

Final Draft

**USAID SUPPORT FOR
INDUSTRIAL DIVERSIFICATION IN MAURITIUS**

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USAID SUPPORT FOR INDUSTRIAL DIVERSIFICATION IN MAURITIUS

I. INTRODUCTION

The Government of Mauritius (GOM) initiated the Mauritius Industrial Diversification Project (MIDP) in 1988 in an effort to develop a plan and strategy for the diversification of the industrial base of the economy which is now largely dependent on sugar and textile exports to Europe. The GOM later commissioned a series of three sector studies as a background for the development of an industrial development strategy. These three sector studies funded by USAID covered electronic/informatics, agro-business and industrial development sectors.

Following a review and analysis of these sector studies and various other papers and reviews the GOM published the "Mauritius at the Crossroads -- The Industrial Challenges Ahead." This document was used as the body of knowledge and reference material for the "National Seminar on Industrial Development Strategy, Facing the Challenges of the 90's," held at the Auditorium Octave Wiehe at the University of Mauritius in Reduit, and sponsored by the Ministry of Industry and Industrial Technology (MIIT) in collaboration with the Ministry of Economic Planning and Development (MPED) and the Ministry of Labour and Industrial Relations, Women's Rights and Family Welfare.

The objective of the National Seminar was develop a national consensus around what should constitute a long term industrial development strategy, and to mobilize various interest groups to work towards the agreed objectives.

II. PURPOSE OF THE CONSULTANCY

At the request of the GOM and the U.S. Embassy in Port Louis, REDSO Nairobi engaged the services of Management Systems International (MSI) in May 1991 to assist MIIT to conduct the National Seminar to develop a strategy for industrial diversification in Mauritius. In addition to preparing summary papers on the sector studies in the three areas namely, agro-business, electronics/informatics and industrial policy, the three MSI consultants made presentations to plenary sessions, sat on panels as resource persons, participated in work groups to draft recommendations, and acted as reporters where assigned.

III. COMMENTS ON THE NATIONAL SEMINAR

It is commendable that the GOM in its effort to diversify its industrial base created the opportunity for the private sector to make its views and concerns known and participate in the process of developing a national consensus. While Mauritius has enjoyed economic growth and stability, the economy depends on subsidies for sugar exports and textile quotas from Europe. Subsidies don't last but good businesses do, and the GOM recognizes the need to shed its dependence on the sugar subsidy and the textile quota to secure its future growth and stability.

The rapport between the GOM and the private sector of the country was apparent during the seminar. The exchange of views, identification of constraints, recommendations for action, and the manner of conduct during the seminar were both positive and constructive. It was also apparent that the labor and land resources are finite and their respective limits pose a formidable challenge to industrial diversification.

IV. LESSONS LEARNED

Lessons were learned about the process of reaching consensus with a large group of people in a seminar/conference setting. A couple of these lessons are:

1. Seminars and conferences provide opportunities to express views, address issues, open dialogue and make recommendations, they often, however, produce expectations that require further study and careful follow up to achieve. The National Seminar provided an opportunity for public and private sector and government organizations to come together on a common platform to discuss issues concerning future industrial development and strategies considerable follow-up will be required to deliver the changes, directions and resources necessary to move towards industrial diversification.
2. Although it is commendable to encourage open participation by the public and private sectors together to formulate a policy agenda, it is difficult to arrive at a consensus with so large a body of participants and so many issues at hand. One of the weaknesses of the seminar was that it covered too many issues - in one event - such as macro-economic issues, review of the current industrial situation and future industrial development and range of policy issues; absenteeism and productivity; and industrial diversification issues. As a result, none of the topics received the full treatment they deserve. The sessions tended to be lectures rather than discussion and dialogue on common issues. Seminars with omnibus issues to address with a diversity of interests on the part of participants and their respective organizations have difficulty penetrating the issues to a significant enough degree to produce more than cursory recommendations.

V. SOME IDEAS TO CONSIDER

Proceed from principle. Bandaid solutions don't work. If the goal is to promote investment and production and constrain consumption, say so. Then as tax regimens, tariff duties and interest rates are determined the goal is clear. Ad hoc tax and customs relief for special interest groups brings immediate satisfaction but may cause long term damage.

Let's take the case of the objective of "encouragement of investment and discouragement of consumption." The solution at the principle level is to fix high customs duties on luxury and consumer items that consume funds and require no customs duties at all on the industrial tools that produce goods, create jobs increase efficiency, and increase profits. The more profitable a company is the more investment it will attract, the stronger its position will be to invest retained earnings in growth, and use its own resources to finance growth. Interest rates can be handled the same way, reward investment and penalize consumption by establishing dual interest rates, one for self liquidating loans for business expansion and growth, and the other for consumer items.

The same principle can be applied to taxation. By taxing income only, and perhaps all income at the same level, the tax system remains simple. Tax income from all sources, wages, capital and interest in the same manner. Don't tax the corporation. Tax the capital income earned by ownership in the same manner as income from wages and interest. Encourage companies to be profitable, to invest their retained earnings in growth and pay dividends rather than spending their time to find ways to avoid taxation. Tax differentiation between interest income and dividend income only works to favor the bank (savings) or the company (equity) leaving little choice for the investor to determine for himself what he considers is in his best interest.

VI. RECOMMENDATIONS

1. **Establish Working Groups to Ensure Implementation** - The issues concerning industrial diversification need further discussion. The seminar provided an initial opportunity for discussion on sectoral and sub-sectoral technology areas. The detailed strategy formulation on each sector needs to be worked out. This can best be achieved by establishing working groups on sectoral areas - electronics, informatics and agro-processing. These working groups should work on a time-bound program of approximate two months; should have no more than five members; and draw upon the public and private sector to work hand-in-hand to reach agreements. USAID should consider providing technical assistance for this purpose to coordinate the activity and to formulate policy proposals. The management of the working groups should be given to the Chamber of Commerce and the specific industrial association. USAID could provide financial assistance to these agencies for administrative and research work.
2. **Identify the Winners and Losers** - With every change there are winners and losers. Some benefit from policy changes and some don't. It is the very nature of organizations, groups, and individuals to look after their own self interest. With this in mind, it is natural for each issue, policy, law, or regulation to have a constituency of support and a body of opposition. Here, we recommend that the pros and cons, and winners and losers of each policy change be mapped out to determine who benefits and who suffers and at what cost. This allows for the pros and cons to be put on a scale to determine the overall cost of the change. Where someone has to give something up there is often something that can be given in exchange to convert opposition to support. This should be known before proceeding with the change.
3. **Policy Announcements Are Not Enough** - Even after agreement is reached and policies are made the process of implementing policy change is often difficult. There are many cases where policy changes are made by decree by governments and nothing changes in the "belly of the bureaucratic beast." The customs official, the bank officer and the tax collectors often find it difficult to depart from the habits and routines that make up their daily working lives. The result is that the policy goes unfulfilled and frustration grows. In Uganda, for example, currency controls were eliminated a year ago but the customs officials at the ports of entry still require that currency control forms be filled out on arrival and departure from the country. When the customs officer is asked, "why do you continue this process when currency control was dropped a year ago," the answer you

get is that, "nobody told me about it and this is what I have always done it." So, the notion that policies get implemented by decree is faulty. Someone has to build a constituency of support for the change across effected agency lines as a champion for the change. As recommended in #1 working groups should be established with broad participation and with specific tasks to perform and actions to be taken.

4. Create Financial Instruments - The financial institutions in Mauritius are not conversant with the instruments to provide venture and risk capital to entrepreneurs to start new ventures or support industries in electronics, informatics and other sectors. It is recommended that USAID consider setting up venture capital or an R & D commercialization program to be managed by the a private sector organization. Such a program may have an initial capital of U.S. \$3 million to be provided by USAID. The program could be modelled after the PACT or ACE program in India funded by USAID. We recommend that USAID fund a feasibility study and arrange a study visit to India and Thailand to determine what might be transferable.
5. Continue to Support Training - Under the HRDA program, USAID supported a series of training and development activities which were managed locally by the Mauritius Employers Federation (MEF). These programs have been largely successful but there is need for review and formulation of a new strategy in light of the outcome of the National Seminar. While the MEF has done a credible job in managing this activity, it does not have the requisite training capability to design specific training programs based on assessments and surveys. It also does not have the funding support to invite foreign training experts. It is recommended that in view of the increasing demand for management development programs, that USAID support a 2 or 3 year extension of HRDA type activity. It will also be useful to have a U.S. counterpart agency working with MEF on this project for the duration.

Under the HTDA several management training programs were proposed. Many of these training programs have been implemented. Technical assistance could be provided by USAID to assist in the implementation of some of the programs of the local agencies. The Embassy is currently arranging for a short-term faculty development program for management faculty of the University of Mauritius and persons form the private sector in India. This will be a custom-designed activity for the two faculty members being sent to India. This will involve about 8-10 days work in contacting institutions in India and arranging suitable training and an in-service program. As a Senior Associate (Bapu Deolalikar) of MSI is likely to be in India, we offer this opportunity to assist the U.S. Embassy in Mauritius in designing the program. This could be done by extension of the current contract and would require about 8-10 days and other incidental costs.

6. Technical Assistance for MEDIA - The Mauritius Export Development and Investment Authority (MEDIA) is a GOM agency that has the responsibility to promote foreign private sector investment in Mauritius. Most of its activities and offices are in Europe and the Far East. In view of the country's interest in diversifying into the electronics and informatics sectors, MEDIA must promote Mauritius in the U.S. This suggestion was

made in 1988 and 1989 by USAID consultants. The National Seminar also endorsed this.

In order to penetrate the U.S. market and seek U.S. private sector investment and promote joint ventures, it will be necessary for MEDIA to engage in targeted promotional efforts in the U.S. This can be done by identifying a U.S. organization that can provide logistical and promotional support to MEDIA through a contractor to arrange for meetings between U.S. and Mauritius business persons, exchange visits and other related activities. MEDIA may also wish to place one of its staff members with the U.S. firm to assist with the process. It is recommended that USAID consider support for such an activity.

SUMMARY OF SECTOR STUDIES

The Services Group, *Potential for Export-Oriented Informatics in Mauritius*, May 1989; and Robert Carlson Associates, *Mauritius Electronic Sector Analysis*, June 1989.

A. Export-Oriented Informatics Activities in Mauritius

Information Services Industry Trends

The information services sector encompasses a wide range of computer-related data inputting, processing, and distribution activities. Established labor-intensive industry segments include the following:

- Text and data entry, also referred to as keying and keypunching
- Computer-aided design systems, allowing users to efficiently view, transform, store maps, images, and other graphic data in digital form
- Desktop publishing and other media services provided in fields such as publishing, graphics design, animation, and video production
- Voice center operations involving human handling of incoming or outgoing telephone calls

In 1987, the worldwide data processing, CAD, and software/computer services industries in aggregate had revenues of about US\$ 117 billion, with market shares of US\$ 53 billion in the United States, US\$ 18 billion in Japan and in excess of US\$ 21 billion in Europe. In general, the European information industry is several years behind the United States. This is important for countries like Mauritius considering the development of an offshore informatics industry.

Why Informatics Activities are Moving Offshore

The trend toward offshore processing is a relatively recent phenomenon resulting from the combination of a number of factors:

- Rising labor costs in the United States and other industrialized countries
- Rapidly declining computer hardware and software costs
- Significant advances in computer technology
- Decreasing air transport and telecommunications costs

- Increased efforts of several developing countries to diversify export activities and to attract "clean industries"
- Absence of regulatory impediments to transborder data flows

The types of information services established offshore include:

- Slow-to medium-turnaround data entry
- Publishing service
- Slow-turnaround document translation sent electronically to offshore bureaus
- Highly structured and/or low priority software development and coding bureaus
- Media services

Assessment of Mauritian Potential for Informatics Activities

There are at least five companies in Mauritius currently engaged in export-oriented informatics activities. In addition, there are at least five more companies that are in the process of initiating software and data entry operations in the near term. The companies possess the necessary skills to provide these services but they need support and improvement in several areas. Some of them are:

- A general lack of knowledge of the end-user market and of competitors
- Lack of familiarity with state-of-the-art computer hardware and software
- Manpower deficiencies in some specialized higher value-added areas
- Lack of experience in "positioning" strategies on attracting and entering into joint-venture and subcontracting operations
- Lack of knowledge on accessing information and assistance
- Lack of experience in project management for export services delivery to world markets.

The primary factors generally regarded as important to informatics firms include the following:

- Quality of labor force: There is a shortage of trained personnel and managerial staff in Mauritius. The labor force is literate and trainable.

- Low labor costs: Labor costs in Mauritius are competitive.
- Freight services: The cost, frequency, and reliability are important.
- Telecommunications: Reliable and inexpensive telecommunications are vital for more offshore informatics operations. In this respect Mauritius is at a great disadvantage, as these costs are high and service is unreliable.
- Power: The provision of low-cost, reliable electric power is an important requirement. Power costs in Mauritius are relatively high.
- Superior package of physical facilities and support services: International informatics firms tend to seek superior facilities generally located in "office parks" with facilities and support services. Mauritius currently does not have such facilities.
- Government incentives/disincentives: Most informatics firms choose to locate within "office-park style" export processing zones and look for incentives package to include:
 - Low corporate income tax rate
 - Unrestricted control over foreign exchange earnings
 - Tax and duty free import of equipment, materials, intermediate inputs for use in export services
 - Expedited processing of work permits and visas for expatriate technicians and managers
 - Streamlined customs inspection process
 - No restrictions on foreign ownership

Understanding Mauritius' Comparative Position

Mauritius' advantages include:

- A stable and pro-business climate, with a strong record of economic growth
- A readily trainable and affordable workforce
- Linguistic affinities with many of the world's present and future leading economic powers
- A generally well-developed support infrastructure
- Time zone advantages for servicing the European market during business hours

Among its disadvantages are:

- Telecommunications: These services in their present form are inadequate to meet the needs of telecommunications-intensive, higher value-added segments of the industry, and they are costly.
- Regulatory constraints: The key constraints can be grouped into the following categories:
 - A somewhat weaker package of "formal" investment
 - Incentives relative to other leading offshore informatics locations
 - Ambiguity in qualification for and implementation of incentives
 - Onerous regulatory "redtape" burden on investors
- Labor force training: There is a shortage of trained personnel in Mauritius, and the demand for computer training is high but the facilities are inadequate. The problems are threefold:
 - Lack of uniform standard for training institutions
 - Lack of manpower resources in advance/specialized areas
 - Need for more cooperation between the public and private sectors

- Specialized infrastructure and support services: There is a general lack of physical infrastructure and support services tailored to the needs of the informatics industry. Industrial buildings are in short supply and if available are not fully serviced; telecommunications services are inadequate, connections are not easily available; electricity costs are high; and computer maintenance and repair shops of good quality are in short supply.

Identification of High Potential Informatics Opportunities in Mauritius

Target End-Users/Markets

The cost and market analysis indicates that Mauritius is not cost competitive in relation to other offshore providers of services in the U.S. market. However, it is likely to be competitive for data entry end-users in Europe and Australia and for CAD and other niche informatics markets in the United States. Within these markets, potential end-users of exports will be from the following categories:

- Data Entry: Airlines, travel service companies; insurance, credit cards, banking companies; direct mail, market research, medical record firms; payroll/inventory, publishing, financial service companies
- Software Services: Packaged software firms; public sector companies; utilities and transportation sector; travel and tourism industry; in-house corporate software services
- CAD: Public utilities; architectural and engineering firms; municipal and local government agencies; manufacturers

Recommendations

The success in developing informatics exports depends on offering a comprehensive package of incentives, facilities, and services to potential investors. These include the following:

- Investment incentives:
 - Reduce the effective corporate income tax rate
 - Liberalize overall import procedures
 - Exempt ESZ firms from payment of import bond, and abolish stamp duty on computers and related equipment

- Combine EPZ and ESZ regimes and bring them under one ministry such as Ministry of Industry, and exempt ESZ firms from foreign ownership and capitalization restrictions
- Establish one-stop shop for investment approval process
- Strengthen regulations regarding protection of intellectual property
- **Office park development:** A properly conceived office park initiative can offer specialized infrastructure, facilities, and services for informatics. These parks incorporate "teleports" — earth stations offering dedicated, low cost, high quality, telecommunications services only to informatics enterprises — can cost as little as US\$ 50,000 and might be created by government or by private entities on a "build-operate-transfer" basis. Actions recommended:
 - Lower international telecommunications costs for information users by at least 60 to 70 percent
 - Assess the feasibility of office park and teleport development through a study undertaken with USAID assistance
- **Human resources development:** Undertake integrated human resources development and training program pertinent to the needs of the informatics and computer sectors, which will include public and private sector cooperation, training subsidy to enterprises undertaking training on their own; establish informatics standards board; institute advanced training programs; seek coordination between different training institutions; and undertake training of trainers.

Promotional Strategy

- **General Consideration:** Aim at assisting both local firms and foreign investors. Disregard low-end, non time-sensitive segment of the data entry market. Market to service bureaus, not end-users.
- **Active Marketing:** Improve Ministry of Industry and MEDIA familiarity with informatics sector and trends (collect literature, make site visits, etc). Participate in selected industry trade shows. Organize publicity campaigns, advertise in overseas informatics business and trade press.
- **Subcontractor Development:** Prepare informatics industry orientation materials for Mauritian entrepreneurs, at home and abroad, on general and specific sector opportunities. Make direct approaches to European and U.S. service bureaus in high

potential markets through MEDIA overseas staff. Undertake an exposure tour of leading offshore informatics locations with public and private sector participation and perhaps with MEDIA sponsorship, focusing on India and the Caribbean Basin.

B. Electronic Sector Analysis for Mauritius

Electronics Industry Trends

1. *The percentage of direct labor cost in an electronic product is decreasing. The emphasis is now on decreasing material costs.* It is therefore essential for Mauritius to enter the electronics industry quickly and to enter with labor-intensive products. As the manufacturing capability of Mauritius increases, Mauritius needs to develop more design-oriented capability.
2. *Subcontracting is becoming more popular.* The subcontracting industry is not very capital intensive. It does require the manufacturer to be physically close to the subcontractor, or for the subcontractor to be close to the source of raw materials or the end market. This means that Mauritius should be doing more subcontracting for manufacturers who want to sell into Africa or Europe.
3. *Subcontractors and manufacturing operations closer to home are becoming more popular.* This is a disadvantage to Mauritius from the standpoint of dealing with United States, but it is an advantage in dealing with European manufacturing.
4. *The United States is becoming a more service-oriented country.* Many new companies merely design products, market them, and then administer the production without actually doing the manufacturing. The challenge is for investment promoters to find these new companies and enter into joint venture or subcontracting arrangements with them. Participation in trade shows is thus a good investment promotion technique for Mauritius.
5. *There is increasing automation in electronic manufacture.* It is very difficult to justify offshore automation financially unless it is done to improve quality or material yield. The cost and the lack of technical support to maintain sophisticated equipment are the main problems in offshore automation. Mauritius should enter the electronics industry in areas that do not require automation. As internal technical capability improves, Mauritius can then start entering manufacturing that requires automation.
6. *Surface Mount Technology (SMT) is the new electronics manufacturing technology.* The SMT product requires a great deal of capital equipment to manufacture. Initially, Mauritius should not attempt to enter this field, but should look toward entering it as its technical capability improves.

Why Companies Are Looking At Offshore Manufacturing

Some of the reasons are lower material costs, lower tax bills, the opportunity to enter a new market, product design and R&D assistance, and lower labor costs.

The Factors Determining the Offshore Decision

Companies choosing a site for offshore manufacturing base the decision on several criteria: stable government; standard of living; operating costs, transportation; free zones, utilities; communications; labor force availability and quality; manufacturing support industries - precision tool, die and mold making, precision metal fabrication, precision plastic molding and PCB fabrication; business support industries; subcontracting capability; research and development; investment incentives and promotion agency.

Assessment of Mauritius Manufacturing

1. Infrastructure Assessment

Transportation. The time required to transport materials from the Far East to Mauritius or from Europe to Mauritius is considerable, and time means inventory costs. The cost of air freight is not too high, and there are regular flights to Europe, the Far East, and Africa. The cost to ship into Mauritius is much higher than the cost to ship out of Mauritius. shipping to the United States, either by sea or air, is expensive and creates logistical problems as it involves transshipment. road transportation in the country is very good.

Free Zones. While a company may obtain EPZ status for itself, there are no fully developed free zone industrial parks in the county, which is a disadvantage.

Utilities. Availability of electrical power is not a problem. Water and gas are available within Mauritius.

Communications. Telecommunications within Mauritius are inadequate and very poor. International telecommunications are very good, with direct dial capability. It can take a while to phone in and out of Mauritius. there are no satellite facilities dedicated to computer transmission.

Training Capability. While Mauritius has the requisite institutional infrastructure, it needs to be strengthened and augmented to meet the specific needs of the electronics sector.

Manufacturing Support Industries. These are almost non-existent in Mauritius. There is no precision tool, die, mold making, plastic molding, or metal fabrication industry. Most companies have their own repair or service facilities or sent items abroad for repairs. The Mauritius Standards Bureau does not have any electronic calibration capability.

Business Support Services. These services — banking, legal, accounting, computer, and shipping — are very good in Mauritius. There is a lack of U.S. banking institutions.

Subcontracting Capability. There is very little subcontracting capability in Mauritius. None do design work and most use material purchased by the foreign manufacturer, but there are a few good quality subcontractors with a proven production history.

Promotion Agency. The Mauritius Export Development and Investment Authority (MEDIA) has the prime responsibility for investment promotion and has promotion offices in Europe and the Far East but not in the United States. The foreign investor has to go through many steps for company incorporation which can be time consuming. The investor must normally use local consultants to assist in this task.

■ Electronic Sector Assessment

There are a number of electronic manufacturing companies in Mauritius whose entire market is foreign, which proves the viability of this industry. There are also a number of electronic companies doing import substitution, mainly in television set assembly. These are protected industries and cannot compete in foreign markets. As they have a developed manufacturing capability, the same can be improved and utilized for export-oriented production. Some of the electronic/electrical products manufactured in Mauritius are:

- Electronic watch movements
- Scientific instruments
- Televisions
- Soldering irons
- Fabricated printed circuit boards
- Cables
- Security alarms
- Uninterrupted power supplies

Some of the capabilities which exist are:

- Printed circuit board assembly
- Printed circuit board fabrication (single-sided only)
- Wave/flow soldering
- Surface mount assembly
- Cable harness assembly
- Wire winding

- Electronic testing
- Mechanical and electrical part assembly

Assessment of Failures

During the last 10 years, a number of electronic companies have failed in Mauritius. There is a great deal of misunderstanding concerning these failures. There are four basic lessons to be learned from them:

- Electronic components are not a good product to manufacture in Mauritius.
- A capital-intensive business is not a good business to operate in Mauritius.
- A foreign joint venture should be with a corporation, not an individual. A corporation has stability that an individual does not.
- An investor must recognize the strengths and weaknesses of Mauritius and himself. The investor should develop the areas utilizing the strengths and avoid the products and investments that require utilizing the weaknesses.

Understanding Mauritius' Comparative Position

- Mauritius offers several advantages for investment in electronics sector development:
- Mauritius offers a stable democratic, pro-western government that welcomes foreign investors.
- Mauritius benefits from two preferential access programs.

LOME: This one gives preferential access into Europe, and also allows free entry, given that certain value-added requirements are fulfilled. Both the advantages do not really pertain to the electronics industry. In the electronics industry there are no quotas, and the value-added requirement of LOME is 65 percent, which is almost impossible to obtain with an electronic product.

Preferential Tariff Agreement (PTA): This agreement with East African countries has been very difficult to implement because of currency and credit problems. Some Mauritian companies have been able to take advantage of it.

- Mauritius is centrally located in relation to Africa, Europe, and the Far East. It has very good business support services and has a stable work force and very good infrastructure.

- The incentive package offered by the Government of Mauritius to foreign investors for export-oriented business is competitive in the world market. There is EPZ status, and 100 percent ownership is allowed with unrestricted repatriation of profits and duty-free entry of materials and equipment.
- Competitive Costs: Mauritius' total manufacturing costs are significantly lower than the United States, United Kingdom, Western Europe, and Japan and are somewhat lower than Singapore, Honk Kong, Korea, and Taiwan. The costs are roughly equal to those in Thailand, the Philippines, Mexico, the Dominican Republic, and the Eastern Caribbean. The costs are higher than in Sri Lanka and Bangladesh.

Mauritius' disadvantages for electronics sector development include

- A shortage of engineers and technicians. This means extensive in-house training and hiring of expatriates.
- No manufacturing support industries, which means using expensive foreign services.
- Poor local telecommunication services.
- No one-stop shop to assist a foreign investor, who has to obtain many permits; great delays create a poor impression.
- No free zone industrial park structure.
- The great distance from the United States makes transportation and communication both difficult and expensive. Mauritius is located far from electronic materials suppliers in the Far East and also far from the technical support available in Europe and the Far East.
- Labor supply is getting tight and companies are required to be less selective in their hiring of employees. There is a long waiting list to obtain new factory buildings in Mauritius.

Recommendations

Training

Technical Training Needs. More electrical, electronic, and mechanical engineers and technicians are needed. There is also a need for specialized production management courses, covering quality control, production control, inventory control, purchasing, traffic management, and cost accounting.

Institutional Development. There is a need for university faculty development, and interaction between the university and the private sector. The Lycee Polytechnique needs development support to become more active in the development of the electronics industry. The Industrial and Vocational Training Board needs to sharpen its focus and become relevant to the needs of the electronics and other sectors. special training programs in investment promotion techniques are needed for customs department officials.

Promotion Strategy

Mauritius has a distinct weakness in electronics design and international electronics marketing but has a strength in manufacturing capability.

Products. The specific electronic sectors recommended are subassemblies, and commercial and industrial finished products. Components and consumer finished products are not recommended. The following gives examples of specific products which could be pursued:

- Amplifiers
- Automatic test equipment
- CAD/CAM equipment
- Circuit protective devices
- Soil and choke devices
- Communications equipment
- Computer peripherals
- Converters
- Environmental test equipment
- Industrial control systems
- Instrument recording devices
- Opto-electronics
- Power supplies
- Relays
- Robotics
- Switches
- Transformers and transducers

Geographical Areas. The areas that should be emphasized are the Far East, Europe, and the United States.

Special Industry Development. Mauritius should develop capabilities in the manufacturing support industries and subcontracting.

Promotional Strategy - Techniques. Five investment promotion techniques are recommended:

- Participation in scheduled events
- Advertising
- Use of industry experts
- Promotional materials
- Follow-up techniques

Incentives/Regulations

Investment Promotion Incentives. Mauritius should seek additional special incentives to attract higher technology, higher level products, and more sophisticated manufacturing operations. One incentive is the creation of "pioneer status," which can include tax-free status for an unlimited time, significant training subsidies, free lease for the first five years of the company's incorporation, and similar benefits.

Government Bureaucracy. The paperwork requirements for incorporating and operating and export-oriented business in Mauritius are overwhelming and time consuming. The customs department operation also needs streamlining.

Fiscal Policy. A number of GOM policies and regulations are not in the best interest of developing the manufacturing industrial sector of Mauritius. A review of the tariff and tax incentive system is needed. The study of the tariff system will assist in the design of appropriate industrial incentives for exports. Some specific areas of tariff improvements are

- Spare parts and research and development equipment to enter country duty free
- Same materials to be defined as having no duty value. This will avoid delays caused by disputes over definition.
- Automobiles and trucks for company use should enter duty free; plastic resins should enter duty free if plastic molding is to be an industry to be promoted.

AGRO-BASED DIVERSIFICATION STRATEGY

(Outline of Presentation by Bruce Mazzie)

- I. It is the policy of the Government of Mauritius to encourage horticulture production.**
- II. Summary of Study on Agro-Based Diversification Strategy by James Brown of the Resources Group 10/89 financed by USAID (attached).**
- III. Dr. Fagoonee of the University of Mauritius recommends:**

"the establishment of an institutional framework to formulate policies and facilitate agribusiness development (promotion, information, quality control, market access, credit, one-stop services), and

take advantage of the export opportunities of the LOME Convention."
- IV. Summary of Kenya Case Study from Successful Development in Africa by The World Bank (attached). Similar constraints and similar objectives. OUTLINE**

ELEMENTS OF A STRATEGY FOR THE DIVERSIFICATION OF AGRO-BASED EXPORTS by James Brown, Resources Group (USAID 10/89)

OPPORTUNITY:

Market opportunities exceed production levels.

CONSTRAINTS:

1. Lack of production and sector management.
2. Low available volume of product and demand in domestic market for processed ag products.
3. Distance to export markets, transportation links and costs.
4. Limited available arable land.
5. Difficulty in securing approvals, cumbersome procedures, and too many agencies involved.

6. Applications for incentives for companies servicing the domestic and export markets are complicated and applied on a ad-hoc basis.
7. Conflicts between food exports and domestic food prices remain.
8. Incentives available to EPZ exporters are not available to indirect exporters.

GOAL OF STRATEGY: Reduce risk and increase profitability

RECOMMENDATIONS:

Objectives:

1. Increase productivity of export varieties:
 - use mixed orchards rather than backyard horticulture
 - strain and select perennial crops
 - arrange crops to protect from potential cyclone damage
 - adopt planting material that meets market specs
2. Improve post harvest packaging and handling.
 - promote the use of proper packing material
 - Encourage price differentiation to reflect range of quality
 - Reappraise airport cold storage facility to increase its utility
3. Strengthen access to the market by obtaining information and provide training in market analysis, negotiations and contracting. MOAFNR should:
 - Focus research and channel resources on a limited range of items
 - Establish market determined selection criteria for commodities
 - Make wide and timely distribution of research findings
 - Encourage and facilitate joint research with the private sector and consider contract research
 - Establish a technical referral service in a cost recovery way
4. Sugar estates should create a new entity to encourage producers to diversify and the private sector should:
 - Protect market position by establishing quality standards and quality differentiated products shipping only acceptable quality

- Establish a booking system for air freight assignment and use
- Establish regular communications links with markets
- Facilitate travel to/from markets by producers and buyers to work out details and build relationships

OUTLINE

EXPORT OF HORTICULTURAL COMMODITIES FROM KENYA (fruits, vegetables and flowers)

FOCUS: Small Scale Producers

	Metric Tons	Value
1970	1,500	KS 3 million
1990	36,000	KS 630 million

OBJECTIVES:

1. Increase productive land use without depletion
2. Create employment and income
3. Generate FX
4. Increase domestic food production

BENEFIT:

Intensive use of marginal lands

PRODUCTS:

Vegetables: French beans, bobby beans, avocados, chilies, peppers, eggplant, okra, squash

Fruits: mangoes, pineapples, passion fruits, melons, strawberries, bananas, apples, grapes

Flowers: carnations, roses, orchids

OBSTACLES:

1. Trained personnel
2. Extension services
3. Cargo space
4. Competition

REASONS TO COMPETE:

1. Good climate
2. European winter demand
3. Central location for shipping
4. Local tourist industry

GOVERNMENT SUPPORT:

1. External contacts and marketing plans, for example, 48 hours for cut flowers to reach European shops
2. Establishment of Horticultural Crops Development Authority to:
 - Research at horticultural centers
 - Training - specialists, diplomas and demonstration projects
 - Inputs - extension, seeds and credit
 - Marketing - wholesale markets and export trading stations
 - Statistical information
 - Allocations of cargo space
 - Establishment of packing stations
 - Establishment of market information system
3. Horticultural Research and Training Centers and Substations and government nurseries run by the Department of Prisons

RESULTS:

Now over 4% of arable land is dedicated to horticultural production

1. Considerable employment - 2 man years per hectare and 214,000 hectares under production
2. Has not displace coffee or tea production - different land use
3. Market - UK, Germany and France

PROBLEMS ENCOUNTERED:

1. Cargo space
2. Packaging
3. Handling

LESSONS: (What of Kenya's experience is transferable to Mauritius?)

1. Provide market information
2. Control quality
3. Advise and train farmers
4. Provide research and information
5. Conduct monitoring and provide feedback

INDUSTRIAL DIVERSIFICATION

(outline of presentation by Dr. Irving Sirkin)

REFLECTIONS ON THE EXPORT PROCESSING ZONE

The moderator, Mr. Rama Sitchanen, opened the session by raising the following questions:

1. Is there a long-term alternative to an industrial exports-oriented strategy for Mauritius?
2. Is the continuation of EPZ necessary for success?
3. What is the optimal transition path for Mauritius to respond to external and internal changes?
4. Should Mauritius continue to differentiate between EPZ and import-substitution industries, or should there be greater integration between the two?

Mr. Poncini stressed the crucial importance of "instantaneous response" for Mauritius' industrial sector, and the need for a zero inventory policy. This is not at all possible in Mauritius according to Mr. Poncini. He was critical of government regulations and procedures which senselessly hampered the industrial sector, notably the prohibitively high duties on measuring instruments and other high-tech equipment and the complications involved in bringing foreign experts to Mauritius. He also suggested that the working hours in the government be extended to bring them in line with those in the private sector.

Mr. Poncini held that Mauritius was a dual economy. In 1983, the EPZ sector employed 13% of the labor force and in 1990 the EPZ and other "privileged" sectors that received special incentives such as tourist hotels and offshore banking, etc., employed 38% of the labor force. These "privileged" sectors had spawned a large government bureaucracy that had grown at an exponential rate. He felt that it was high time that the rest of the economy receive the same treatment as these sectors and that this would greatly reduce the size of the bureaucracy and thereby make it considerably easier to do business in Mauritius.

Mr. Treebohm held that labor-intensive industries should be transferred to Madagascar and the low-wage countries. He supported Mr. Poncini's view that the "privileged" sectors should be integrated with the rest of the economy. He also touched on training, urging that it be given by employers as is done in Singapore.

Mrs. Wong called attention to the emergence of free trade areas and zones throughout the world and that this is making international competition keener than ever.

Other participants made the following points:

1. New industries involve special risks and should be given special incentives.
2. Two participants expressed support for integrating the "privileged" and other sectors.

3. Export markets and potential investors in Mauritius should be targeted as is done in Taiwan and it was also suggested that the removal of visa requirements would induce Taiwanese and business people from other countries to visit Mauritius in route to South Africa.
4. Preferences in the European Community market for Mauritius' apparel exports were absolutely crucial for the industry. The likelihood that the Multilateral Fiber Agreement will be amended to reduce the preferences for Mauritius' exports is a source of concern. It calls for the apparel industry to become more competitive.
5. Taiwan's investment abroad has grown to a substantial level but has gone mostly to other East Asian countries and into labor-intensive industries which would not be of interest to Mauritius.

THE NON EPZ SMALL SCALE SECTOR: WORKING GROUP DISCUSSION

(Outline of Presentation by Dr. Irving Sirkin)

The Chamber of Commerce commissioned a study of the non-EPZ small scale sector that was carried out by a Mauritian consulting firm.

According to the study's preliminary findings, the sector contributes 40% of value added in manufacturing compared to 60% by the EPZ sector, and 8% of GDP compared to 13% by the EPZ sector. The non-EPZ sector receives the same treatment as the EPZ firms on taxation, import duties, etc. and that the two sectors should be integrated and that the non-EPZ sector be encouraged to produce more goods and services for the EPZ firms.

It was suggested that an export-oriented electronics industry would be particularly dependent on a local industry for the supply of a number of components.

Several participants felt that the Mauritian tariff structure whereby the import duties on raw materials and components were considerably higher than on the finished products severely handicapped small firms. Several examples were cited: volley ball nets are duty free while the duty on nylon cord used to make the nets is high; the same relationship applies to buttons and raw materials needed to produce them. The duty on different types of measuring instruments that are essential in many manufacturing operations are well over 100%. One participant pointed out that the tariff structure in Mauritius was often the opposite of what is found in import-substitution industries in most countries where duties on finished goods are much higher than on imports.

Several participants called attention to the need for venture capital by small enterprises interested in producing high-tech goods and services. The European Investment Bank has recently expressed interest in launching a venture capital project but indicated that the impetus for it must come from Mauritius.

One participant made a strong plea for integrating the EPZ and the non-EPZ sectors. He felt that the emergence of several "privileged" sectors - EPZ, tourist hotels, offshore banking, etc. - had produced an exponential growth in government bureaucracy for granting their privileges. This has produced very costly delays in granting import permits approving changes in the list of equipment imported by an enterprise capital structure, etc. A participant with long experience in Mauritian industry reported that he could not recall a single case where the government had refused to grant an import permit and he challenged the other participants to cite a case which no one did. He asked why the import permit requirement was not abolished.

Some time was spent in trying to define the characteristics of a small enterprise which is now officially defined in terms of the value of its equipment (RS 500,000 or less). This was felt to be inappropriate for Mauritius, current and future needs.

ACTION RECOMMENDATIONS EMERGING FROM DISCUSSION

1. Movement towards integrating the EPZ and the non-EPZ sectors by giving the same treatment to the two sectors in fiscal and other incentives.
2. Reducing or eliminating import duties on imports where they are considerably higher than on the finished products and also on equipment that is needed in high tech industries.
3. Abolishing import permits.
4. Creating a source for venture capital, especially for new enterprises.
5. Streamlining and eliminating government regulations that produce delays for industrial firms and especially those regulations whose public benefits are dubious or non-existent.
6. Granting unincorporated enterprises limited liability.