidad and Tobago	1 082	1 215	1 262	1 270	1 277	1 283	1 289	1 294
LDCs	11 783	14 669	15 949	16 207	16 472	16 737	17 007	17 274
Belize	144	186	203	207	212	217	222	226
Dominican Rp	5 695	7 061	7 697	7 830	7 965	8 101	8 237	8 373
Haiti	5 453	6 907	7 522	7 643	7 766	7 890	8 016	8 142
OECS	491	515	527	527	529	529	532	533
Antigua & Barbuda	61	63	64	64	64	64	65	65
Dominica	74	71	71	71	71	71	71	71
Grenada	89	91	92	92	93	93	93	94
Montserrat	12	11	10	9	8	6	5	4
St Kitts Nevis	44	42	40	40	39	39	39	38
St Lucia	113	131	140	141	143	144	146	148
St Vincent and Grenadines	98	106	110	110	111	112	113	113

Table 3 – CARIFORUM: Annual Growth Rate of Gross Domestic Product

GDP (1990 const US\$)	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	percent									
Antigua Barb	2.7	0.8	5.1	6.2	-5.0	6.1	5.6	3.9	3.2	2.5
Bahamas	-2.7	-2.0	1.7	0.9	0.3	4.2	3.3	3.0	5.9	5.0
Barbados	-3.9	-5.7	0.8	4.0	3.1	1.7	6.4	4.1	1.3	3.2
Belize	3.1	10.2	3.3	1.8	3.3	2.0	3.6	3.4	5.6	10.3
Dominica	2.2	2.7	1.9	2.1	1.6	3.1	2.0	2.4	0.9	0.5
Dominican Republic	1.0	8.0	2.9	4.3	4.7	7.2	8.3	7.3	8.0	7.8
Grenada	3.6	1.0	-1.2	3.3	3.1	3.1	4.0	7.3	7.5	6.4
Guyana	6.0	7.8	8.2	8.5	5.0	7.9	6.2	-1.7	3.0	2.5
Haiti	4.8	-13.2	-2.4	-8.3	4.4	2.7	1.1	3.1	2.1	1.2
Jamaica	1.1	1.6	1.5	1.0	0.2	-1.5	-1.7	-0.5	0.0	1.5
Montserrat	-20.8	1.8	3.4	0.0	-6.7	-21.4	-27.3	-3.1	5.1	2.4
St Kitts Nev	0.4	3.3	6.7	5.1	3.7	6.5	6.8	1.1	2.8	2.6
St Lucia	2.3	7.1	2.0	2.1	4.1	1.4	0.6	2.9	3.0	2.0
St Vincent	1.5	5.9	2.3	-2.0	8.3	1.2	3.1	5.7	4.0	3.5
Suriname	2.9	4.0	-9.5	-5.4	7.1	6.7	5.6	1.9	5.0	2.9
Trinidad and Tobago	2.7	-1.7	-1.4	3.6	4.0	3.8	3.1	4.8	6.8	5.6

Table 4 – Exports: Sugar (Centrifugal Raw)

	Barbados	Belize	Dominican Rep.	Guyana	Haiti	Jamaica	St. Kitts-Nevis	Trinidad & Tobago	CARIFORUM
	tonnes								
1980	110 100	98 711	793 763	252 135	19 256	131 812	32 005	63 975	1 501 757
1981	54 451	97 821	854 709	268 809		121 274	29 464	66 935	1 493 463
1982	58 552	99 726	827 172	255 345	6 354	138 255	29 670	50 236	1 465 310
1983	50 712	110 868	916 441	210 534	13 100	136 721	20 723	62 713	1 521 812
1984	79 789	95 383	836 424	205 805	15 682	157 100	25 455	64 155	1 479 793
1985	71 745	91 095	657 007	214 349	5 300	151 567	24 832	66 109	1 282 004
1986	81 796	100 060	432 833	214 795	11 000	143 270	22 183	57 491	1 063 428
1987	58 008	80 248	514 361	186 202	6 800	135 681	22 671	46 800	1 050 771
1988	56 178	80 979	513 920	135 532	7 000	152 741	23 230	54 335	1 023 915
1989	47 870	80 014	490 510	170 010	6 900	131 609	22 190	56 943	1 006 046
1990	53 120	93 938	354 870	129 347	4 000	146 360	15 000	62 362	858 997
1991	46 884	93 390	318 917	150 064	7 800	154 204	19 097	56 549	846 905
1992	52 196	91 477	320 845	229 553		139 313	27 000	59 282	919 666
1993	38 006	91 838	319 874	236 756		149 708	21 000	51 585	908 767
1994	30 863	94 335	318 012	238 354		126 094	19 000	52 107	878 765
1995	37 343	93 797	242 335	225 421		144 986	19 000	67 118	830 000
1996	53 523	96 349	313 909	255 529		181 473	19 638	44 990	965 411
1997	54 360	110 706	386 392	256 241		171 002	30 000	69 610	1 078 311
1998	46 563	106 791	261 376	236 771		167 517	22 000	58 037	899 055
1999	50 000	92 000	144 927	282 860		177 522	17 000	64 365	828 674
2000	50 000	114 075	197 121	250 000		168 898	17 000	85 920	883 014

Table 5 - Exports: Cocoa

	Belize	Dominica	Dominican Rep.	Grenada	Haiti	Jamaica	St. Lucia	Trinidad & Tobago	CARIFORUM
	tonnes								
1980	5	5	23 418	1 866	2 337	1 325	68	2 149	31 173
1981	4	10	27 491	2 605	2 509	1 564	40	2 982	37 205
1982	18	20	38 782	2 095	1 514	1 260	10	2 435	46 134
1983	47	-	34 199	2 234	3 917	1 964	45	1 699	44 105
1984	55	-	32 280	1 856	2 404	1 910	46	1 500	40 051
1985	64	9	31 359	2 179	3 800	1 886	56	1 312	40 665
1986	86	20	35 302	1 422	2 700	2 196	50	1 304	43 080
1987	67	5	37 356	1 714	2 740	1 852	55	1 478	45 267
1988	64	2	46 670	1 639	2 700	1 666	48	1 733	54 522
1989	64	-	40 615	1 367	1 700	1 104	31	1 377	46 258
1990	166	-	45 840	1 934	1 900	1 900	47	2 017	53 804
1991	78	-	40 555	1 614	1 400	1 481	48	1 831	47 007
1992	140	15	43 488	1 348	600	1 791	37	991	48 410
1993	71	25	44 972	1 568	2 300	1 435	42	1 651	52 064
1994	21	14	51 082	1 255	3 500	2 542	31	1 325	59 770
1995	40	10	49 856	1 425	3 083	1 992	32	1 427	57 865
1996	54	3	51 067	1 593	3 400	1 407	30	1 741	59 295
1997	45	2	45 354	1 330	4 300	1 080	28	1 454	53 593
1998	70	-	53 441	1 106	3 770	1 238	15	1 099	60 739
1999	60	-	20 009	848	2 400	619	25	1 317	25 278
2000	80	1	30 324	1 095	2 400	697	15	1 460	36 072

Table 6 - Exports: Citrus Fruit

	Bahamas	Dominica	Dominican Rep.	Jamaica	St. Vincent & Grenadines	Suriname	Trinidad & Tobago	CARIFORUM
	tonnes							
1980		1 685	191	3 188	114	1 391	479	7 048
1981		2 092	387	1 902	138	1 433	72	6 024
1982		3 209	307	2 633	130	1 551	125	7 955
1983		3 204	976	2 545	154	1 170	82	8 131
1984		3 103	4 921	2 965	189	1 160	33	12 371
1985		3 266	5 488	6 425	186	1 046	34	16 445
1986		3 339	3 847	6 900	194	755	7	15 042
1987	500	2 539	4 477	8 306	154	361	8	16 345
1988	420	1 574	5 562	11 036	326	429	21	19 368
1989	1 532	2 039	6 826	6 980	175	470	22	18 044
1990	350	2 366	8 215	11 920	188	368	63	23 470
1991	2 226	2 344	10 336	9 999	240	-	57	25 202
1992	1 861	2 796	9 380	12 514	220	25	64	26 860
1993	3 470	2 084	9 126	11 688	190	20	122	26 700
1994	6 000	1 955	10 392	8 212	103	130	455	27 247
1995	11 000	1 692	11 617	9 558	185	10	397	34 459
1996	11 000	1 498	11 392	10 740	55	11	53	34 749
1997	13 451	1 575	10 450	8 551	26	21	90	34 164
1998	13 915	1 581	9 219	6 360	22	-	64	31 161
1999	12 865	1 320	8 464	9 145	24	20	34	31 872
2000	12 300	1 140	5 247	3 045	24	20	11	21 787

Table 7 - Exports: Bananas

	Belize	Dominica	Dominican Rep.	Grenada	Jamaica	St. Lucia	St Vincent & Grenadine	Suriname	CARIFORUM
	tonnes								
1980	14 955	8 222	9 844	12 459	33 149	33 496	20 626	34 011	166 762
1981	10 464	27 546	18 677	10 180	18 171	43 076	31 564	36 488	196 166
1982	10 654	27 788	7 641	9 559	21 413	41 806	26 783	37 483	183 127
1983	10 778	29 806	2 559	9 134	23 313	46 928	35 349	32 158	190 025
1984	10 653	33 255	1 011	8 602	10 979	64 448	34 533	34 932	198 413
1985	10 911	34 511	1 167	8 137	12 998	74 407	44 088	37 338	223 557
1986	15 294	53 634	611	8 189	20 889	111 359	43 409	35 996	289 381
1987	22 537	64 879	707	8 506	35 201	82 963	39 040	32 396	286 229
1988	27 757	73 316	737	10 018	27 946	141 778	60 370	35 564	377 486
1989	29 548	52 587	1 321	8 764	43 128	120 638	67 758	28 834	352 578
1990	32 825	59 901	11 319	8 449	61 204	135 330	79 894	28 326	417 248
1991	25 109	58 119	16 012	7 685	73 801	101 523	62 911	28 195	373 355
1992	35 832	60 567	49 514	6 368	71 282	129 938	80 957	30 000	464 458
1993	42 916	59 896	73 139	5 503	74 728	132 977	59 470	27 150	475 779
1994	53 361	44 386	99 000	4 498	75 503	91 690	30 920	32 700	432 058
1995	52 056	33 071	72 995	4 098	82 753	112 834	49 920	33 769	441 496
1996	64 838	39 534	83 041	1 851	85 724	102 320	48 850	26 600	452 758
1997	62 989	37 366	69 109	102	76 167	73 447	32 865	28 777	380 822
1998	60 000	28 135	51 458	94	61 938	53 529	38 947	22 993	317 094
1999	56 000	27 496	67 496	589	52 208	65 841	41 000	39 487	350 117
2000	56 000	27 263	61 129	724	42 026	49 958	42 923	40 000	320 023

Table 8 - Food Import/Export Ratios

		1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Barbados	FI/FX	2.18	2.19	2.02	2.14	2.70	2.00	2.33	1.73	2.10	2.39	1.94	1.40	1.74	1.21	2.18
	FI/TX	0.24	0.34	0.59	0.61	0.63	0.54	0.58	0.56	0.59	0.67	0.56	0.51	0.59	0.37	0.72
	FI/TI	0.14	0.16	0.18	0.18	0.18	0.16	0.17	0.20	0.19	0.20	0.17	0.17	0.17	0.09	0.16
Belize	FI/FX	0.70	0.57	0.53	0.56	0.64	0.54	0.41	0.62	0.59	0.54	0.43	0.41	0.49	0.49	0.43
	FI/TX	0.38	0.34	0.41	0.44	0.55	0.45	0.29	0.49	0.42	0.37	0.34	0.33	0.35	0.32	0.28
	FI/TI	0.27	0.26	0.25	0.23	0.24	0.23	0.11	0.21	0.18	0.18	0.19	0.20	0.20	0.15	0.13
Grenada	FI/FX	1.27	0.88	0.85	0.91	1.25	1.61	1.85	2.20	2.87	3.12	2.71	3.32	2.56	2.32	1.50
	FI/TX	0.85	0.55	0.76	0.71	0.96	1.07	1.24	1.18	1.50	1.29	1.60	2.08	1.55	1.37	
	FI/TI	0.28	0.20	0.27	0.26	0.27	0.27	0.24	0.24	0.23	0.27	0.28	0.29	0.20	0.18	
Guyana	FI/FX	0.21	0.19	0.19	0.28	0.30	0.35	0.29	0.26	0.33	0.24	0.30	0.24	0.29	0.24	0.24
	FI/TX	0.11	0.09	0.09	0.12	0.15	0.15	0.15	0.15	0.13	0.10	0.13	0.12	0.10	0.11	0.09
	FI/TI	0.08	0.08	0.09	0.12	0.13	0.12	0.12	0.10	0.11	0.09	0.11	0.10	0.10		
Jamaica	FI/FX	1.30	1.11	1.10	1.19	1.65	1.13	0.99	1.07	1.10	1.07	1.22	1.20	1.30	1.50	1.37
	FI/TX	0.32	0.30	0.29	0.28	0.29	0.22	0.22	0.24	0.26	0.21	0.25	0.26	0.29	0.33	0.36
	FI/TI	0.16	0.18	0.17	0.17	0.16	0.13	0.14	0.15	0.13	0.12	0.13	0.12	0.13	0.15	0.16
Saint Lucia	FI/FX	0.80	0.56	0.77	0.57	0.76	0.64	0.90	0.86	1.03	1.29	1.21	1.29	1.99	2.09	1.75
	FI/TX	0.49	0.40	0.52	0.39	0.50	0.43	0.58	0.56	0.57	0.68	0.62	0.92	1.22		
	FI/TI	0.22	0.23	0.23	0.21	0.20	0.20	0.22	0.22	0.23	0.24	0.25	0.25	0.24	0.24	
Suriname	FI/FX	0.66	0.84	0.67	0.69	1.01	1.38	1.71	1.51	1.33	1.27	1.25	1.40	1.52	2.22	1.72
	FI/TX	0.12	0.12	0.11	0.09	0.08	0.11	0.16	0.16	0.04	0.13	0.12	0.34	0.25	0.38	
	FI/TI	0.13	0.12	0.11	0.10	0.10	0.11	0.11	0.12	0.05	0.13	0.10	0.29	0.27	0.30	
Trinidad and Tobago	FI/FX	7.55	5.05	4.50	2.74	2.46	2.16	2.26	2.17	1.72	1.49	1.41	1.53	1.33	1.43	1.39
	FI/TX	0.16	0.21	0.19	0.15	0.16	0.12	0.13	0.15	0.13	0.12	0.11	0.11	0.12	0.14	0.11
	FI/TI	0.22	0.22	0.23	0.19	0.20	0.22	0.16	0.22	0.15	0.19	0.16	0.13	0.10	0.11	0.11

APPENDIX 2

SMALL HOLDER COMPONENT: SUMMARY COUNTRY TABLES

Country: Antigua and Barbuda

I. Project Components

Components/Interventions	Activities	N° of Demonstrations	Total Costs (US\$) ^a
Crop Optimization and Irrigation			
Improved Vegetable Production	Demonstration of optimum utilization of inputs for a cabbage-tomato model under irrigation	10	188,333
Improved Vegetable Production	Integrated Pest Management (Island wide)		98,000
Total			286,333

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Integrated Pest Management (regional/international consultant) ^a		
Marketing (regional/international consultant)	4	16,000
Post-Harvest Handling (regional/international consultant)	4	16,000
Strengthening of farmer groups included in RSPFS	2	8,000
Constraint analysis (national consultant)	6	9,000
Unspecified (regional/international consultant)	8	32,000
Total		81,000

^a Costs included under IPM in Table 1.

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	25,000
Training of technical staff from the Ministry (regional or national, DSA only)	25,000
Total	50,000

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	44,500
National coordinator and assistant	34,500
Extension staff and technical Ministry staff involved in project ^a	
Total	79,000

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs : US\$ 496,333

Country: The Bahamas

I. Project Components

Components	Activities	N° of demonstrations	Total Costs (US\$) ^a
Crop Optimization and Irrigation			
Improved production of vegetables	Improved cultivation of onions under irrigated conditions, making use of new methods (production of seedlings under cover) and to extend the production season from January – June	10	92,496
Livestock			
Improved swine meat processing	Swine meat processing consultant to draw up specifications for the construction and operation of appropriate facilities including cold storage.		Costs are included in Table II.
Processing/Post-harvest Handling			
Post-harvest/storage processing of onions	Post-harvest, storage and processing consultant to draw up specifications for construction of appropriate facilities (to be funded from the RSPFS reserve fund)		Costs of consultant are included in Table II. ^b
Total			92,496

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

^b Funds for the facilities can be requested from the RSPFS reserve fund.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Processing facilities for swine producers (international / regional consultant)	6	24,000
Post-harvest / storage / processing of onions (international / regional consultant)	6	24,000
Strengthening of farmer groups included in RSPFS	2	8,000
Constraint analysis (national consultant)	6	9,000
Unspecified (international / regional consultant)	8	32,000
Total		97,000

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	16,000
Training of technical staff from the Ministry (regional or national, DSA only)	16,000
Training of Ministry of Agriculture staff in USA on onion harvest, storage, post-harvest and package technology	36,600
Semi-automatic seeders	44,000
Total	112,600

Country: The Bahamas (Cont'd)

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	53,500
National coordinator and assistant	34,500
Extension staff and technical Ministry staff involved in project ^a	
Total	88,000

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 390,096

Country: Barbados

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^a
Crop Optimization and Irrigation			
Optimizing small-holder vegetable production	Demonstration of the optimum utilization of inputs under rain-fed conditions (bean-cabbage model)	12	61,474
	Demonstration of the optimum utilization of inputs including drip irrigation (onion-cucumber-sweet potato model)	14	163,918
Livestock			
Introduction of controlled grazing ^b	Improving pastures, animal nutrition and veterinary care for Black belly sheep	1	282,084
Fisheries and Aquaculture			
Improved food safety	Training of fish inspectors in food safety and quality control		Costs are included in Table III.
Total			507,475

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

^b Subject to appraisal, prior to implementation.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Pasture-Livestock Specialist in order to evaluate feasibility and sustainability of proposed pasture improvement project, prior to implementation (regional / international consultant)	4	16,000
Strengthening of farmer groups included in RSPFS	2	8,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional / international consultant)	8	32,000
Total		65,000

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	42,000
Training of technical staff from the Ministry (regional or national, DSA only)	42,000
Training of fish inspectors in food safety and quality control	17,000
Total	101,000

Country: Barbados (Cont'd)

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	53,500
National coordinator and assistant	38,292
Extension staff and technical Ministry staff involved in project ^a	
Total	91,792

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 765,267

Country: Belize

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Vegetable production under irrigation	Demonstration of a potato & onion farm model (Orange Walk, Corozal district)	20	113,088
Introduction of flood rice	Demonstration of rice production through flood irrigation (Toledo)	10	33,165
Expansion of root crop production	Demonstration of the optimum utilization of inputs (cocoyam model, in Stann Creek district)	20	134,928
Livestock			
Small ruminant production	Consultant who will carry out an economic and technical evaluation of livestock systems, especially for small stock such as sheep, goat and poultry.		Costs are included in Table II.
Total			281,181

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Consultancy – economic and technical evaluation of livestock systems (regional / international consultant)	4	16,000
Strengthening of farmer groups included in RSPFS	2	8,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional / international consultant)	8	32,000
Total		65,000

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	35,000
Training of technical staff from the Ministry (regional or national, DSA only)	35,000
Nursery for planting material (Cocoyam)	5,000
Training of master trainers on selected farm crops at the research center	2,000
Total	77,000

Country: Belize (Cont'd)

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	53,500
National coordinator and assistant	38,292
Extension staff and technical Ministry staff involved in project ^{\a}	
Total	91,792

^{\a} As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 514,973

Country: Dominica

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Improved vegetable production	Demonstration of a cabbage – carrots farm model	15	152,407
Introduction of organic farming	Demonstration of a tomato – cabbage – sweet pepper – rabbits – herbs farm model	10	22,253
Improved root crop production	Demonstration of a tannia farm model	20	51,076
Processing/Post-harvest Handling			
Root crop processing	Processing of Touloma consultant to draw up specifications for equipment (to be funded from the RSPFS reserve fund)		Costs of consultancy are included in Table II ^{1b}
Total			225,736

^{1a} Including 20% costs for transport of farmers, teaching materials and refreshments.

^{1b} Funds for the facilities can be requested from the RSPFS reserve fund.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Constraints analysis (national consultant)	6	9,000
Strengthening of farmer groups included in RSPFS	2	8,000
Touloma processing (regional/international consultant)	4	16,000
Unspecified (regional/international consultant)	8	32,000
Total		49,000

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	19,000
Training of technical staff from the Ministry (regional or national, DSA only)	19,000
Training of two MoA staff in root crop processing (oversees)	40,000
Construction of ponds and main pipe	50,000
Total	128,000

Country: Dominica (Cont'd)

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	44,500
National coordinator and assistant	34,500
Extension staff and technical Ministry staff involved in project ^{\a}	
Total	79,000

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 481,736

Country: Grenada

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Optimizing vegetable production			
1. Rainfed crop	Demonstration of improved use of inputs for the production of corn / pigeon peas	4	4,740
2. Rainfed crop	Demonstration of improved use of inputs for the production of cassava	4	3,419
3. Irrigated crop	Demonstration of improved use of inputs including drip irrigation for the production of melon / sweet potato	16	109,888
4. Irrigated crop	Demonstration of improved use of inputs including drip irrigation for the production of hot pepper	16	110,172
Livestock			
Improved Livestock Production			
1. Goats	Demonstration of improved management methods for semi-intensive livestock (goats) raising, including supplementary feed	12	73,173
2. Sheep	Demonstration of improved management methods for semi-intensive livestock (sheep) raising, including supplementary feed	12	68,373
Backyard Farming			
Introduction of home gardening	Demonstration of the production of vegetables, tubers, poultry, rabbits and fruit trees in the backyard	40	19,876
Fisheries and Aquaculture			
Improved food safety	Training of fish inspectors in food safety and quality control		Costs are included in Table III
Total			389,641

^{1a} Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Strengthening of farmer groups included in RSPFS	2	8,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional / international consultant)	8	32,000
Total		49,000

Country: Grenada (Cont'd)

III. Other Items

Topics	Total Costs (US\$)
Training of fish inspectors in food safety and quality control	12,000
Training of extension agents and leading farmers and travel	32,000
Training of technical staff from the Ministry (regional or national, DSA only)	32,000
Total	76,000

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	44,500
National coordinator and assistant	34,500
Extension staff and technical Ministry staff involved in project ^a	
Total	79,000

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 593,641

Country: Guyana

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Improved vegetable production	Demonstration of optimum utilization of inputs for a cow peas – peanuts model under rain-fed conditions	12	9,638
	Demonstration of optimum utilization of inputs, including drip irrigation for a tomato – pumpkin model	12	60,000
Improved root crop production	Demonstration of optimum utilization of inputs for a cassava model under rain-fed conditions	12	4,895
Livestock			
Improved animal rearing	Demonstration of improved management methods for semi-intensive livestock raising, including supplementary feed	24	144,000
Backyard Farming			
Backyard Broiler Production	Assisting households to establish small broiler production units	6	2,541
Fisheries and Aquaculture			
Integration of aquaculture units in farming systems	Demonstration of improved aquaculture practises in marginal rice producing areas	6	N / A ^{1b}
Processing/Post-harvest Handling			
Introduction of improved root crop processing methods and equipment	Demonstration of cassava processing equipment	6	10,080
Total			243,154

^a Including 20 % costs for transport of farmers, teaching materials and refreshments.

^b Funds for the facilities can be requested from the RSPFS reserve fund.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Strengthening of farmer groups included in RSPFS	2	8,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional / international consultant)	8	32,000
Total		49,000

Country Guyana (Cont'd)

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	41,000
Training of technical staff from the Ministry (regional or national, DSA only)	41,000
Construction and demonstration of a nursery for vegetable and citrus seedlings	63,178
Total	145,178

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	73,000
National coordinator and assistant	42,672
Extension staff and technical Ministry staff involved in project ^{\a}	
Total	115,672

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 553,004

Country: Jamaica

I. Project Components

Components/Interventions	Activities	N ^o of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Improved vegetable production	1. Demonstration of improved management including the use of drip irrigation (hot pepper – callaloo – pumpkin model, Vineyards, St Catherine)	10	74,298
	2. Demonstration of improved management including the use of sprinkler irrigation through (pumpkin – sweet potato model, Morant farmers, Clarendon)	70	283,254
Improved land husbandry practises	Soil Conservation/Improved Land husbandry Practices and provision of inputs (Glengoffe –St. Catherine Parish)	45	421,037
Backyard Farming			
Backyard Broiler Production	Assisting households to establish small broiler production units	60	240,579
Total			1,019,167

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Strengthening of farmer groups included in RSPFS	2	8,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional/international consultant)	8	32,000
Total		49,000

III. Other Items

Topics	Total costs (US\$)
Training of extension agents and leading farmers and travel	85,000
Training of technical staff from the Ministry (regional or national, DSA only)	85,000
Total	170,000

IV. Programme Management

Activity	Total costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	73,000
National coordinator and assistant	46,176
Extension staff and technical Ministry staff involved in project ^a	
Total	119,176

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 1,357,343

Country: St. Kitts and Nevis

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Improved irrigation & water management	Demonstration of improved practises and use of inputs including drip irrigation (cabbage – tomatoes – onion model, Nevis)	4	49,950
Livestock			
Small Ruminant Improvement	Demonstration of improved management methods for semi-intensive livestock raising, including water harnessing techniques, protection from dog attacks through fencing and supplementary feed (in St Kitts and in Nevis)	12	144,693
Fisheries and aquaculture			
Improved surface longline fishing techniques	Demonstration of surface longline fishing techniques to catch pelagic fish (in St Kitts and in Nevis)	1	75,000
Total			269,644

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Marketing (regional/international consultant)	6	24,000
Post-Harvest Handling (regional/international consultant)	6	24,000
Strengthening of farmer groups included in RSPFS	2	8,000
Constraint analysis (national consultant)	6	9,000
Unspecified (regional/international consultant)	8	32,000
Total		97,000

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	24,000
Training of technical staff from the Ministry (regional or national, DSA only)	24,000
Total	48,000

Country: St. Kitts and Nevis (Cont'd)

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	89,000
National coordinator and assistant	69,000
Extension staff and technical Ministry staff involved in project ^{\a}	
Total	158,000

^{\a} As well as office accomodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs : US\$ 572,644

Country: St. Lucia

I. Project Components

Components/Interventions	Interventions	No of demonstrations	Total Costs (US\$) ^{1 a}
Crop Optimization and Irrigation			
1. Improved management practises for vegetable crops	Demonstration of improved practises and use of inputs under rain-fed conditions (tomato model)	6	19,987
2. Improved management practises for root crops	Demonstration of improved practises and use of inputs under rain-fed conditions (dasheen)	6	14,587
	Demonstration of improved practises and use of inputs under rain-fed conditions (sweet potato)	6	14,485
	Demonstration of improved practises and use of inputs under rain-fed conditions (yam)	6	26,259
3. Improved management practises for vegetable crops	Demonstration of improved practises and use of inputs including drip irrigation (hot pepper – cucumber model)	5	45,600
Livestock			
Improving Livestock Production			
Goats	Demonstration of improved management methods for semi-intensive livestock raising, including supplementary feed	12	75,307
Sheep	Demonstration of improved management methods for semi-intensive livestock raising, including supplementary feed	12	79,573
Backyard Farming			
Introducing Backyard Food Prod.	Demonstration of the production of vegetables, tubers, poultry, rabbits and fruit trees in the backyard	30	14,907
Total			290,704

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Strengthening of farmer groups included in RSPFS	2	8,000
Constraint analysis (national consultant)	6	9,000
Unspecified (regional/international consultant)	8	32,000
Total		49,000

St. Lucia (Cont'd)

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	24,000
Training of technical staff from the Ministry (regional or national, DSA only)	24,000
Total	48,000

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	44,500
National coordinator and assistant	34,500
Extension staff and technical Ministry staff involved in project ^{\a}	
Total	79,000

^{\a} As well as office accomodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 466,704

Country: St. Vincent and Grenadines

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
Vegetable production under irrigation	Demonstration of a cabbage – tomato farm model	10	94,227
Introduction of cassava	Introducing cassava to steep arrowroot fields	20	24,542
Livestock			
Small scale broiler production	Broiler production	20	199,111
Processing/Post-harvest Handling			
4. Post-harvest handling of root crops	Post handling of Dasheen	10	N / A ^{1b}
5. Processing of fruits	Processing to juice concentrate	2	N / A ^{1b}
Total			317,880

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

^b Funds for the facilities can be requested from the RSPFS reserve fund.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Constraints analysis (national consultant)	6	9,000
Strengthening of farmer groups included in RSPFS	2	8,000
Fruit processing (regional / international consultant)	3	12,000
Post-harvest handling of root crops (regional / international consultant)	3	12,000
Unspecified (regional / international consultant)	8	32,000
Total		73,000

III. Other Items

Topics	Total Costs (US\$)
Nursery for planting material (Cassava)	5,000
Nursery for planting material (Dasheen)	5,000
Training of two MoA staff in fruit processing (oversees)	40,000
Training of two MoA staff in post-harvest management (oversees)	40,000
Training of extension agents and leading farmers and travel	26,000
Training of technical staff from the Ministry (regional or national, DSA only)	26,000
Studytour (3 farmers) to Jamaica broiler project	3,000
Total	145,000

Country: St. Vincent and Grenadines (Cont'd)

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	44,500
National coordinator and assistant	34,500
Extension staff and technical Ministry staff involved in project ^a	
Total	79,000

^a As well as office accomodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 614,880

Country: Suriname

I. Project Components

Components/Interventions	Activities	N° of demonstrations	Total Costs (US\$) ^{1a}
Crop Optimization and Irrigation			
1. Improved vegetable production	Demonstration of improved practices and use of inputs including drip irrigation (tomato - bean)	2	21,084
2. Improved rice production			
	Demonstration of improved management practices including the minimum tillage method	12	15,515
	Demonstration of improved management practices including the hydro tillage method	12	26,816
	Introduction and demonstration of Integrated Pest Management methods for rice production		175,000
3. Mechanization of peanut production	Search, selection and demonstration of appropriate equipment to mechanize the production of peanuts		180,000
Livestock			
Meat handling	Meat inspector consultant to draw up specifications for training (to be funded from the RSPFS reserve fund) ^{1b}		Costs are included in Table II.
Backyard Farming			
Improved and expanded apiculture	Demonstration of different kinds of beehives, apiculture practices in three districts	6	12,953
Total			431,369

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

^b Funds for the facilities can be requested from the RSPFS reserve fund.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Artificial Insemination of cows (regional / international consultant)	3	12,000
Meat handling (regional / international consultant)	4	16,000
Peanut mechanization (regional / international consultant)	12	48,000
Strengthening of farmer groups included in RSPFS	2	8,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional / international consultant)	8	32,000
Total		125,000

Country: Suriname (Cont'd)

III. Other Items

Topics	Total Costs (US\$)
Training of local apiculture specialist (training in the USA or elsewhere on apiculture)	13,000
Training of extension agents and leading farmers and travel	42,000
Training of technical staff from the Ministry (regional or national, DSA only)	42,000
Total	97,000

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	73,000
National coordinator and assistant	42,672
Extension staff and technical Ministry staff involved in project ^{\a}	
Total	115,672

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 769,041

Country: Trinidad and Tobago

I. Project Components

Components/Interventions	Activities	N ^o of demonstrations	Total Costs (US\$) ^{1a}
Crop optimization and irrigation			
1. Vegetable and root crop production under irrigation	Demonstration of a cabbage & egg-plant farm model	20	124,182
2. Demonstration for newly settled farmers	Demonstration of correct general agronomic practices (cassava)	16	43,828
3. Vegetable and fruit production under irrigation	Demonstration of improved general agronomic practices (pumpkin – hot pepper)	12	62,816
Livestock			
3. Semi-intensive small ruminant production	Sheep lot units of 10 animals	15	99,608
Total			330,434

^a Including 20% costs for transport of farmers, teaching materials and refreshments.

II. Consultancies (including constraints analysis)

Topics	Period (weeks)	Total Costs (US\$)
Strengthening of farmer groups included in RSPFS	2	8,000
Marketing intelligence (regional / international consultant)	3	12,000
Constraints analysis (national consultant)	6	9,000
Unspecified (regional / international consultant)	8	32,000
Total		61,000

III. Other Items

Topics	Total Costs (US\$)
Training of extension agents and leading farmers and travel	28,000
Training of technical staff from the Ministry (regional or national, DSA only)	28,000
Training of extension agents in correct use of pesticides	20,000
Total	76,000

IV. Programme Management

Activity	Total Costs (US\$)
Equipment such as a vehicle, computer(s), including its maintenance and operation	89,000
National coordinator and assistant	69,000
Extension staff and technical Ministry staff involved in project ^{1a}	
Total	158,000

^a As well as office accommodation, office supplies, electricity etc. In-kind contribution of the Government.

Total Project Costs: US\$ 625,434

SMALL HOLDER COMPONENT: Regional and non-allocated components

Programme management	Total Costs (US\$)
Equipment including O & M	57,200
Mid-term and final review (at national and regional levels)	400,000
Workshops at initiation, mid-term and closure (at national and regional levels)	116,000
Staff including allowances (coordinator, two assistants, two professional staff)	676,800
Total	1,250,000
Regional training	Total Costs (US\$)
Master training : agronomic & farming system support to small-holders	200,000
Master training : health value of crops	200,000
Master training : irrigation \ a	80,000
Master training : plant protection (including IPM) \ a	80,000
Master training : plant nutrition \ a	80,000
Master training : extension \ a	80,000
Master training : cropping patterns, farm budget analysis and market price developments \ a	80,000
Master training : policy analysis \ a	79,000
Master training : project formulation \ b	121,000
Study tours	229,000
Total	1,229,000
Studies and second phase preparation	Total Costs (US\$)
Studies on land tenure, credit and competitiveness (at national and regional levels)	130,000
Second phase project formulation	870,000
Total	1,000,000
Reserve fund	Total Costs (US\$)
Lump sum	2,000,000
Total	2,000,000

\ a : Based on a two –week course.

\ b : Based on a three-week course.

Total Project Costs : US\$ 5,479,000