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Editor's Note

Bertram C. Clarke
Executive Officer of the
Banana Industry Trust

The Banana Industry Trust commonly referred to as the "BIT" was established by Cabinet Conclusion No.691 of 1999. The Trust Deed outlining the objectives and operations of the Trust was executed on 29 June 1999 with the endorsement of the Permanent Secretary of the Ministry of Agriculture, Lands, Forestry & Fisheries and with signatures of the Trustees representing the following offices/organizations;

- EC Delegation in Barbados and the Eastern Caribbean
- Deputy Permanent Secretary – Ministry of Agriculture, Lands, Forestry & Fisheries
- Director of Agricultural Services – Ministry of Agriculture, Lands, Forestry & Fisheries
- General Manager – Saint Lucia Banana Corporation
- General Manager – Tropical Quality Fruit Co. Ltd.
- Executive Director – Saint Lucia Chamber of Commerce, Industry & Agriculture
- General Manager – National Commercial Bank of Saint Lucia
- National Authorizing Officer – European Commission

The Board of Trustees was subsequently increased to include a representative of the Ministry of Finance and the Head of the Banana Emergency Recovery Unit (BERU), who has since been replaced by the General Manager of the Banana Production Management Unit (BPMU).

The primary objective of the BIT was to encourage, assist and support the development of sound farm practice in the production of bananas and in particular to restore and maintain confidence in the banana industry. This also included the development of services to support the banana industry in Saint Lucia and the management of specific objectives funded by the European Commission under the Special Framework of Assistance (SFA) Programmes.

With funding from the European Commission, a revolving credit

facility was created in 1999, to provide financial support to banana farmers to increase production under the Windward Islands Banana Production Recovery Plan (PRP), however the objective of this programme was not achieved for various reasons. This facility was subsequently inherited by the BIT to manage. Additional funding of EC\$3 million was provided by the Government of Saint Lucia in 2001, for an inputs credit facility to qualified farmers. This facility remained very active and productive until 2008, when the banana sales arrangement was changed between the banana companies and the buying agent.

Although the initial focus of the Trust was primarily on the banana industry, the developments and uncertainties in the industry over the years made it necessary for the BIT to expand its objectives to include other areas of agriculture and the natural resources of Saint Lucia.

“The BIT over the years has successfully managed the resources from the EU to a total in excess of EC\$44 million making the BIT one of the single largest managers of EU funded programmes in Saint Lucia.”

The Trust was awarded two (2) direct Grant Contracts for the SFA 1999 and SFA 2000 Banana Commercialization Programmes to implement irrigation and drainage projects in the major banana growing areas on the island. A total of twelve (12) projects were successfully completed under these programmes and are featured elsewhere in this publication.

With the change by the European Commission in the awarding of contracts for SFA Programmes, the BIT had to participate in the Call For Proposals offers to manage the future SFA Programmes. The BIT was successful in its submission to manage the Environmental Management Fund (EMF) of the SFA 2003 Economic and Agricultural Diversification and Poverty Reduction Through Integrated Natural Resources Management. The Saint Lucia Agricultural Diversification Agency (SLADA), a unit in the Ministry of Agriculture, Lands, Forestry & Fisheries was a partner with the BIT in this programme. Six (6) major projects were implemented under this programme.

The BIT was also successful in its bid for the management of the SFA 2005 Programme, Banana Commercialisation and Agricultural Diversification. This application was submitted jointly with the Inter-American Institute for Cooperation on Agriculture (IICA). The focus of this programme has been on the increase in production in the cocoa, pineapples, cut-flower and cassava sectors through new technology, training and supply of inputs and equipment. The banana sector too has been addressed with support to control pest and diseases in the industry, the promotion of demonstration plots to show inter-

cropping with bananas and the supply of equipment to support Global Gap compliance.

The BIT over the years has successfully managed the resources from the EU to a total in excess of EC\$44 million, making the BIT one of the single largest managers of EU funded programmes in Saint Lucia. The BIT has observed the EU Procurement Guidelines in the awarding of the various contracts and programmes have been completed within the scheduled periods and budget allocations.

The purpose of this publication is to record the achievements of the BIT since its inception and to acknowledge the contributions of all the stakeholders who participated in the programmes. These include the consultants who provided the designs, technical support and supervision of the many projects, the contractors both local and foreign, the Irrigation Management Unit, the Ministry of Agriculture, Lands, Forestry & Fisheries and other Government Ministries, the Office of the National Authorising Officer, the many officials from the office of the EU Delegation in Barbados and the beneficiaries/target groups and end users.

Of course the guidance from the Board of Trustees has been instrumental in the success of the BIT and this must be acknowledged, especially that of the Chairman – Brian Louisy who has represented the Saint Lucia Chamber of Commerce and who has been on the Board from inception together with Peter Serieux of TQFC. The BIT has functioned over the years with two (2) full time staff members up to 2007 when a third person was

recruited. Temporary and part time staff have been recruited over the years to support the administration of the programmes, and thanks are extended to all for their support.

We hope that all contributors to and readers of this magazine will enjoy the contents and benefit from the history of the Banana Industry Trust which is chronicled in these pages.



Chairman's Address

Brian Louisy

Over the many years of the Banana Industry Trust's operations the Trustees have always sought to work assiduously in the interest of the banana farmers. This has not always been easy as perceptions of how best this could be done, at any point in time, has been clouded by the varying positions and perspectives of the different players in the industry.

From quelling inter-company rivalry, to balancing the strong and sometimes polarized views of donors, government, farmers, financial institutions and the other interests, the initial years of leading the Trust were challenging.

I am pleased to say that we successfully navigated those tumultuous waters, primarily due to mature, honest, consistent and noble contributions of Trustees and in no small measure as a result of the steady, trustworthy endeavour of our Executive Officer; Bertram Clarke.

We can boast that we have faithfully managed the resources and responsibilities placed in our care. We have been prudent in our

decisions, yet sensitive to the needs and plight of the farmers at all times. We have attempted to adapt to a changing economic and social environment to an era which saw fewer resources provided to the Trust to undertake its work, while at the same time the Banana Industry has contracted severely despite our best efforts.

We have been bold in exploiting our project management and execution capacity and capability, and have successfully executed a number of SFA Programmes not strictly in the Banana Sector. We have generally done extremely well, but as always in life, there are areas in which we would wish to have done better. Yet we have learnt from flaws even more.

This magazine attempts to document the efforts of the Trust in executing its mandate and the numbers of projects under our charge over the years. As Chairman, I am proud to be associated with the work of the Banana Industry Trust. I am grateful for the opportunity given to me to make a small contribution to this entity which has worked hard to serve the country and the banana farmers of St. Lucia. As you read this magazine I hope you will get a better appreciation of the role the Trust has played and the potential

role the Trust can play as an effective institution of agricultural and social development.

Thanks, once again to all trustees, past and present. Thanks, to all who have facilitated our work and may God continue to bless us all.

With warm regards,

Brian Louisy
Chairman of the Banana
Industry Trust





Minister's Remarks

Ezechiel Joseph

Remarks by Minister of Agriculture, Lands, Fisheries & Forestry (MALFF)

I wish first of all to take this opportunity to congratulate the Banana Industry Trust (BIT) on the issue of this publication. I believe it is timely and it will provide stakeholders and the public at large with an understanding of the many activities undertaken by the BIT.

Since its establishment in 1999 by Cabinet Conclusion# 691, BIT and MALFF have collaborated on a number of initiatives designed to improve the lives of our rural folk and to advance the agricultural and rural development agenda of the country.

Many of the programs undertaken by the Trust have impacted the agricultural sector in a very significant way. I am particularly pleased with and wish to note the Trust's contribution in the following areas:-

1. The input credit program to aid banana production and productivity
2. The irrigation and drainage project in the Mabouya, Cul de Sac and Roseau valleys, Canelles, Marquis and Troumassee

3. The revitalization of the Delcer canal and irrigation system enabling hundreds of small farmers to engage in production thus assuring food security among those families
4. The development of a mechanism aimed at finding a solution to the perennial problem to pests and disease control in the banana industry
5. The Anse La Raye water system which makes potable water available to hundreds of residents in that community
6. Through the various interventions under the Special Framework of Assistance (SFA) 2005 program we have seen an upsurge in the production of pineapple, cocoa, cut-flower and cassava. Many banana producers who trade under the Fair Trade label have also been impacted under that program
7. In the area of clean energy, BIT's pioneering work through the photovoltaic project points us to the way of the future
8. Finally I wish to make special mention of the bioresearch program which has enabled my Ministry to catalogue the wide variety of flora and fauna in our forests.

The implementation rate and the level of efficiency displayed in the execution of these programs is testimony to the dedication and commitment of the management and staff of BIT.

On behalf of the Ministry of Agriculture, Lands, Fisheries and Forestry I wish to congratulate the management and staff of the BIT for a job well done.

EZECHIEL JOSEPH

MINISTER



Agriculture For a New Age

The Agricultural Industry, reflecting its volatility, demonstrates vividly that it is not immune to current global and domestic change patterns. A modified dynamic industry with a new perspective, marked by innovative thinking and visionary holistic solutions that extend beyond the traditional approach is therefore needed. To facilitate this effective transformation, emphasis has to be appropriately placed on the advancement of technology and innovation. Successfully involved in this initiative, are key stakeholders that assist the agricultural sector and are geared with the objective of supporting the implementation of various new farming techniques. Outlined, four (4) of these stakeholders are: The Ministry of Agriculture, Lands, Forestry and Fisheries; The Banana Industry Trust (BIT) – has the objective of the betterment of the Banana Industry; and to encourage, assist and support the development of sound farm practices in the production of bananas; the European

Union – over the years providing financial support through various funding instruments (STABEX, SFA); and Inter-American Institute for Cooperation on Agriculture (IICA) – specializes in agriculture and the well being of the rural population. These institutions have contributed to and pursue the aim of effectively and efficiently facilitating the above described transformation amidst the evolving challenges brought about by change through funding for education, diversification and various agricultural initiatives. Other friendly governments and agencies, also partake prudently in this initiative.

BIT has supported the transformation through geographical, infrastructural, social (education: evaluation, recommendation, training, conferences) and economic (aiding in the allocation of available resources; provision of equipment etc) approaches. With respect to its geographical



contribution, BIT has constructed major irrigation facilities for farmers in six (6) locations island-wide; sought to rehabilitate and expand several acres of cocoa fields; utilize demonstration plots to illustrate how bananas can be cultivated on a commercial level utilizing proper agronomic principles and practices (including intercropping); establish an organic demonstration plot for commercial pineapple production; and establish plots for commercial pineapple production that reflect proper agronomic principles of cultivation.

Not limited to geographical influence, BIT has also successfully launched some infrastructural objectives aimed at enhancing the agricultural sector. These include the objective of increasing the capacity of the Nursery at Barthe in Saint Lucia to produce cocoa planting material; the construction of a micro-fermentary to aid in the processing of cocoa; and the establishment of a Germplasm Bank.

Another remarkable technological initiative has been the use of drip irrigation for all the SFA funded agricultural projects. Drip irrigation is an irrigation method that results in water and fertilizer conservation (i.e. when fertilizer is utilized via the dripping system) by allowing the water to drip slowly to the roots of plants either onto the soil surface or directly onto the root zone through a network of valves, pipes, tubing and emitters. This system satisfies the high water demands in an arid region. Additional benefits extend to a reduction in the cost of production; an increase in the level of production; effective growth of plants; and a reduction in the spread of diseases by permitting the foliage to remain dry.

BIT's social influence extends to increasing the intellectual capacity of farmers and other persons intricately involved in the agricultural industry. This is undertaken through the following for example: the determination of the status of the cocoa, cassava,

pineapple and cut-flower industries to provide recommendations for their improvement; enhancement of the ability of technicians and farmers to identify the various strains of cocoa (clones); examination and devise of methods to properly dispose of waste collected on farms; examination of methods to control the Yellow and Black Sigatoka (Leafspot) diseases of banana; scheduling and forecasting the design of a method whereby planting and harvesting of bananas can be in sync with market demand; the provision of a scientific method to determine the optimum time to harvest pineapples; the identification of the various crops which are being demanded in the domestic and regional markets; the facilitation of a workshop to enhance the leadership skills of young professionals in the agricultural sector etc.

The effect of some of the economic barriers to successful technological change have been thwarted through the supply of essential equipment by

BIT: that is, the supply of fertilizers, pesticides and fungicides relevant to the cocoa production; supply of cocoa processing equipment; supply of inputs to support production of cocoa planting material and expansion of cut-flower production in Saint Lucia; supply and installation of irrigation equipment aid the banana and pineapple industries; equipment for the control of Black and Yellow Sigatoka Disease; equipment for the storage of on-farm agro chemicals; equipment to enhance productivity of the cassava industry etc.

These initiatives undertaken by these institutions have successfully assisted in the strengthening of the agricultural sector weakened by the depletion of market protection for bananas in the United Kingdom market and other factors. And as IICA puts it, "...as European Union (EU) protection is progressively reduced, a more efficient approach to the production, management and

marketing of bananas will be required to ensure that the Caribbean banana industry remains competitive on the international market..."¹ Other threats such as low productivity and quality; high costs of production; pests and diseases, and lack of diversification are also addressed.

Agricultural diversification, a notion embraced by the producers and consumers, allows growth potential in the agricultural industry previously dominated by the production of one main crop – banana. With respect to the diversification process, markets for cut-flower, cocoa, pineapple, etc, are also being examined, as described previously, to increase overall crop production and have a sustained market throughout the various seasons.

An additional tool in increasing the overall crop production is the onset of a number of niche market opportunities which provide premium prices to farmers. The introduction of

Global Good Agricultural Practices (GAP) and Fair Trade has spurred renewed interest among farmers and their marketing organizations such as the WINFRESH and the Windward Islands Farmers' Association (WINFA) who sees this as an opportunity to increase benefits derived from the industry. Almost 95% of the bananas produced in Saint Lucia – by 1,500 farmers – are sold under the Fair Trade Label. Fair Trade possesses significant growth potential for bananas and is also being expanded to other crops using the same distribution channels as bananas. The consolidation and expansion of Fair Trade products provide an opportunity to expand economic alternatives for farmers and agro processors while developing an environmentally friendly production system.

With Global GAP and Fair Trade assisting with increasing the supply in the agricultural industry, the characteristics of the demand for



¹ "Towards a Competitive Banana Industry in the Caribbean". Little Vincent. http://webiica.iica.ac.cr/comuniica/n_14/english/art.asp?art=5

these agricultural products have to be modified to eliminate any excess of supply and an unbalanced industry. The demand for the agricultural products in the domestic market has risen rapidly with the growth of the hotel sector and the increased purchases of agricultural produce by local supermarkets and hotels. The Fair Trade marketing strategy has not been exploited in the domestic market, specifically within the hotel sector. Regional market opportunities have not been fully exploited due to structural problems related to technical issues and transportation constraints. These difficulties are now being examined at the CARICOM level with the objective of providing solutions which would encourage an increase in product sales. At the national level, there is

weak cohesion amongst producers and the market. There is little information to guide producers on what to produce and the market is unaware of what is available for sale.

In conclusion, the agricultural industry embraces the chameleon like characteristics presented to it, choosing to be clothed in positive thinking and action. This positive thinking has been spurred by the adoption of a holistic view that eliminates already defined borders and crippling dogmas, i.e. consideration of agriculture for the new age. Effective use of appropriate technology and innovation allows for successful transformation through geographical, infrastructural, social and economic approaches. Included in this technological evolution is the

use of the most efficient method for irrigation, the drip irrigation system. As key stakeholders such as those previously mentioned employ mutually beneficial practices, emphasis is placed not only on the needs of the current generation, but the future generations. In other words, sustainable agriculture is sought after, and achieved. Agriculture for the new age is not limited by the myopic view point that all barriers and obstacles will be eliminated but aims to revitalize the agricultural industry as effectively as possible.



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Company Overview

The Banana Industry Trust

The Banana Industry Trust (BIT) was established by Cabinet Conclusion No. 691 of June 10, 1999. The establishment of the Trust was endorsed by the Delegation of the European Union Commission in Barbados and the Eastern Caribbean. Since its creation, the Trust has operated without direct support from the Government of Saint Lucia but with funding support from EU Programmes.

Objectives of the Banana Industry Trust:

1. To encourage, assist and support the development of sound farm practices in the production of bananas
2. To restore and maintain confidence in the Banana Industry
3. To deliver complementary technical information and training services in the field on the latest innovations, organization and Management Systems. The delivery of these specific services by the Trust can only be accomplished on the basis of an established Memorandum of Understanding with the beneficiary
4. To determine which requests for funding support could reasonably qualify for consideration, keeping in mind the viability of the project
5. To liaise with institutions having aims and objectives similar to those of the Trust
6. To ensure that all information derived from the work of the Trust is made available to interested parties in the private sector and farming communities
7. To promote better understanding of the nature and significance of all the activities of the Trust amongst the private sector and farming communities and to encourage the participation of the Banking Sector to sustain the funding of the operations
8. To engage in activities contributing towards all or any of the objects of the Deed and to secure financial assistance for these purposes.

Initially, all the objectives of the Trust all were related to the betterment of the Banana Industry. Over the years, the focus shifted slightly as it become prudent that the objectives of the Trust be expanded to include

Agriculture as a whole. In doing so, other areas in the sector can also be supported by the Trust.

Other BIT activities included the following:-

- 1) The administration of the PRP Loans to the Banana Companies
- 2) The management of the funds provided by the Government of Saint Lucia for the Inputs Credit Scheme for farmers
- 3) The administration of the funds and projects under the various EU Grant Contracts of SFA Programmes
- 4) Provide support to the Banana Industry -more recently the Agricultural Sector in general- as needed, within the available resources of the Trust.





The office of the Trust is located in the American Drywall Building, Vide Bouteille, Castries. The Trust is administered by a Board of ten (10) Trustees made up of representatives from each of the banana companies, two (2) from the Ministry of Agriculture, Forestry & Fisheries, one (1) from the Ministry of Finance, a representative from the private sector, a representative from the Bank of

Saint Lucia, a representative from Banana Management Production Unit (BPMU) and a representative of the National Authorizing Officer (NAO). The EU also has a position on the Board. The Executive Director of the Saint Lucia Chamber of Commerce, Brian Louisy, serves as Chairman of the Board with Bertram C. Clarke as Manager and Executive Officer. He is supported by Mrs. Donasha Alcindor-

Wells, and Miss. Delia R. Toussaint who are the Administrative Assistant and Secretary respectively.

The Trust has successfully managed the EC\$2.95 million from the Input Credit Programme funded by the Government of Saint Lucia - started in 2001 - that aimed to provide credit finance to farmers for critical inputs. The funds have been recycled to the farmers on three occasions.

Other interventions by the Trust included the installations of "Off-Farm" irrigation infrastructure in the Mabouya Valley – 84 acres - and Troumassee – 57 acres - amounting to a total of EC\$1.4 million. These actions proved quite timely as both of these areas were saved from the ravages of the severe drought in 2001.

The Trust provided the resources for the purchase of the materials for aerial spraying to combat yellow sigatoka disease. The Trust also provided an advance of EC\$0.5 million to one of the banana companies to support payment to farmers whose bananas were damaged by high winds in 2003.

Initial Signatories to the BIT Trust Deed

PERMANENT SECRETARY
MINISTRY OF AGRICULTURE, FORESTRY, FISHERIES AND THE ENVIRONMENT

EC DELEGATION

DEPUTY PERMANENT SECRETARY
MINISTRY OF AGRICULTURE, FORESTRY, FISHERIES AND THE ENVIRONMENT

DIRECTOR OF AGRICULTURAL SERVICES
MINISTRY OF AGRICULTURE, FORESTRY, FISHERIES AND THE ENVIRONMENT

GENERAL MANAGER
SAINT LUCIA BANANA CORPORATION

GENERAL MANAGER
TROPICAL QUALITY FRUIT COMPANY

GENERAL MANAGER
NATIONAL COMMERCIAL BANK

EXECUTIVE DIRECTOR
SAINT LUCIA CHAMBER OF COMMERCE, INDUSTRY AND AGRICULTURE

NATIONAL AUTHORISING OFFICER
EUROPEAN COMMISSION

EU Funding Assistance

Hilary Regis
Programme Coordinator
in the office of National
Authorizing Officer



The Banana Industry in Saint Lucia has undergone significant developments as a result of changes to the European Marketing Regime, the privatization of the Saint Lucia Banana Growers Association and implementation of the Banana Production Recovery Plan.

In response to the rapid changes taking place in the banana industry and the need to formulate appropriate measures, the OECS Secretariat made a request to members of the donor community for assistance to revitalize the ailing banana industry. The assistance sought was for a diagnosis study (jointly funded by the EC and BDDC) of the industry.

From this study, the Council Regulation (EC) No 856/1999 established a Special Framework of Assistance (SFA) for traditional ACP suppliers of bananas which was adopted on 22 April 1999. The Regulation provides for financial and technical assistance to twelve (12) ACP countries, taking account of changes in the marketing arrangements for bananas in Europe following the amendments to the import regime introduced on 1st January 1999.

The overall objective of the SFA Programme of assistance is an improvement of competitiveness of traditional ACP banana production. The Council Regulation aims to achieve this goal by funding projects designed, inter alia, to increase banana productivity. Funding is

also being made available for diversification where no sustainable increase in competition in the banana sector can be foreseen.

Furthermore, the overall objective of the SFA programmes of assistance is consistent with the EU/EC co-operation objectives, in that it fosters the sustainable economic and social development of developing countries, the smooth and gradual integration of developing countries into the world economy, and the campaign against poverty in developing countries.

Increasing banana competitiveness or diversification

The Council Regulation permits beneficiary countries to use the finance available for technical and financial assistance to improve competitiveness in the banana sector or to support diversification where improvement in the competitiveness of the banana sector is not sustainable. In practice, most beneficiary countries have opted for banana competitiveness in their strategies, even against the increasing uncertainty of the future EU banana regime.

Only the Windward Islands have made specific allocations for diversification (both agricultural and economic) and, in the case of Saint Lucia, for social recovery for those falling out of the industry. It should be noted that the Windward Islands have

received considerable amounts of STABEX funds which have been used in the past for banana productivity improvements, and more recently, for diversification and social recovery purposes.

The European Development Fund Programme Monitoring and Co-ordination Unit (EDF-PMCU) is a European Union (EU) funded initiative within the Ministry of Finance, Economic Affairs and National Development. The National Authorizing Officer (NAO) has operational responsibility for the PMCU. The main function of the EDF-PMCU is the administration of European Union funding under various funding arrangements. STABEX, Special Framework Assistance (SFA), and the European Development Fund's (EDF) funding have been made available to the Government of Saint Lucia and the unit is dedicated to the efficient, optimal and timely use of these funds.

The support provided by the EDF-PMCU to the NAO impacts on the Government of Saint Lucia's ability to achieve performance targets of the various EU financing instruments. These targets are achieved by supporting the process of planning, implementation, co-ordination and disbursement of EU funding.

Overall Objective

The overall objective of the unit is to ensure the efficient and optimal utilization of EU development assistance in support of national development goals and objectives.

Purpose

The purpose is to foster more efficient and effective planning, utilization, monitoring and implementation of EU development assistance in Saint Lucia.

Key Results Achieved by EDF-PMCU

1. Better coordinated and more effectively managed EU Development Cooperation Programmes in Saint Lucia
2. Successfully implemented EU funded projects according to timeframes and budgets
3. Successful application to successive branches of new funding under the Cotonou Agreement
4. Greater leverage in obtaining additional and new EU resources
5. Effective and efficient accounting for all EU projects and financing instruments
6. Greater transparency and visibility regarding the utilization of EU funding.

Structure

The EDF PMCU is staffed by:

1. A Programme Coordinator with overall responsibility for the unit



2. Two (2) Programme Analysts who coordinate with implementing agencies and the EU Delegation regarding interventions in various sectors
3. One (1) Administrative Secretary
4. One (1) Project Accountant
5. One (1) Assistant Accountant
6. One (1) Receptionist
7. One (1) Office Assistant/Driver.

The main sources of funding for EU Development Assistance for Saint Lucia are the European Development Fund (EDF) and the Special Framework of Assistance (SFA). Some areas earmarked for assistance include:

Health

- The construction of a new National Hospital
- The development of a National Health Strategic Plan

Agriculture

- Demonstration plots for bananas and pineapples
- Cocoa Germplasm Bank
- Rehabilitation of Farm Access Roads
- Rural Constabulary Pilot Programme

Social

- Support to the National Skills Development Centre (NSDC)
- Support to the Saint Lucia Social Development Fund (SSDF)
- Human Resource Development Centers – Grand Rivere, Belle Vue and Monchy
- Playing Fields – Corinth, Grand Rivere, La Guerre and Pierrot
- Boys Training Centers along with the installation of Computer Labs

Economic Diversification

- RESTORE - Restoring Economic Strength to Rural Enterprises - Programme, implemented by the

Office of Private Sector Relations (OPSR)

The expected results from the activities carried out over the period covered by this programme estimate are:

1. Rural Credit Institutions (i.e. Credit Unions and Cooperative Societies) strengthened in key areas such as:
 - a) Capacity building
 - b) Technology upgrading
 - c) Information management and research
 - d) Networking and alliance building (nationally and internationally)
 - e) Institutional development
2. Rural SMEs developed (established and strengthened) through the provision of credit and technical assistance in key economic areas, particular in areas where they have a distinct competitive advantage
3. Technical and /or professional services provided to rural SMEs to assist them in accessing credit from their local financing institutions.
4. Increased inflow of credit to rural SMEs by Rural Credit Institutions
5. Increase inflow of credit to specially targeted socially vulnerable groups such as youth entrepreneurs and women
6. Introduction of group lending approaches and other applicable modern approaches to micro financing to increase credit inflow to socially vulnerable groups of entrepreneurs
7. Improved capability of the rural credit institutions to better access and manage lending to the specially targeted socially vulnerable
8. Complimentary credit support schemes introduced (such as skills training and mentorship) to help reduce lending risks of rural enterprises.

- Banana Commercialization Programmes - SFA 1999 and SFA 2000 managed by the Banana Industry Trust of Saint Lucia (BIT):
 - Twelve (12) irrigation and drainage projects were implemented to increase banana production
- Environmental Management Fund (EMF) of the SFA 2003 Economic and Agricultural Diversification and Poverty Reduction through Integrated and Natural Resource Management managed by the BIT:
 - Six (6) natural resource projects implemented
- Banana Commercialization and Agricultural Diversification Programme – SFA 2005 managed by the BIT and Inter-American Institute for Cooperation on Agriculture:
 - To increase the productivity of farm enterprises and support increase agricultural production and marketing, with the focus

on non banana commodities. Over forty (40) projects in the banana, cocoa, pineapple, cut flower and cassava sectors were implemented, including farmer training in the relative sectors

- Economic Diversification and Private Sector Development in Saint Lucia, implemented by SEQUA GmbH - Germany:
 - The competitiveness and income generating potential of at least thirty (30) private sector agencies improved through investment in human capacity, effective management systems, development and delivery of business support services, productivity enhancement and effective product/service development and marketing and related HRD
- Economic Diversification Competitiveness through Linkages, implemented by the Chamber of Commerce:

- Competitiveness and linkages in the private sector enhanced, exports increased and SMEs in rural areas, in particular, strengthened. This Programme includes, inter alia:
 - Research and Studies
 - Facilitation of investment in cross sectoral initiatives
 - Facilitation of investment in Small Business Development

Specifically:

- To invest in niche market opportunities between the private sector and community investment involving cross-sectoral linkages between tourism, agriculture, culture and local craft
- To implement a programme to enhance the international competitiveness of the ICT sector



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- To provide direct support to households, community organizations and small businesses in establishing small business ventures with a focus on diversification away from primary agriculture to manufacturing, tourism and service trades.

Natural Resources Management

Under the SFA 2003 Natural Resources Management Programme, the BIT implemented the following project components:

- the Anse La Raye Water Project
- the Choiseul Economic Revitalization Project
- the Bio Physical Inventory Project
- the Forest Demarcation Project
- the Coastal Zone Mapping Project
- the Photovoltaic Demonstration Project

Another project under this programme was the Fond St. Jacques Water Project.

Tourism

The purpose of the programme is to provide the foundation for the sustainable economic development of selected communities in such a way as to ensure the linkages between agriculture and tourism are met and the economic opportunities derived are sustained. The expected deliverables to be realized from the programme are:

- New and distinctive agro/eco-tourism products developed
- Training programme in agro/eco-tourism developed and executed
- Public awareness programmes introduced
- Tourism facilities upgraded.

Education

The main purpose of the programme is to improve the learning and



teaching process in rural schools and provide the necessary skills to increase competitiveness in the job market through the employment of Information and Communications Technologies (ICT) appropriately in learning, employment and everyday life. The expected deliverables to be realized from the programme are:

- Education policy adopted, curriculum reformed to integrate ICT and capacity of the Ministry of Education strengthened
- Cadre of educators with requisite skills and competencies to use and promote ICT as a tool in the enhancement of the teaching and learning process created
- A more innovative and pupil-centered teaching and learning environment for school education created and
- Linkages between schools and the surrounding community developed.

From the perspective of the Government of Saint Lucia, the SFA Programme provides great assistance to support the banana industry, specifically with the diversification of the economy and making the banana sector more competitive.

One of the most successful agencies implementing EU funded programme/projects in Saint Lucia has been the BIT. The Trust as a single agency has been involved in the implementation of more projects/programmes in Saint Lucia than any other agency in the history of Saint Lucia-EU Development Assistance. Under SFA 1999 and 2000, programmes directly related to the Banana Industry, under the SFA 2003 operational year, programmes related to natural resource management and under SFA 2005, programmes related to general agricultural diversification and banana commercialization.

The BIT has demonstrated a high level of economy, efficiency and effectiveness in terms of project management and has several success stories to tell for it and most of the projects can be seen throughout the island.

Drip Irrigation

Drip Irrigation was favoured for all the SFA funded projects. Drip irrigation is an irrigation method which saves water and fertilizer by allowing water to drip slowly to the roots of plants, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing and emitters. In an effort to find an alternative method of irrigating crops with high water demands in an arid region, drip irrigation was considered for its many benefits:

- When water resources are scarce and costly, a much larger highly-targeted zone can be watered rather than covering the whole field with water
- Because the watered zone is shadowed by the plant itself, evaporation is minimal and water consumption is lowered
- The required moisture level in the root zone is maintained and the plant gets its water from the soil without using much energy. This is an important advantage that facilitates effective growth
- Fertilizers can be used via the dripping system (where and when they are required), reducing the volume needed
- The land between the plant rows remain dry and unwanted plant growth is prevented
- The surface of the soil is dry which enables processing, medication, harvest and transfer

work to be executed more easily and with minimal effort

- Foliage remains dry, thus reducing the risk of disease. Moisture is spread through the root zone, contributing to properly aired soil
- The output of each nozzle can be controlled with great efficiency, high water application efficiency and lower labor cost due to the automated system.

Most large drip irrigation systems employ some type of filter to prevent clogging of the small emitter flow path by small waterborne particles. New technologies are now being offered that minimize clogging.

Drip and subsurface drip irrigation is used almost exclusively when using recycled municipal waste water. Regulations typically do not permit spraying water that has not been fully treated to potable water standards.

Because of the way the water is

applied in a drip system, traditional surface applications of timed-release fertilizer are sometimes ineffective. To combat this problem, drip systems often mix liquid fertilizer with the irrigation water. The chemicals may be added constantly whenever the system is irrigating or at intervals. Fertilizer savings of up to 95% are being reported because of this technique.

Because of the way it was designed, installed and managed, and since water can be more precisely applied to the plant's roots, the system has helped achieve water conservation by reducing evaporation and deep drainage when compared to other types of irrigation such as flood or overhead sprinklers. In addition, the drip system can eliminate many diseases that are spread through water contact with the foliage. Additionally, in regions where water supplies are severely limited, there may be no actual water savings, but rather simply an increase in production while using the same amount of water as before.





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Saint Lucia: Safeguarding a Caribbean Paradise

The island of Saint Lucia is blessed with a myriad of habitats ranging from tropical rain forests in the mountainous interior, to steep cliffs and areas of mangrove along the coast. Rich in biodiversity and natural beauty, it is a delicate balancing act managing new development and protecting natural resources.

Saint Lucia's tourism-based economic growth over recent decades has fuelled a steady rise in coastal development, exerting new pressures on the fragile coastal eco-systems. Reefs along the center of the West coast lost around 47% of their coral cover in just six (6) years. Saint Lucia's Ministry of Physical Development, supported by the Banana Industry Trust (BIT), embarked upon a series of mapping

projects to create a foundation for a new land management policy. This seeks to protect the natural resources that are the lifeblood of the island.

"We realized that development along the coast impacts more than just the beaches," said Suzanna Aurelien, Senior Cartographer with the Saint Lucia Ministry of Physical Development and Environment. "So we needed a national GIS to help us with our planning, development and management of the environment."

The Ministry and BIT envisioned a Geographic Information System (GIS) capable of addressing issues unique to island nations. Rather than stop at the water's edge, the system would extend from the highest interior

mountain peak, across the white sandy beaches and out into the ocean to a depth of 20 meters. Saint Lucia is on its way to developing a GIS that will enable it to simultaneously plan resort construction and agricultural programmes while monitoring the health of its beaches, seagrasses and coral reefs.

Mapping the Island

Saint Lucia's first priority was to define the character and health of its coastlines. To accomplish this task, Fugro was contracted to execute a comprehensive aerial imagery benthic mapping programme. The project required aerial photography to generate topographic and thematic maps of the island. Maps of the islands





coastal habitats, for example, were developed using semi-automated techniques involving feature extraction software and classification and regression tree (CART) analysis, as well as ground surveying.

The mapping campaign began with the acquisition of high-resolution aerial photography using a state-of-the-art digital imaging sensor. Collected at a 75 centimeter ground sample distance (GSD), this imagery captured the island's coastal features such as mangroves and beaches, as well as offshore features, such as coral reefs and sea-grass beds, in waters up to 20 meters deep. Once the imagery was processed, natural features were classified using a semi-automated technique developed by Fugro. By incorporating tone/color, texture, shape and context into the feature analysis, the technique improves photo interpretation standards by streamlining map production and providing greater consistency, accuracy and detail. To validate the resulting interpretations, Fugro completed a field verification

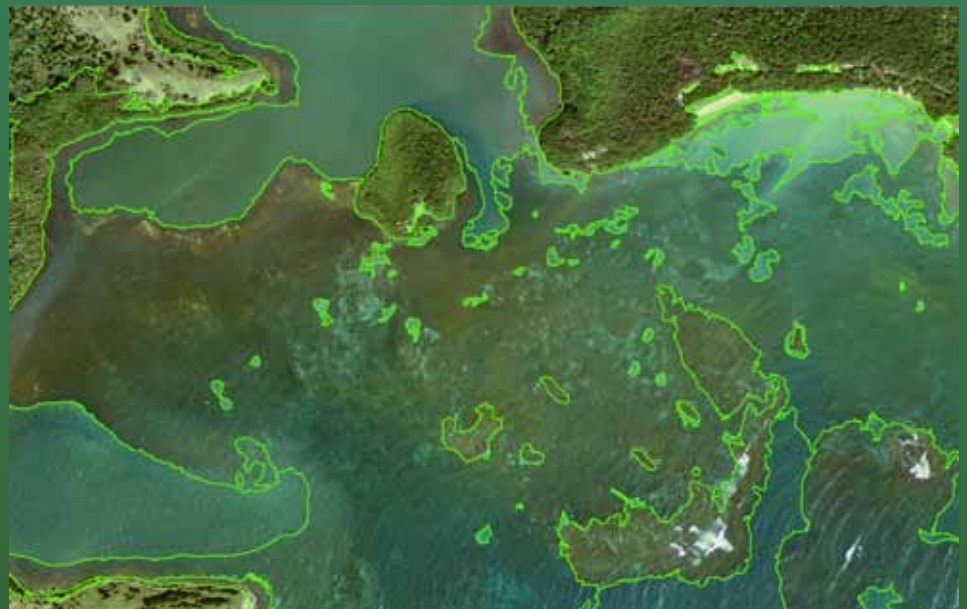


exercise along the coast, both on land and in coastal waters, and also analyzed high resolution video of the underwater habitat.

Fugro also used the new multispectral data to produce detailed color imagery for the interior of the island, and created a digital terrain model, contour maps, and a comprehensive set of planimetric data. The final land base and coastal mapping data, completed in March 2010, have combined to form the foundation of a national GIS.

Mapping the Mountainous Center

With the support of the BIT, the resulting GIS database now allows for the monitoring and management of island development, including urban planning, infrastructure, natural resource monitoring and emergency response activities. The information comes at a crucial time and not a moment too soon. Early examination of the imagery indicates there has already been damage inflicted upon the reefs and significant beach erosion near existing resorts. Equipped with this knowledge, organizations like the Ministry of Agriculture, Lands, Forestry and Fisheries and BIT can now fulfill their undertaking to restore the pristine shorelines of this island paradise.



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From Washing Away Your Livelihood



It takes thousands of years for soil to be produced and minutes for it to be washed away. Soil erosion threatens our food supply, pollutes our waterways and is a hazard to our families and communities.

Here's what you can do:

Don't

- ✗ Cultivate on steep slopes and forest lands
- ✗ Engage in unplanned developments
- ✗ Build houses without proper drainage systems
- ✗ Mine hillsides without proper permits

Do

- ✓ Build a retaining wall if your property is on a slope
- ✓ Plant trees or shrubs along river banks
- ✓ Dispose of water runoffs in sustainable waterways

Conserve **O**ur Natural Resources

Protect our livelihood.



SFA 1999 Project Overview

Early in life it is taught that plants are living things, and all living things require water to survive and grow. In agriculture, land and water are the two most important controllable elements. In an effort to expand the banana industry on the island, a system was created to manage the water on farms so as to create and maintain a level of stability of crop production. The BIT was given the mandate to implement the Banana Commercialization Programme with funding from the EU Special Framework of Assistance (SFA) 1999 Grant Contracts. The funding totaled EC\$10.2 million, with the focus on the major banana growing areas, and included the following:

1. The installation of 440 acres "Off-Farm" irrigation infrastructure in Cul-de-Sac
2. The installation of 180 acres "Off-Farm" irrigation infrastructure in Roseau
3. The installation of 57 acres "Off-Farm" irrigation infrastructure in Canelles
4. The construction of a 54,000 m³ Reservoir in Cul de Sac
5. The drainage of 200 acres of banana lands in the Mabouya Valley

The projects were all put to tender both locally and internationally with the three (3) irrigation contracts being awarded to the French Company, FARMEX Technologies SARL, and the Reservoir construction and Drainage projects being awarded to local contractors.

The programmes significantly impacted the production of crops and livelihoods of banana producers' islandwide especially because of:

1. The construction of a drip irrigation system to artificially apply water to land (utilized primarily in the dry season)
2. The artificial removal of surface and sub-surface water from an area in order to manage the water
3. The construction of a dam for water storage with the building of the reservoir.

The works on the various projects commenced in earnest in April 2002 and were all successfully completed by November 2003, within the budgets allocated under the programme. A total of EC\$8.8 million of the SFA 1999 budget was spent on capital works.

The Trust (BIT), with the support of the Ministry of Agriculture, Lands, Fisheries and Forestry (MALFF) and the NAOs' Office, was able to obtain approval from the European Union to use savings under the SFA 1999 projects to finance the operations and management of the irrigation systems. This approval would be applied to:

1. The systems commissioned by the Irrigation Management Unit (IMU) extending until May 2005
2. Additional drainage works in the Mabouya Valley and
3. The Cul de Sac Reservoir facility to enhance the site and provide additional security.

Additional works under the programme included improvement of the facilities at the Cul de Sac Reservoir site and security at the Intake Dam, the fencing of the facilities at Canelles and the reinstatement of the weir and irrigation infrastructure in the Mabouya Development area.

Through the intervention of the Banana Emergency Recovery Unit (BERU), 500 acres of "On-Farm" irrigation equipment was acquired to enable the farmers in the irrigated areas of Cul de Sac, Roseau and Canelles to ensure a proper distribution of water to the farms.

The irrigation systems serviced seventy (70) farms in Cul de Sac, twenty-eight (28) farms in Roseau and thirteen (13) farms in Canelles. The Drainage works in the Mabouya Valley entailed the widening and deepening of drains, the sloping and building of embanking and the replacement of box and pipe culverts on three (3) existing drains: Dennery Main, Grande Ravine and Derrière Morne.

An allocation of EC\$1.6 million was made under the Programme to facilitate the Operations and Management of the irrigation system by the Irrigation Management Unit of the Ministry of Agriculture. The Programme was intended to be for one (1) year (May 2004-5) but this was extended to September 2006. It was expected that by that time the farmers in the three irrigated areas would be in a position to take over the operations and management of



the systems. However, this has not materialized and the IMU continues to provide the service.

The above SFA Programme officially

expired at the end of October 2006 and the closure report was submitted to the NAO/EU Delegation as of 31 December 2006.

The disbursements on the projects and other areas up to 31 January 2007 were as follows:-

Project

	Budget (EC)	Contracted Amounts (EC)	Allocated/ Disbursements to Date (EC)
1. Cul de Sac – Irrigation -----	3,375,000.00	2,864,000.00	1,747,067.16
2. Cul de Sac – Reservoir -----	3,850,000.00	3,850,000.00	3,830,036.24
3. Roseau – Irrigation -----	942,000.00	939,000.00	586,552.61
4. Canelles – Irrigation -----	560,000.00	543,000.00	439,842.78
5. Mabouya – Drainage -----	950,000.00	950,000.00	778,758.89
5A. IMU Advances -----	-	-	1,419,290.61
SUB-TOTAL	\$9,677,000.00	\$9,146,000.00	\$8,801,548.29
6. Administration BIT – Staff Fees	\$168,000.00	\$168,000.00	\$158,306.34
7. Administration BIT – Office Expenses	48,500.00	48,500.00	47,824.84*
8. Administration BIT – Capital Items	12,000.00	12,000.00	11,848.65
9. I M U – Capital Items/Administration	100,000.00	100,000.00	98,248.87
10. I M U – Staff Fees	144,000.00	144,000.00	125,996.95
11. Fees Technical Assistance Team	0.00	506,052.00	495,022.86
12. Contingencies	9,925.00	9,925.00	8,792.11
TOTAL	\$10,159,425.00	\$10,134,477.00	\$9,747,588.91



SFA 1999 - Cul de Sac Irrigation Infrastructure & Reservoir construction

Two (2) projects, the Cul de Sac Valley Irrigation and Reservoir Projects, were implemented as part of the Special Framework of Assistance (SFA) 1999 Programme managed by the Banana Industry Trust (BIT). The idea of combining two (2) projects with two phases was not unique for Cul de Sac, as the same thing was done in the Roseau Valley. The irrigation system implemented distributed directly from the water source created with the implementation of the reservoir project.

Cul de Sac Valley Irrigation Project

As per the other irrigation projects put into use under this programme the drip system was chosen for its many positive benefits to the farms, the environment and the economy. Again, the French, FARMEX Technologies SARL, were chosen as the contractors on the project for the four hundred and twenty (420) acres supporting seventy (70) farms with a network of 10km of pipes of Off-Farm irrigation infrastructure. The project remained within the allotted budget of EC\$1.7million and began in 2002, and was completed in November 2003.

The works were intensive and involved excavation and back filling of trenches for the running of underground water mains and sub-mains, the installation

of control heads and the construction of 4ft x 8ft housing structures on each farm in the project area to secure the control heads for the water distribution.

The major works commenced on the 19th May 2002. However, soon after this, the project was temporarily halted due to unforeseen hindrances. A meeting was arranged with some farmers in Cul de Sac as the farmers were seeking compensation for anticipated damages to their bananas during the laying of the pipes. Present at the meeting were ten (10) farmers or their representatives, three (3) members of the IMU, two (2) technical advisors, a representative of FARMEX, the area Agricultural Extension Officer and the Trust's Executive Officer. The participants were advised about BIT and its role in the implementation of the various irrigation and drainage projects. It was explained that the projects were for the use and benefit of the farmers and that the Programme did not make provisions for compensation. The projects were totally funded by the EU and were being implemented at no cost to the farmers. As such, there would be a small level of loss of banana plants which could be recouped once the pipes were laid. All but one farmer agreed to cooperate with FARMEX in the laying of the pipes without any compensation.

All utility companies - LUCELEC, Cable and Wireless (currently known as LIME) and WASCO - were contacted to discuss their relevance to and involvement in the project. There were no underground cables, pipes

or water mains located in the areas where the pipes were laid. The pipes were laid along the left road shoulder from the Cul de Sac junction to the Odsan Service Station. Land titles were again a small issue but this was eventually resolved. Road works and the rain caused businesses to suffer slightly but once the problem was identified, reparations were made in a timely fashion.

Throughout the project, a list of remedial works were made and later completed:

1. A pipe trench alongside the main Castries to Vieux Fort road required general backfilling, compaction and tidying up. Special attention needed to be paid to the road and field drains to ensure that all were returned to their original condition. Attention had to be given to the area in front of a small roadside kiosk where drainage water collects and eventually creates large puddles
2. An access track serving Clifford/Gadjahar had to be re-installed to remove soft spots. The washout/shed connections were also completed. An air valve was installed on the culvert bridge crossing
3. Crossing point on clay products road needed immediate re-instatement with a suitable graded road base material, properly compacted in layers not exceeding 150mm. The final surface was left slightly higher than adjacent road level to allow for further settlement
 - a. Road drain had to be re-instated and trench tidied up
 - b. Drains were re-instated to ensure that drainage flows to river
4. Second crossing of clay products access road needed immediate re-instatement as in #3 above. Additional measures had to be taken to retain the road's edges. A shallow road gully needed



to be re-connected to main field drain (currently blocked by excavated material). The air valve and gate was installed on the washout riser adjacent to road

5. The air valve and gate valve was installed on washout riser adjacent to the track, with a protective cage installed.

Cul de Sac Valley Reservoir Project

With an EC\$3.8 million budget, a 12 million gallon reservoir (54,000m³) with an Intake dam was constructed in the Cul de Sac Valley. The project was the erection of the butyl lined reservoir, installation of 2200 metres of 630mm PVC gravity feed pipeline from the downstream the confluence of the Soufriere and Cul de Sac rivers to the reservoir site and the construction of an abstraction structure, including a temporary sand bag dam. The laying of the gravity pipe required the excavation of trenches along the Deglos road shoulder (opposite the WASCO pipe) and across some farms. It was a resounding success.

The contractor on the project was Hippolyte Equipment Services Ltd from Saint Lucia, while the ancillary works were done by Phoenix Construction Co. Ltd. They had been awarded the contract as a joint venture. Land was attained by Government of Saint Lucia, through the Ministry of Planning,

Development, the Environment and Housing in May 2002. The work officially began shortly after that of the Irrigation Infrastructure in July 2002 and the project was completed in July 2003.

Throughout the laying pipelines, culvert crossings, and road re-instatement detailed progress reports, decision making processes and the pros and cons were provided and explained by the contractors. Due to delays with land acquisition, the construction phase of the project commenced at the onset of the rainy season. At times, due to weather conditions and the proximity of the pipe route to WASCO main pipelines, progress on the pipe laying activities was slow and caused major disruption to farmers' access routes, particularly on banana cutting days. The contractor was therefore required to provide additional labour to the farmers to carry fruit and boxes from the farms disrupted by the site operations. There was full cooperation by the farmers with the contractor during the construction period.



SFA 1999 – Canelles Irrigation Project

This entailed the installation of a 51-acre "Off-Farm" irrigation infrastructure in Canelles.

Irrigation specialists FARMEX Technologies SARL from France were the contractors on the Off-Farm Irrigation Infrastructure in Canelles,

Saint Lucia. The project was conducted on 51 acres of land and benefitted 13 farms with a network of 1.8 km of pipes, at a cost of EC\$0.4 million. The project began May 2002 and was completed in June 2003 including the additional works towards the reinforcement of the pumping station.

The following works were included in the project:

- Construction of 3m (2.6M) steel reinforced concrete shed
- 6" thick steel reinforced concrete roof
- Double door (wrought iron and inner metal door)
- Reinforced concrete slab for pump 160mm diameter opening for pump shaft
- 4" diameter vents spaced at 200mm apart
- Down pipe from roof to eliminate roof water

The pump and pipeline commissioning

tests were carried out on the project to the satisfaction of the Irrigation Management Unit, which supervised the project with Technical Assistance from Agri Development.

managing the allocation of EC\$0.8 million and the project had the end dates of the two phases as August 2002 and October 2006 respectively.

An Agricultural Drainage System is one used in surface ditches, subsurface permeable pipes, or both, to remove standing or excess water from poorly drained lands. When installing a subsurface drainage system, pipes are either strategically placed in a field to remove water from isolated wet areas or installed in a pattern to drain an entire field. In some areas, surface inlets or intakes (risers extended from underground pipes to the surface) remove excess surface water from low spots in fields.

The installation of an agricultural drainage system is a significant financial investment. The decision to make this investment was determined for two major reasons, which have improved agricultural production significantly:

1. Agricultural drainage systems usually increase crop yields on poorly drained soils by providing a better environment for plants to grow, especially in wet seasons
2. The systems generally help improve field conditions for timely tillage, planting and harvesting.



SFA 1999 – Mabouya Valley Drainage Project

In moist climates, soils may be adequate for cropping with the exception that they become waterlogged from heavy rains for brief periods each year. Many soils have poor natural internal drainage and can remain waterlogged for several days after excess rain if there is no artificial drainage. This prolonged wetness prevents timely fieldwork and causes stress to growing crops because saturated soils do not provide sufficient ventilation for crop root development. The roots of most crops cannot tolerate excessively wet conditions for more than a couple of days. Soil conditions that make drainage a necessity for some agricultural lands include those with slow water permeability or dense soil layers that restrict water movement, flat or digressional topography and, in some areas, high levels of salts at the soil surface.

Other soils may have an impervious layer of mineralized soil, called a hardpan, or relatively impervious rock layers may underlie shallow soils. Drainage is especially important in tree fruit production. Soils that are otherwise excellent may be waterlogged for a week of the year, which is sufficient to kill fruit trees and cost the productivity of the land until replacements can be established. In each of these cases appropriate drainage carries off temporary flushes of water to prevent damage to annual or perennial crops.

The drainage of banana lands in the Mabouya Valley was done in two (2) phases. The first phase was the drainage in 200 acres, which entailed the widening and deepening of 6.1km of drains, the sloping and building of embankments and the replacement of box and pipe culverts on the Dennerly Main Drain, the Grand Ravine Drain and the Derrière Morne Drains. The second phase was inclusive of the reinforcement of the weir and replacement of the Petite Rivière culvert. This arrangement was not in the original draft plan of funded ventures, but was pitched and implemented near the end of the Programme completion with the unutilised resources from Phase I of the project. The projects works were carried out by various Saint Lucian contractors – Phase I, Northern Supplies and Phase II, Construction and Industrial Equipment Ltd. The BIT oversaw the project to completion,



At the commencement of the project, all farmers were notified and a public awareness campaign was launched to sensitise the public on the positive attributes to the works as access route and bridges would temporarily be affected along the path of construction. Throughout the project, farmers were notified when access routes were affected, particularly on banana harvest days.

Although large in scale, the implementation of the phases of the Mabouya Drainage Project did not take long. The workers' operational hours were from 7am-10pm and monthly valuations were completed diligently. Works on site of Phase I were finished within a five (5) month time frame. The second phase of the project was completed in stages over a fourteen (14) month period, due to various unforeseeable delays, mainly adverse weather conditions.



Phase II of the project extended a little past October 2006 due to the late commencement. However, the works were an overall success celebrated by all involved. The maintenance of the systems where soil and trash deposits constantly need to be cleaned, have been sufficiently maintained by the IMU yielding the desired results for

the farmers in the area, and the public in general.

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SFA 1999 - Roseau Valley Irrigation Project - PHASE I

Phase I of the Roseau Irrigation Project consisted of an Off-Farm Irrigation Infrastructure on 180 acres for twenty-eight (28) farms with a network of 4km of pipes. The works commenced in March 2002 and was completed in May 2003 and remained within the budget of EC\$0.6 million.

The construction process involved excavation of trenches for the running of underground water mains, the construction of control heads with 4ft x 8ft housing for each of the 28 farms in the project area, the installation of three (3) pumps (upstream of the Roseau Bridge) and filter station. The Pumping Station and Filter Unit were located on the bank of the river. There were not many delays or setbacks on the project and compensation payments were made, when necessary, to farmers who were unable to transport their bananas to the buying depots due to excavations and heavy rainfall.

The projects were put out to tender both locally and internationally and the irrigation contracts was awarded to the French Company, FARMEX Technologies SARL.

Irrigation techniques have been used from the early days of farming. Pouring water on fields is still a common irrigation method today but other more efficient and mechanized

methods are now being used. Early man would have used a "low-tech" method of irrigating crops - collect water in a bucket and pour it onto the fields. Today, this is still one of the most popular methods of crop irrigation. The system is called flood irrigation - water is pumped or brought to the fields and is allowed to flow along the ground among the crops. This method is simple and cheap, and is widely used by societies in less developed parts of the world. The problem is about one-half of the water used ends up not getting to the crops, thereby resulting in tremendous water wasted. A large part of all fresh water used goes to irrigate crops. Much of this water cannot be reused because so much of it evaporates and transpires in the fields. If one considers that the majority of irrigation occurs where water is relatively scarce, it is easy to see how important it is for farmers to find the most efficient methods of using their irrigation water.

To be more efficient, farmers are:

- Leveling fields: Flood irrigation uses gravity to transport water and since water flows downhill, it will miss any part of the field that is on a hill. Farmers are using leveling equipment, some of which are guided by a laser beam, to scrape a field flat before planting. This allows water to flow evenly throughout the fields. (Actually, this method of leveling a field is also used to build flat tennis courts)

- Surge flooding: Traditional flooding involved just releasing water onto a field. In using surge flooding, water is released at prearranged intervals, which reduces unwanted runoff
- Capture and reuse of runoff: A large amount of flood irrigation water is wasted because it runs off the edges and back of the fields. Farmers can capture the runoff in ponds and pump it back up to the front of the field where it is reused for the next cycle of irrigation.



The drip irrigation system was agreed on for the irrigation of fruits and vegetables as this method is much more efficient than flood irrigation. Water is sent through plastic pipes (with holes in them) that are either laid along the rows of crops or even buried along their root-lines. Evaporation is minimised and up to one quarter of the water used is saved, as compared to flood irrigation.

Drier areas are often irrigated and one would not consider drainage necessary. However, irrigation water also contains minerals and salts which can be concentrated to toxic levels by vapour transpiration. Irrigated land may need periodic flushes with excessive irrigation water and drainage to control soil salinity.

Since the implementation of the irrigation programme, the Irrigations Management Unit (IMU) has been responsible for the maintenance and operation of the system. It was the initial intention of the Ministry of Agriculture, Land, Fisheries and Forestry (MALFF) to train the farmers and pan out the responsibilities, so that the maintenance and the overall running of the unit could be taken up primarily by the beneficiaries. Sadly, as of the high turnover rate and level of personal responsibility of farmers the IMU has remained as the overseer of the system's infrastructure.

An intensive training course was offered at WIBDECO facility in Roseau to assist farmers in becoming a formal group and to educate them in the basic concepts of drip irrigation. The development of the Farmers Co-operative was the direct result of this workshop.



SFA 2000 Project Overview

SFA 2000 – Reservoir, Irrigation & Drainage Projects in Roseau Valley, Marquis Valley & Cul de Sac

It has been proven time and time again, that water is the sustainable life force to all living things. Once again the importance of water management in the Agricultural Sector was brought to the fore as a result of the continued works to expand the banana industry in Saint Lucia. The SFA 2000 Programme was in fact a continuation of the SFA 1999 Banana Commercialization Programme, which sought to provide irrigation and drainage facilities to support increased banana production. The SFA 2000 funding programme

was implemented to continue the efforts in this area with the project on five sites:

1. The drainage of 500 acres in the Roseau Valley
2. The installation of 200 acres "Off-Farm" irrigation infrastructure in Roseau
3. The construction of a 75,000m³ Reservoir in Roseau
4. The drainage of 200 acres in the Cul de Sac Valley
5. The installation of 100 acres "Off-Farm" irrigation infrastructure in Marquis Valley.

As with the SFA 1999 Programme, the projects were put out to tender both locally and internationally. The bids for the two (2) irrigation

projects were won by the French company, FARMEX and the contracts for the three (3) remaining projects awarded to local companies Hippolyte Equipment Services Ltd. and Phoenix Construction Co. Ltd.

The Roseau Valley Drainage entailed the excavation of 34km of drains, the installation of twenty-one (21) culverts reinstatement of 180 meters of road.

The Cul-De-Sac Drainage, the scale of which was reduced due to some of the works funded by another agency entailed, the excavation of 3.3 kilometers of drainage, the installation of four (4) culverts and the construction of a drainage wall and road.



The first of the SFA 2000 projects commenced in August 2003 and were without delays, with the exception of the Roseau Reservoir where completion was delayed due to the frequent rains during the hurricane season.

All the projects were successfully completed within the budgeted allocations of the EU.

The funding under the SFA 2000 Grant Contract, managed by the BIT, totaled EC\$11.2 million of which EC\$9.8 million was spent on capital works. With savings from the two drainage projects, approval was sought and received to utilize EC\$1.0 million to install "Off-Farm" Irrigation infrastructure on about 100 acres in Marquis Valley. The works commenced in October 2006

and were completed by 31 December, 2006. The handover to the farmers was done by mid-March of 2007.

All of the SFA 2000 Programmes were completed at the end of December 2006 and the closure report as of 31 December 2006 was completed and forwarded to the NAO/EU Delegation.



The disbursements on the projects and other areas up to 31 January 2007 were as follows:-

Project

	Revised Budgeted Amounts (EC)	Allocated/ Budget Amounts (EC)	Contracted Amounts (EC)	Disbursed to Date (EC)
1. Roseau Valley – Drainage	\$1,621,008.00	\$1,201,008.00	\$1,191,751.00	\$1,193,429.72
2. Roseau Phase II – Irrigation	1,345,798.00	1,345,798.00	1,220,428.00	1,330,655.15
3. Roseau – Reservoir	5,738,005.00	5,888,005.00	5,787,133.00	5,775,521.78
4. Cul de Sac – Drainage	1,236,898.00	506,898.00	501,007.00	502,844.97
5. Marquis Valley – Irrigation	-	1,000,000.00	963,904.00	963,904.48
SUB-TOTAL	\$ 9,941,709.00	\$ 9,941,709.00	\$9,664,223.00	\$9,766,356.10
6. BIT – Staff Fees, Office Expenses	787,903.00	1,045,303.00	1,045,303.00	1,032,317.60
7. IMU – Staff Fees, Tech. Support	693,704.00	436,304.00	436,304.00	421,041.79
8. Audit – Audit Fees	29,420.00	29,420.00	29,420.00	NIL
Totals	\$11,452,736.00	\$11,452,736.00	\$11,175,250.00	11,219,715.49

SFA 2000 - The installation of 200 acres "Off-Farm" irrigation infrastructure in the Roseau Valley - PHASE II

Phase II of the Roseau Irrigation Infrastructure began late in September 2003. All works that could be done independently of the Roseau Reservoir Project under the SFA 2000 Grant Contract were completed towards the end of December in the same year. Upon completion of the Roseau Reservoir, the remaining off-farm infrastructure, which includes the filter and pumping stations, was installed, with the completion of the entire project in March 2006. The delay in completion was due to the late start of the works on the Roseau Reservoir and the subsequent delays in the completion of that reservoir. This phase provided irrigation for thirty-eight (38) farms in the Roseau Valley with a network of 4.5kms of pipes and stayed within the working budget managed by the BIT of EC\$1.4 million.

The farmers' support during the project implementation stage was heartening. This support was primarily due to their very good working relationship with Mr Quint Odlum, the Agricultural Officer assigned to supervise the project. Because of the experience gained on the other projects, the quality of supervision was of a very high standard and Mr. Odlum was able to identify issues of concern well in advance.

A number of checklist templates for the different components of the implementation were prepared by the IMU to assist the Agricultural Officer.

SFA 2000 - The construction of the Roseau Valley Reservoir Project

Once again, the EU has made a provision that has improved the livelihoods of many in rural communities. In a joint venture contract awarded to Hippolyte



Equipment Services Ltd. & Phoenix Construction Co. Ltd. of Saint Lucia, EC\$5.8 million was allocated through the SFA 2000 Programme managed by the BIT to implement a 75,000m³ Reservoir (approx. 18 million gallons) with an intake dam.

The limited water resources in the Roseau River made it difficult to irrigate 320 acres of land during a day's irrigation cycle. In order to facilitate the irrigation process, a 75,000m³ reservoir (on 10 acres) was therefore constructed within the project area. Six (6) pumps were installed on the reservoir and irrigated water was pressured through the network of approximately 10km of pipes of varying sizes (400mm to 63mm) to provide water on a daily basis to the sixty-six (66) farms in the project area. The system of choice was the drip irrigation system for the practical and impending benefits it posed to the farmers and the surrounding environment.

As a result of the late acquisition of the reservoir lands, these works did not commence until early January 2004. However, due to adverse weather conditions and other factors during the construction period, the project was finally completed in March 2006.

The Roseau Reservoir entailed three major components. The Intake Dam on the Roseau River, a 2.8 kilometer pipeline from the intake to the reservoir and the 75,000 cubic meters (approx. 16 million gallons) reservoir within the farming area.

Supervision on all the project was provided by the Irrigation Management Unit of the Ministry of Agriculture and the Technical Support Services by the Agri Development Inc.





SFA 2000 - Roseau Valley Drainage Project

The drainage works in Roseau commenced in August 2003 and included the widening and de-silting of 34km of drains and the replacement of eleven (11) and repairs to ten (10) culverts over 350 acres. These works were completed by December 2003.

The Roseau Valley drainage involved the improvement of the drainage network in the valley and included a combination of drainage and drainage infrastructure works. It commenced on 7th August 2003 and was due to be completed by December of that same year. However, due to the increased scope of work, the timelines for the project were extended to facilitate additional infrastructural works.

All drainage works were completed within the time frame of the contract. It must be noted that most of the farmers were very supportive and appreciative of the project to the extent that the amount allocated for crop compensation was used to undertake additional drainage works in the valley, particularly in Morne D'or.

The drainage contract was awarded to Phoenix and Hippolyte – a joint

venture - and cost EC\$1.2 million. The project was very well supervised and from all reports there was a very good working relationship with the contractors and IMU officers on the ground. The complete project entailed:

- Surface drainage for road and major infrastructure which included innovative designs to address surface water and land drainage
- Outfall and pollution control assessment of the impact of flooding and minimization of flood risk
- The provision of solutions that minimize the effect on and reduce the maintenance of receiving environments
- Legislative approval for culverts, bridges and viaducts
- Surface water attenuation design
- Design of vegetated pollution control systems.

Using the latest developments in the industry, economical, effective drainage solutions were developed for the Roseau Valley area.

SFA 2000 - Cul de Sac Drainage Project

The residents of Cul de Sac were the benefactors of the SFA 2000 drainage programme. An agricultural drainage system is a system by which the water level on or in the soil is controlled to enhance agricultural crop production. This SFA resulted in the development of the rural area and assisted in the flood risk management of the region.

The Cul de Sac Valley Drain Works involved the improvement of the drainage network in the valley and included a combination of drainage and drainage infrastructure works. This included excavation of 3.3 km of drains, four (4) culverts, one (1) wall over 200 acres. These works commenced in October 2003 and

were completed by November 2003, an eight week duration. It must, however, be noted that the scope of the works was greatly reduced due to the supplementary works undertaken under the CDB post Tropical Storm Lily Drainage works.

The contract was awarded to the Hippolyte and Phoenix joint venture and cost just over EC\$500,000. Supervision of the project was provided by the Irrigation Management Unit (IMU) in the Ministry of Agriculture, and technical services by Agri Development Inc.



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SFA 2003 Project Overview

SFA 2003 - Economic and Agricultural Diversification, and Poverty Reduction through Integrated Resource Management' (INRMP)

The effect of land degradation in Saint Lucia has been reflected in the progressive dwindling of the island's water resources. The ecosystem is suffering due to agricultural and industrial expansion, coupled with the housing and hotel development which has become necessary because of migration trends and the increase in the country's population.

Under the provisions of the Special Framework of Assistance (SFA-2003), the European Commission granted EUR8.0 million (EC\$28 million) to the Government of Saint Lucia to implement the programme 'Economic and Agricultural Diversification, and Poverty Reduction through Integrated Resource Management' (INRMP). The overall objective of the programme was to provide continued support to banana commercialization, agricultural and general economic diversification efforts.

Within the scope of the INRMP, an Environmental Management Fund (EMF) was established in support of rural communities, where assistance was needed for larger environment-related initiatives. A budget of EUR4.0 million (EC\$14 million) was therefore allocated to the Banana Industry Trust with a three year grant contract to manage the EMF in January 2007.

The purpose of the programme was to improve the management of Saint Lucia's natural resources by building capacity and obtaining consensus on a collective vision for the efficient, sustainable and equitable use of the resources. The Programme consisted of activities at the national level, as well as several projects at the community level.

The BIT worked closely with the Ministry of Economic Affairs and Economic Planning, National Development and the Public Service under whose authority the SFA 2003 Programme had been placed.

For access to the funds, detailed proposals from prospective beneficiaries complying with the EU Practical Guidelines were submitted to the BIT for review. Approved projects were put out to tender as funds were

not given directly to the beneficiaries.

The areas eligible for funding under the EMF were quite broad and included:

- 1) Reforestation Programmes to Stabilize vulnerable areas
- 2) Watershed improvement interventions derived from watershed management plans
- 3) Alternative cropping
- 4) Riverbank stabilization and interventions to reduce flood risk
- 5) Operation of a land bank, including compensation mechanisms for lands acquired in trust
- 6) Water supply systems for both potable water and hillside irrigation
- 7) Systems for solid and liquid



waste management in rural communities especially in upland areas

- 8) Coastal zone interventions in near shore marine areas
- 9) Eco/heritage Tourism interventions
- 10) Technical innovations including inter alia, the exploitation of renewable energy sources, group water exploitation etc.

Six (6) environment-related initiatives were funded under the EMF:

- National Action Plan to Combat Desertification & Drought
- National Forest Demarcation & Bio-Physical Resource Inventory
- Coastal Habitat Mapping Project
- Photovoltaic Demonstration Project
- Choiseul Economic Revitalization Project
- Anse La Raye Water Supply Improvement Project

The Office of the National Authorizing Officer (NAO) of the Ministry of Finance, Economic Affairs and National Development provided the overall coordination, monitoring and general guidance of the SFA 2003 Programme.



SFA 2003 - The National Action Plan to Combat Desertification & Drought (NAP/SAP)

Desertification and drought are caused as a result of man's effects on nature - deforestation, poor agricultural practices (poor soil and water conservation/drainage, over-irrigation), continuous intensive cultivation and inadequate development controls and absence of good governance with respect to planning and management of physical developments, including construction of buildings and infrastructure.

Over the past twelve (12) years Saint Lucia has suffered from the effects of drought and desertification without comprehensive works done to combat the damage caused. The result has been the slow degradation of the land, which has caused the authorities to devise a plan to combat the issues.

A National Action Plan to Combat Desertification and Drought was therefore developed and subsequently implemented. The primary purposes of this plan were to contribute to the development of an integrated framework for combating land degradation in Saint Lucia, in addition to mitigating the physical, biological and socio-economic impacts of land degradation and drought. This was spearheaded by the BIT under the SFA 2003 European Union grant programme, the EMF and the Government of Saint Lucia

with Agricultural Consultancy and Technical Services Limited (AGRICO) of Saint Lucia as the Project Contractor.

The NAP/SAP was developed by team of four (4) consultants under the guidance of AGRICO. The Plan was revised by the Minister for Agriculture and then presented to the Cabinet of Ministers for approval and implementation.

The primary objectives of the National Action Plan to Combat Desertification/ Land Degradation in Saint Lucia (SLU-UNCCD-NAP/SAP) were to:

- Address the continued loss of the productivity of the land and reverse the declining trend in the availability and quality of the island's water resources
- Ensure a sustainable quality of life for the people of Saint Lucia
- Contribute to the development of an integrated framework for combating land degradation in Saint Lucia



- Mitigate the physical, biological and socio-economic impacts of land degradation and drought

Chief Forestry Officer, Mr. Michael Andrew believes that the persistent problem of soil loss and land degradation in key watersheds and coastal areas have highlighted the need for sustainable land management practices in the Agricultural and Construction industries. "It is estimated that soil loss is as much as 25 to 63 tons per hectares per year for some of the larger watersheds and approximately 300,000 tons annually due to banana cultivation alone." For every ton of bananas produced, some 2 to 3 tons of soil is lost. Almost half of this erosion is due to cultivation on steep slopes which has increased sedimentation of waterways and the dwindling of the island's water resources."

Land degradation includes loss of ecosystem resilience, loss of ecosystem functions and services, deforestation, water and wind erosion, riverbank erosion, soil fertility/productivity loss, degradation of soil structure e.g. hardpan formation, water logging, and Stalination/salt water intrusion. Additional consequences are acidification, loss of or damage to vegetative cover, sediment deposition on productive land and in rivers and waterways, loss of habitat and of biodiversity (terrestrial and marine).

The NAP/SAP for Land Degradation and Drought was therefore undertaken in order to curb the continued loss of land productivity and reverse the declining trend in the availability and quality of the island's water resources.

The NAP/SAP served as one of the fundamental components of the National Land Policy (NLP) by promoting and enforcing the adopting of sustainable land management in Saint Lucia. The NAP/SAP established a system for monitoring and evaluating land degradation and drought using Geographic Information Systems (GIS) applications and Geographic Position System (GPS) as assessment tools. A user-friendly manual has also been developed identifying sustainable



land management approaches and practices.

The effects of land degradation and drought on the island are generally characterized as being economic, social or environmental in nature and include:

- Reduction in available water (irrigation and domestic), evidenced by the apparent progressive dwindling of the island's freshwater resources which are essentially derived from surface water
- Reduced soil and ecosystem productivity, sediment and erosion damage to productivity and transportation infrastructure reflected in increased levels of situation of major drainage systems, and increased incidents of land slippage in areas of human settlement
- Loss of habitat and biodiversity due to high sediment levels in coastal areas seen in the resultant negative impact on coral reef systems, driver for poverty and declining food security health etc

In targeting the forest sector, water agencies, farming communities, Agriculture sector and the Public at large, the goals of the programme were:

- To complete and finalize the preparation of the National Action Plan for Land Degradation and Drought in Saint Lucia

- To develop a ten (10) Year Strategic Action Plan (SAP) to support the implementation of the National Action Plan (NAP) for Land Degradation and Drought
- To enhance local capacity in Geographic Information Systems (GIS) and the Geographic Positioning System (GPS) application in a Sustainable Land Management (SLM) context
- To increase public awareness of and promote sensitization to the issues of land degradation in Saint Lucia and the importance of adapting SLM practices

Through the programme, it was identified that land degradation is the result of several root causes, primarily physiographic and climatic variations, fragile soil types, prevailing land tenure systems, and limited areas available for development, thereby creating intense competition between often limited land use options. This has resulted in increased activity in the upper watershed or other sensitive areas, affecting the landscape/endemic flora/fauna and impacting on river and coastal water quality.

BIT Executive Officer, Bertram Clarke, who also managed the EU SFA 2003 programme that provided funding for the NAP/SAP, is of the view that countries with a history of poor land use practices are extremely vulnerable to drought like conditions. "One hundred and fifty years of low technology agriculture like slash and burn, down slope tilting, absence of contouring and excessive land clearing has left indelible scars on the landscape, and has negatively influenced the lives of thousands of inhabitants. Exposed land is the most vulnerable to drought. Forest land and protected water sources stand a better chance at weathering drought conditions. We cannot prevent drought but we can mitigate the effects of drought."

The NAP/SAP also has as one of its goals the provision of a comprehensive framework for implementing the country's obligations under the

United Nations Convention to Combat Desertification (UNCCD).

For more effective participation in and adoption of sustainable land management, Chief Forestry Officer, Michael Andrew emphasizes the need for partnerships between the public and private sector, and non-governmental organizations. "Land degradation is largely due to limited knowledge or poor attitudes towards the management and utilization of land resources. As such, sustainable land management calls for public and private sector organizations, government, communities, corporate citizens and individuals to take action to manage land resources sustainably and correct negative impacts that may have been brought about by their actions.



SFA 2003 - The National Forest Demarcation & Bio-Physical Resource Inventory

The Ministry of Agriculture, Lands, Fisheries and Forestry (MAFF) of Saint Lucia promotes and supports the conservation of the country's natural resource base for the benefit of the entire population. The Forestry Department, in collaboration with the Crown Lands Division of the Ministry of Physical Development and National Mobilization, has identified all the lands adjacent to the Forest Reserves and has made recommendations for their acquisition and eventual incorporation into the existing

Forest Reserve Management System. However, before reaching that point, these lands have to be surveyed, demarcated on the ground with standard physical markers, vested in the Crown or acquired, and declared legal Forest Reserves. In addition, the existing forest reserve boundaries need to be re-demarcated.

The overall objective of the project was to survey and demarcate the physical parameters of the public forest reserve and to conduct a comprehensive assessment of the biophysical inventory and management system of forest resources to produce, inter alia, a forest resource monitoring system. The data from this assessment would be obtained through ground surveys, remote sensing, and the assessment and review of existing data that will serve as the basis for strategic sustainable planning and management of forest resources.

The National Forest Demarcation & Bio-Physical Resource Inventory programme was an ambitious one and was divided into sub categories. Below is a list of accomplishments of the project:

- An updated database of Forest Reserve boundary lines (digital and hard copy data to reside at Forestry Department and Lands and Surveys Department) and measurement of the quality, quantity and distribution - inclusive of yield and volume - of timber and non-timber resources, and the compilation of statistics which reflect their availability at the range, watershed and national level
- The assessment of the forest ecosystem, biodiversity (species richness and diversity) and all existing vegetation type at the watershed, range, and national level
- The assessment of all existing forestry related database with the intention of creating an updated monitoring system for producing forest resource state and change estimates
- The determination of the most



optimal means/measures for the sustainable management (utilization and conservation) of forest resources

- Survey, demarcation and realignment of the forest reserves boundaries incorporating the newly acquired crown lands, in order to facilitate better protection and management
- A training programme to develop the capacity of a cadre of persons in forests resource assessment and inventory method and forests management system using, scientific and modern technology. This was conducted and an effective, efficient and appropriate forest management system for Saint Lucia was first recommended and then implemented
- Relevant civil, cultural and utilization prescriptions necessary for planning and management of forest resources were also recommended at the close of the programme by experts who formed a part of the team.

The Forestry Department is the principle agency responsible for managing forest and wildlife resources on the island of Saint Lucia. The Forestry Division of Saint Lucia was established in 1946, upgraded to the status of Forestry Department in 1984 and is currently supervised by the Chief Forestry Officer. This project was funded by the European



Community under the Saint Lucia SFA 2003 Programme Economic and Agriculture Diversification and Poverty Reduction through Integrated National Resources Management. The BIT was the Grant Beneficiary and Manager of a component of the Programme, "The Environmental Management Fund". The contract was awarded to the Consortium of FCG International Ltd., – Finland and AFC Consultants International GmbH-Germany –as a joint venture. The project commenced in July 2008 and began the Final Phase, in the fourth quarter of 2009.

The period of work was one of intensive data analysis and reporting by the projects extensive team of more than twenty (20) biologists under the direction of the Conservation Biologist. The main activities, with some key preliminary findings, are listed below. A number of specific reports has been prepared, the first of which, a report on the mammals of Saint Lucia, has been released. The goals and purposes of the programme were successfully met with the implementation of a number of differing sub-projects:

1. A study of the mammals of Saint Lucia
2. The status and management of Saint Lucia's forests' reptiles and amphibians
3. The classification of the vegetation of Saint Lucia

4. The important plants of Saint Lucia: Botanical descriptions and species checklist
5. Insects of Saint Lucia: study and report
6. Wildlife use in Saint Lucia
7. Herbarium and training report
8. Critical species report
9. Summary of biodiversity values and recommendations.

The forest reserves, comprising mainly rainforest ecosystems, are regarded as exceptionally well preserved. Preliminary findings from the National Forest Demarcation and Bio-Physical Resource Inventory Project (2009) highlight the incredible diversity of Saint Lucia's forest types (habitats) which support a great variety of species. Few islands can match Saint Lucia's diversity of forest species, as an exceptionally high number of species exist only on Saint Lucia: nine (9) endemic „higher plant', six (6) endemic birds (11 sub-species), seven (7) endemic reptiles (5 sub-species), one (1) endemic

amphibian, one (1) endemic mammal (1 sub-species) and more than two-hundred (200) endemic beetles.

Information dissemination for public awareness and support was crucial for the successful implementation of this project. Organizing consultations with and briefing sessions for key stakeholders for the presentation of the forest demarcation and biodiversity assessment work plan, and conducting meetings with major communities that were directly or indirectly linked to the forest reserves and other important forest ecosystems that required conservation interventions, proved to be essential for getting the community support and acceptance for the work of the project. Past experience showed that support is best generated by close involvement through a consultative and participatory management approach.





SFA 2003 - Coastal Habitat Mapping Project

Significant increases in population and development along the coast are applying pressure on the fragile terrestrial and marine resources of Saint Lucia. Between 1995 and 2000, reefs along the central west coast lost an average of 47% coral cover in shallow water and 48% in deeper water.

Saint Lucia's coastal zone is characterized by mangroves, sea grass beds and coral reefs which not only play an increasingly important role in tourism but are also an integral component in natural coastal defense and the ecology of the island.

These marine habitats are significant in the coastal zone management process, since anything which encroaches on them can reduce:

- Their integrity and subsequently affect shoreline stability
- Their relative levels of marine productivity and
- The feasibility and visibility of commercially important species and the habitats and life cycles of important marine species

The project had as its main objective the sensitization of stakeholders regarding the need to protect and preserve coastal habitats and resources in physical development plans. The initiative was implemented by the Sustainable Development & Environmental Section of the Ministry of Planning, Development, Environment and Housing, and was funded under the SFA 2003 Programme – Economic and Agricultural Diversification and Poverty Reduction through Integrated Natural Resources Management (INRMP) (EMF). The EMF, managed by the Banana Industry Trust and the Office of the National Authorizing Officer (NAO), provided the overall coordination, monitoring and general guidance to the programme. The contract was awarded to the Consortium FUGRO GEOID and WS Atkins International Ltd.

A team of scientists working with the Ministry of Physical Development and the Environment conducted one of the most significant initiatives that have been undertaken by the Government of Saint Lucia with respect to the environment: the 'Coastal Habitat Mapping Project'.

The outcome of the project was the development of a map of the coastal habitat from Roseau Bay to Saltibus

Point through aerial photography and field assessments, thereby equipping the planning and environmental management ministries and agencies with the tools to monitor and better manage the development of Saint Lucia's coastline. Because of this, the collecting of baseline data for coastal habitats and resources has been made possible.

It served many purposes:

- To capture baseline data for monitoring marine environmental quality
- To promote better use of coastal habitats and resources
- To improve consideration of the need to protect and preserve coastal habitats and resources in physical development plans

The field assessment was led by Dr. Martin Le Tissier of Envision Mapping





in the UK. The team verified the accuracy of mapped areas of the coastal habitat boundaries obtained through aerial images and collected baseline information on ecosystem health and quality. This is of crucial importance as significant increases in population and development along the coast are applying pressure on the island's fragile resources.

The establishment of the baseline data is necessary to allow for better informed planning and development approval decisions. The baseline data acquired under this project will also assist environmental agencies in monitoring the impact of coastal developments on the surrounding habitats.

The key findings of the data collected were presented to stakeholders in a 2 day training workshop at Bay Gardens Hotel on the 7th and 8th of July 2009. Training was designed to help facilitate integration of coastal resource information into the wider national strategic planning and physical application process. The team also illustrated that there is an intimate link between the health of the marine environment and economic and social opportunities in other sectors such as Agriculture.





SFA 2003 - Photovoltaic Demonstration Project

Slowly, the global cry for the world to become more 'green' in terms of energy consumption is being heard. Scientists, businesses and schools are pooling together to make this vision a reality by implementing what was once thought to be impossible - Photovoltaic Energy. Known by most as Solar Power, it is the ability of producing a voltage usually through photo-emission, when exposed to radiant energy, especially light.

Photovoltaic (PV) Demonstration was a pilot project concerned with the production of electric current caused by electromagnetic radiation. The 'Green Initiative' of solar power, produces an electric current or voltage caused by electromagnetic radiation, (especially visible light from the sun), fueling the rapid deployment of renewable energy to help regain our energy independence and fight climate change.

Saint Lucia took the bold step of endeavoring to become the world's first sustainable energy country. The plan aimed to effect a 15% reduction in projected peak demand and installed capacity by 2010, significantly reducing the high cost of water heating for both the residential and commercial sectors. The tax concessions have been introduced to combat the high initial costs of solar

water heaters. Solar photovoltaic systems are also being promoted to provide back power during emergency situations and as demonstration units.

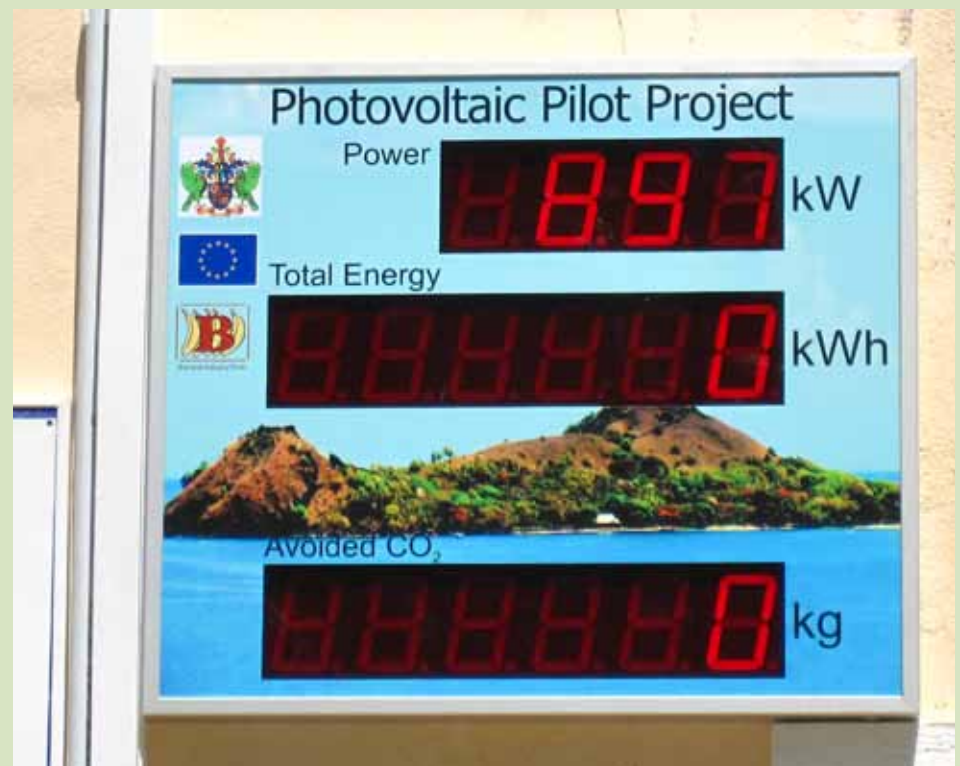
The PV pilot project was implemented with several purposes in mind:

- To further demonstrate the applicability of photovoltaic electricity in Saint Lucia
- To establish a pilot project to demonstrate net-metering and the contribution of small-scale renewable power producers to the main grid

- To demonstrate the possibility to increase contribution to renewable energy to Saint Lucia's energy mix.

The initiative was brought forward in an effort to contribute towards Saint Lucia's efforts to reduce reliance on the imported fuels through the popularization and deployment of renewable energy technologies. The general public was the target market, although in order to optimize the demonstration effect, the PV pilot project was composed of three sub-projects at different exhibition sites on the island: Castries, Pigeon Island and Vieux Fort. A short term public education and awareness strategy was executed during the implementation of this consultancy, (through conferences, town hall meetings, etc) as a means of ensuring project visibility and publicity.

The overall objective of this project was to contribute to sustaining Saint Lucia's economic growth, and assist in economic diversification, thereby improving Saint Lucia's economic competitiveness. This would enhance efficiency and productivity within the agricultural and other sectors with the thought to also provide Technical Assistance to the Government



of Saint Lucia to implement the Energy component of the SFA 2006 Programme.

Grenada Solar Power was the contractor on the project. The successful pilot project was funded under the provisions of the Special Framework of Assistance (SFA-2003), 'Economic and Agricultural Diversification, and Poverty Reduction through Integrated Resource Management' (INRMP) (EMF). The EMF, was managed by the BIT and this project was implemented on behalf of the Sustainable Development and Environmental Section (SDES) of the Ministry of the Environment.

As a result of the PV pilot project, a number of outcomes were achieved:

- A long term Sustainable Energy Strategy was developed, which includes an Electricity Sector Liberalization as it relates to renewable and alternative sources of energy, as well as a Transport Sector Strategy (inclusive of a Green Policy within the Transport sector) based on the National Energy Policy (NEP) approved by the GOSL
- The revision and updating of



the Electricity Supply Act (ESA) and other relevant concerns in accordance with the National Energy Policy (NEP) Sustainable Energy Plan (SEP) incorporating but not limited to the following: the use of renewable forms of energy, the entry of Independent Power Producers, the possibilities for auto and co-generation, as well as identifying strategies and measures for achieving the liberalization of the Electricity

Sector along with associated costs. All recommendations which have legal implications must be presented in an acceptable and user friendly format to allow easy incorporation into existing legislation/regulations for vetting by the Attorney General's Chambers

- A blueprint for the establishment of a regulatory authority and for inter-agency collaboration for energy sector improvements developed
- A Public Energy Education and Awareness Strategy and Plan developed for execution in the long term. This plan identifies measures for addressing energy-related education in both the formal (school, training) and non-formal environments. In addition, action was taken to implement priority measures. This includes all aspects of the energy sector, use of renewable energies, energy efficiency in all sectors of the society and also issues related to transport and related costs. The link between energy consumption, cost of electricity, livelihood, national environmental concerns and global climate change issues should also be addressed.





SFA 2003 - Choiseul Economic Revitalization Project

In many rural communities, the principal economic activity consists of mainly aging small producers being forced to make a living in an extremely challenging, fragile and rapidly deteriorating natural environment, dwindling freshwater resources, inappropriate land husbandry practices, inadequate resource management support systems, and limited facilities, incentives and production support services. The rural community of Delcer is one such community whose economic activity consists of mainly aging small producers, although there is some evidence that the younger generation is showing some interest in continuing the work of their forefathers.

There is one water intake within the gently sloping "watershed" of Choiseul that is used to supply pipe borne water to residents of the surrounding communities along with providing water for irrigation purposes. This drainage basin is not protected from human activity and as a result the water is extremely turbid during rainfall periods. The absence of adequate forest cover in the village of Choiseul, along with poor waste, land, and soil management practices adopted by resource users who utilizes

the watercourse, are the main causes of the environmental degradation and resultant acute water problems experienced in this "watershed".

Within recent decades, the Government of Saint Lucia has instituted major policy and policy support interventions to transform the rural economy. These interventions have included measures to promote the conservation, improvement and sustainable utilization of the fragile and limited ecological resources in these areas, including land, water and genetic resources.

In an effort to contribute to more sustainable livelihoods in the southwest, rural community of Choiseul and its surrounding areas through sustainable usage of the Anse L'Ivrogne River for agricultural purposes, the Economic Revitalization Project was put in place in Choiseul by the provision of the EU SFA 2003 funding grant programme and managed by the Banana Industry Trust. The project was set in two phases: - (1) the implementation of a feasibility and design study water distribution system; and (2) the installation of a 150,000 gallon water storage tank with 9,385 feet of water transmission pipeline connection. In addition, 13,000 feet of pipes with fittings were supplied to farmers to facilitate the network for the connection to the main transmission pipeline that would

enable them to irrigate their holdings.

The feasibility and design Study was done by Water Engineer, Raphael Eudovique.

The project was awarded to FARMEX technologies SARL of France who were also the contractors for Anse La Raye Water Supply Improvement Project. Technical support was provided by Raphael Eudovique, in conjunction with the Ministry of Agriculture. Oversight for the project, which was completed in December 2009, was provided by the Office of the National Authorizing Officer in the Ministry of Economic Planning.

The project was geared towards the revitalization of economic and social activity in the Choiseul municipal district through the direct involvement and combined efforts of the major indigenous development promoting agencies in the community and the youth. It also sought to promote more sustainable, diverse livelihood systems, through the effective use and efficient management of the fragile, finite and limiting natural resource base, particularly land and water resources.

The beneficiaries of the project were mainly the farmers of the Delcer Farmers' Organization as the community of Delcer routinely experienced the adverse effects of



severe water deprivation on an annual basis. A sustainable water distribution system and proper integrated resource management system, reversing the low levels of agricultural productivity within the sector was the result, thereby successfully achieving the goal of the project.

The water scarcity in this sub-region has resulted in widespread disillusionment and despondency particularly among the youth, along with mass migration and other readily identifiable perverse manifestations. These include poor resource management practices, decreasing soil fertility and increasing land and ecological degradation. According to

the Executive Officer of BIT, Bertram Clarke, "This project should arrest these problems and contribute substantially to the revitalization of rural livelihood, sustainable economic growth and more equitable and balanced community development."

For very compelling reasons, the south-western corridor of the island, inclusive of the village of Choiseul, has been specifically targeted because of the peculiar developmental and environmental challenges in these areas. Like most of the outlying rural communities on the central and south-western coast of the island, the village of Choiseul lags behind the rest of the island in terms of economic

and social advancement. Much of this community appears to be untouched by the significant socio-economic strides made by the rest of the country since Independence.

Activities on the part of Government, community-based organizations, or business groups to improve the economic health of an impoverished area are an important aspect of community development. Typically, such programmes aim to entice businesses to relocate or remain in the economic development zone, improve the occupational and academic skills of local residents, encourage the creation and retention of new jobs, and encourage entrepreneurship and the formation of new businesses. A wide variety of tax credits, hiring subsidies, property improvement and other incentives may be cited. In the case of Delcer, and the surrounding areas, it was the improvement of the water resources which can only amount to positive change for all.





SFA 2003 - Anse La Raye Water Supply Improvement Project

A continuous supply of clean, pipe born water is a luxury recently afforded to Anse La Raye, a village on the west coast of Saint Lucia. The EC\$7 million dollar project of which EC\$1.6 million was provided by the Government of Saint Lucia, was spear-headed by the Banana Industry Trust under the SFA 2003 European Union grant programme, the Environment Management Fund and the Government of Saint Lucia. Because of the successful completion of this project, the village of Anse la Raye is now compliant with current World Health Organization (WHO) guidelines for treated drinking water

quality. These guidelines ensure that water supplies are regulated and that water quality is monitored, and sometimes treated to remove contaminants, before being delivered to homes or businesses.

Towards the later part of 2009, the community of Anse La Raye and the surrounding region were the direct beneficiaries of this initiative geared to improve the drinkable water supply, while enhancing the quality of life for residents. The people living in the areas targeted had been deprived of clean water for way too long with the consequent negative impact on health and therefore their quality of life.

The project was extensive in its works and entailed the reconstruction of:

- An intake structure
- A 400,000 gallon per day water treatment plant
- A 200,000 gallon water storage tank
- A treated water distribution pipeline
- The upgrade of the Au Tabor pump station and installation of chemical feeds for raw water treatment.

Not only was the WHO development goal reached but the project also brought hope to the community. Its successful implementation has contributed substantially to the socio-economic development of the entire west coast of Saint Lucia.

The project was implemented on behalf of the Anse La Raye Village Council and will be managed by the Water and Sewage Authority (WASCO).

FARMEX Technologies SARL of France, along with local consultants FDL Consult Inc., were the contractors on the project. Administrative support for the project was provided through the Office of the National Authorizing Officer in the Ministry of Finance, Economic Affairs and National Development.



SFA 2005

Project Overview

The Banana Industry Trust (BIT), in collaboration with the Inter American Institute for Cooperation on Agriculture (IICA), was awarded a Grant Contract from the Government of Saint Lucia. IICA is a specialized agency in support of agriculture development and the rural environment with its main purpose that of encouraging and supporting the efforts of its Member States through the provision of innovative technical cooperation. This is done with the intention of achieving sustainable development in aid of the people.

The bid was for the provision of funds allotted by the European Union (EU) in the amount of 2.7 million for the purpose of implementing the programme of action Banana Commercialization and Agricultural Diversification Programme under the Special Framework of Assistance (SFA) 2005. IICA's responsibility on the project was the technical implementation of the projects, by streamlining and overseeing the production process. The financial integrity of the project was the focus of the Banana Industry Trust. An array of local expertise was used so that the expertise brought in from outside the island was minimal.

The programme commenced in the first quarter of 2009 and most of its components are close to completion, with the exception of those affected by the recent destructions caused by the passage of Hurricane Tomas in 2010. Bananas have always been the most widely produced crop in Saint Lucia, with the banana industry undergoing many changes all of which have impacted the marketing, production and

producers of bananas. The response therefore, to the rapid changes taking place in the industry, was the creation of several projects which have been implemented to aid in the efforts of banana commercialization.

To strengthen and revitalize the Agriculture Sector in Saint Lucia, the focus was shared with the piloting and employment of several projects by applying the Agricultural Diversification programme. Pineapple, cocoa, cassava and cut flowers were chosen as they all required varying farming techniques and supplies, locations and environmental traits and so a failure in or an economic slump affecting one of these crops would not be disastrous overall. Cocoa was the first choice for expansion and growth with the rising excitement around the health benefits of cocoa and the many benefits of the crop to the environment. Since many of the existing banana farmers were originally Cocoa farmers before the shift in the industry, a lot of focus was directed towards the assistance of re-emerging cocoa farmers. The majority of the funding went to projects aimed at education, increase production through the rehabilitation of 200 acres along with 100 new acres allotted for inputs, and the construction re-fitting of a microfermentary. The main theme around the projects was the rehabilitation of the crop and expansion of the cocoa industry.

The peak potential in the marketing and tourism community locally provided an excellent framework of opportunities in the direction of the cut flower and pineapple crop development. In both cases an assessment of the industry

was completed and demonstration plots were initiated to establish innovative solutions to various spots in the trade. Training and inputs were also made available to the suppliers through the projects.

The Banana crop was chosen for mainstay with the development of the industry. The focus of the implemented projects in regard to this crop was to determine the most effective methods in removing the present constraints in commercialization.

Projects implemented for Banana Commercialization support included:

- A Farm Waste and Disposal System
- A Scheduling and Forecasting Production System
- A Management System and establishing of a management unit and provisional of equipment to combat black and yellow sigatoka disease.
- The establishment of three (3) Demonstration Plots to exhibit multiple cropping alongside bananas
- The supply of equipment to farmers to ensure Global Gap compliance in production practices.

The overall agenda put Fair Trade farmers and services in the spotlight. It was foreseen that the implementation of these projects would significantly assist the agricultural industry to remove the constraints towards development. By being involved throughout the working chain and not merely a link along the way, IICA and BIT jointly made a lasting impression within the respecting industries and the agricultural sector at large.

Banana Commercialization & Agricultural Diversification Programme - SFA 2005

The overall objective of this Programme was to increase the productivity of farm enterprises and support increased agricultural production and marketing through niche markets, so as to improve the social and economic well being of the country.

The implementation of this Programme was a joint undertaking of the BIT and the Inter-American Institute for Cooperation on Agriculture (IICA). The budget for the Programme was €2,820,521 of which €2,677,313 was provided by the European Union Special Framework of Assistance (SFA) and €143,208 by IICA.

With this intervention, farmers are better equipped to meet the challenges of production and marketing of various crops as a result of the efforts of the BIT in collaboration with the Inter-American Institute for Cooperation on Agriculture (IICA). The BIT and IICA have supported the country's agricultural diversification programme through the implementation of various projects in the crop sector. These projects consisted of commodity specific and supportive types. The commodity specific projects relate to the commercialization of production and marketing of selected commodities – pineapple, cutflower, cassava, cocoa and banana. The supportive projects are those actions that cut across commodity lines and address areas of common need.

PINEAPPLE

Assessment of the production/marketing/distribution system for the pineapple industry.

This Project provided a diagnosis of all the activities involved in the pre-production, production, harvest, post-harvest handling, processing, transportation and marketing including technical support available



with the likely impact of selected interventions. Recommendations on strategies to address the deficiencies and the possibility of cluster formation included the testing of new varieties; pay attention to drainage in the plots; plant spacing; soil and tissue analyses for fertilizer application; treatment of the crop as an annual with replanting after harvest of the fruit; and monitoring the production schedule of the registered farmers using a modified production schedule form.

Projects implemented under this commodity were:

1. Assessment of maturity indices and illustrative guides for pineapple cultivars grown in Saint Lucia
2. Establishment of two (2) demonstration plots for commercial pineapple production
3. Establishment of an organic pineapple demonstration plot
4. Supply and installation of an irrigation system for a pineapple demonstration plot
5. Support for expansion of Commercial Pineapple production
6. Post harvest training for pineapple producers
7. Training in agronomic practices of pineapple production.

CUTFLOWER

Assessment of the production/marketing/distribution system for the cutflower (Heliconia, Anthurium,

Ginger Lily, Orchid) industry.

This Project provided a diagnosis of all the activities involved in the pre-production, production, harvest/post-harvest handling, processing, transportation and marketing including technical support available with the likely impact of selected interventions. Recommendations on strategies to address the deficiencies included the strengthening of the Saint Lucia Floral Cooperative Society, formation of cluster and synchronizing the industry with global trends.

Projects implemented under the commodity were:

1. Supply and installation of shade houses to support expansion of cutflower production in Saint Lucia
2. Provision of material inputs to support expansion of cutflower production
3. Post harvest training for cutflower producers.

CASSAVA

Assessment of the production/marketing/distribution system for the cassava industry.

This Project provided a diagnosis of all the activities involved in the pre-production, production, harvest, post-harvest handling, processing, transportation and marketing



including technical support available with the likely impact of selected interventions. Recommendations on strategies to address the deficiencies included:

a) Immediately

- Engage the tourism industry into having cassava products into the resorts and placed before the tourists
- A market study should be commissioned to quantify local consumer demand and market development potential identifying the types of processors and the quantity of their total output.

b) Short-term

- Export links specifically for farine should be re-established through the Saint Lucia Chamber of Commerce with counterparts in Martinique
- Focusing on the sweet varieties, field trials should be conducted on improved varieties with high yielding and shorter maturity time frame.

This project supplied equipment to enhance farine processing capability which would encourage cassava production by farmers in the north of Saint Lucia.

BANANA

The focus on this commodity was: (1)



the development of a mechanism aimed at finding a solution to the perennial problem to pest and disease control in the banana industry and (2) the supply of equipment to banana farmers to support of Global Gap compliance.

Projects implemented under the commodity were:

1. Management System for black and yellow Sigatoka Diseases of Banana
2. Establishment of black and yellow Sigatoka Disease Management System
3. Scheduling and Forecasting Production System
4. Farm Waste Collection and Disposal System
5. Establishment of three (3) Demonstration Plots for Commercial Banana Production

6. Provision of Irrigation Equipment for Banana Demonstration Plots
7. Supply of Equipment for farmers for the Storage of on-farm agro-chemicals
8. Supply of skips/bins for the National Fair Trade Organization Farmers for Farm Waste collection
9. Supply of maxing bays and first aid kits for the National Fairtrade Organization (NFTO) Farmers
10. Supply of Chemical/Pesticides signs for the National Fair Trade Organization Farmers

These projects were implemented during the 2009-2010 period.

COCOA

Assessment of the production/marketing/distribution system for the cocoa industry

This project provided a diagnosis of all the activities involved in the pre production, production, harvest/post harvest handling, processing, transportation and marketing with technical support available and likely impact of selected interventions. Recommendations on the strategies to address the deficiencies and the possibility of cluster formation including funding for the relocation and expansion of the Germplasm Bank; farmers should have secured land tenure to venture into commercial cocoa production; appropriate inputs at affordable cost should be available to farmers; re- establishment of two





(2) to three (3) micro-fermentaries based on geographical spread of the farms; a strategy of revolving credits for inputs rather than provision of subsidies; training and awareness programmes in pest and disease control; revitalization programmes promoting year round possibilities of harvest; establishment of a Cocoa Revitalization Unit to promote the profitability and agro environmental benefits of the cocoa industry and encourage farmers to consider organizing themselves into groups.

Projects implemented under the commodity were:

1. Establishment of Cocoa Germplasm Bank at Barthe Nursery
2. The Supply of Inputs to Support the Production of Cocoa Planting Material.
3. Cocoa Germplasm Identification and Disease Resistance Training
4. Training in Molecular Characterization (Molecular Markers for Germplasm Management)
5. Training in Cocoa Flavour Profiling (Best practices along the Cocoa Value Chain and Quality Assessment Protocols)
6. Rehabilitation and Expansion of the Cocoa Industry
7. Construction of a Cocoa Microfermentary at Anse Ger, Micoud
8. Supply of Equipment to Enhance Productivity of the Cocoa Industry
9. Supply of Equipment for a Cocoa Microfermentary at Anse Ger, Micoud
10. Procurement of Agricultural Inputs for the Ministry of Agriculture Cocoa Rehabilitation Programme
11. Participation in the Caribbean Fine Cocoa Conference and Chocolate Exposition.
7. Forestry and Fisheries (MALFF)
7. Farmer Organizations Leadership and Business Skills Training
8. Facilitation of National Forum for Young Leaders in Agriculture and Rural Development in Saint Lucia
9. Supply of Materials for Information and Communication System of Selected Producer Organizations
10. Public Awareness and Sensitization
11. Assessment of Greenhouse Vegetable Value Chain in the Saint Lucia.
12. Documentary Production for the SFA 2005 – Projects

SUPPORTIVE PROJECTS

1. The Identification of Products in the Domestic and Regional Markets
2. A Geographical Indicators (GI) Study Tour to Brussels
3. Farmer Study Tour to Costa Rica and El Salvador
4. Supply and Installation of Shade houses for cocoa propagation for the Ministry of Agriculture, Lands, Forestry and Fisheries (MALFF), Barthe Nursery
5. The Construction of Shade house Foundation and Access Road at Barthe
6. Supply of Equipment to Strengthen the Agricultural Services in the Ministry of Agriculture, Lands,

These projects were implemented during the period 2009-2011.



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