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# **INFRASTRUCTURE STRATEGY FOR THE EASTERN CARIBBEAN**

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## I. PREFACE

The purpose of this report is to present an infrastructure strategy for consideration by the Regional Development Office/Caribbean (RDO/C) as it prepares its Annual Action Plan (AAP) for submission to AID/Washington. This report was prepared by the International Policy Center of SRI International, a private nonprofit U.S. research consulting organization, under SRI's Contract Number PDC-0000-I-00-6133-00 with the U.S. Agency for International Development (AID).

The study was undertaken on behalf of the Program Office and the Infrastructure Office of RDO/C, and the SRI team would like to express its appreciation for the assistance and guidance provided by those offices and by the IEMS Project Office of Louis Berger International, Inc. However, the findings and recommendations presented in this report are solely those of the authors.

The SRI project team was led by John Mathieson, Director of the International Policy Center. Other team members were Kathleen Heffernan, SRI International Economist, and Carl Goderez, Consultant to SRI. This report is the cumulative result of the following set of activities. The project team first collected and reviewed existing literature on the economic climates and infrastructure needs of each of the six member countries of the Organization of Eastern Caribbean States (OECS) included in this study: Antigua, Dominica, Grenada, St. Kitts, St. Lucia, and St. Vincent. The team interviewed specialists in Washington-based international lending institutions, and then travelled to Barbados to conduct interviews with officials in RDO/C and in other major donor agencies involved in the region. After drafting an interim report, the SRI team returned to review the report with relevant officials in RDO/C, and then travelled

to individual recipient countries to examine infrastructure needs and consult with local officials and business executives.

The first section of the report presents an executive summary of the SRI team's findings and recommendations on infrastructure development in the Eastern Caribbean region. This is followed by a more detailed discussion of current infrastructure needs and interventions at the regional level. The next section is devoted to the SRI team's proposed recommendations and guidelines for an RDO/C infrastructure strategy for 1988-1993, including suggestions for programs in specific countries. The final section in the body of the report examines in greater depth a select number of issues related to current and prospective infrastructure interventions. The report also contains three appendices, each of which was prepared to support the conclusions and suggestions developed by the project team. These include economic reviews of the six countries involved in the study, an analysis of the nature and role of infrastructure interventions, and a description of current infrastructure strategies and projects in the region.

## II. EXECUTIVE SUMMARY

This report articulates an infrastructure strategy for the Eastern Caribbean, and suggests a number of infrastructure projects on each of the six islands. The strategy has essentially three phases, with a number of steps in each phase:

### 1. Project Identification

- Identify comparative advantages in each country.
- Solicit private sector infrastructure proposals.
- Review current project proposals to identify "sleepers."

### 2. Project Review

- Coordinate with other donors.
- Evaluate proposals against criteria.

### 3. Project Selection

- Prepare detailed engineering assessment.
- Design detailed project implementation plan.
- Undertake high level RDO/C project review.

Currently, the RDO/C strategy is embodied in its linchpin infrastructure project, the Infrastructure Expansion and Maintenance Systems Project (IEMS). In the opinion of the SRI team, the IEMS Project is a sound, efficient mechanism for approving infrastructure projects and allocating funds among six islands, each of which exhibits unique characteristics. The "Achilles' heel" of the IEMS Project has been an inadequate mechanism for eliciting project ideas from the countries, and especially from the private sectors in the countries. It is this weakness that this report aims to address.

As RDO/C continues to play an active role in infrastructure in the Eastern Caribbean, there are a number of important points to consider:

- The basic economic and social infrastructure are either in place or in the pipeline. Basic roads, power and communications have been supplied. However, the current infrastructure is insufficient to support more than modest increases in standards of living.
- Lack of routine maintenance is a pervasive problem. Due to limited financial and administrative capabilities, nearly all forms of infrastructure are deteriorating, some extremely rapidly.
- The ability of the regional governments to detect infrastructure needs, and to devise, fund and implement adequate solutions is generally low. This weakness, referred to as insufficient "absorptive capacity," combined with the high level of donor activity in the region, severely limits the quantity of fundable projects.
- The project identification process should include greater private sector participation. Currently, the Public Sector Investment Program is designed by the governments and the donors, with little business community input. The private sector knowledge of comparative advantages, markets and market niches should be a key source of valuable information in drawing up the infrastructure blueprints.

- The infrastructure plan must keep pace with the fundamental economic transition from traditional plantation-oriented agricultural economies to nations actively pursuing their comparative advantages in export-oriented activities. More advanced infrastructure is required as the relatively newly independent states begin to pursue nontraditional activities, and RDO/C's infrastructure strategy must adapt.
- Infrastructure projects can be a valuable tool in structural adjustment negotiations. Since infrastructure projects are publicly visible, a delay in or rejection of a governmental proposal is also highly visible, and therefore can be a useful tool for persuading governments to adopt necessary policy reforms.
- Infrastructure project approvals need to be grounded in an analysis of each country's comparative economic advantages. The small size of labor forces, and limited quantities of available lands, credit and entrepreneurial talent in the Eastern Caribbean nations limit their ability to develop fully diversified economies. By stretching limited infrastructure budgets over too many sectors, donors may be failing to provide a "critical mass" of infrastructure in any one sector.
- Utilities operating in the Eastern Caribbean must begin to charge reasonable user fees that cover operating costs and provide funds for maintenance. Those utilities that are run on a

business-like basis, such as SKANTEL on St. Kitts, offer higher quality service to users because they have sufficient internally generated funds. All utilities should be independent agencies and should maintain careful records on costs and revenues.

### III. CONCLUSIONS ON OECS INFRASTRUCTURE STATUS, INTERVENTIONS, AND NEEDS

The design and development of any effective strategy must be based on an objective assessment of existing conditions and current and prospective needs. Therefore, before setting forth a strategy and series of recommendations for infrastructure development in the Eastern Caribbean, it is important to take stock of present conditions and recent achievements. This section reviews those conclusions drawn by the project team that with limited exceptions hold for the region as a whole. These observations are divided into three categories: Current infrastructure conditions, relationships between infrastructure and economic activities, and donor assistance strategies and approaches. However, these are preceded by two "a priori" points of reference which are important in establishing the context for what follows.

The Eastern Caribbean region can be distinguished by a unique set of political and economic conditions, which in turn pose a unique set of challenges to both host governments and those seeking to assist these countries.

Having only recently achieved sovereign independence, these nations have not yet had sufficient time to develop and test democratic traditions and administrative institutions. Similarly, their economies and management structures were prior to independence oriented toward colonial relationships and activities (e.g., plantation-style sugar and banana production) which are no longer viable and have to be replaced by operations unfamiliar to local entrepreneurs and populations. In addition, due to their small size (in most cases populations number below 100,000 and usable land is extremely limited), the island nations will encounter severe difficulties in achieving sufficient economies of scale, and can logically rule out any significant

chance of developing a fully-diversified set of economic activities (see Appendix 1). While these realities do not preclude the possibility of achieving sustained economic and social progress, they should nevertheless be acknowledged as limiting factors. Another complicating factor is that donor agencies active in the region are dealing with not one but a number of individual sovereign nations, each of which seeks to maximize its own advantage.

Infrastructure projects and other forms of assistance must be approached in the context of, on the one hand, strong U.S. strategic, economic and political interests in the region, and on the other hand an environment of increasing constraints on budgetary resources.

The United States government places a high priority on the promotion of political stability and economic growth in the Caribbean Basin region. This commitment has led to trade preferences and foreign assistance flows which are greater than would normally be expected in view of population sizes and per capita income levels. While the U.S. priority on and commitment to the region remain in place, the U.S. government is encountering unprecedented budget deficits which inevitably create pressures for reductions in expenditures, including foreign assistance programs. As a result, existing and prospective financial resources must be programmed efficiently and be utilized under the assumption of an increasing scarcity of funding. No major reduction in regional funding has been suggested to date, and allocations may in fact rise, but prudent planning requires a relatively conservative assumption regarding funding availability.

With these two assumptions serving as a backdrop, the condition of infrastructure development in the Eastern Caribbean

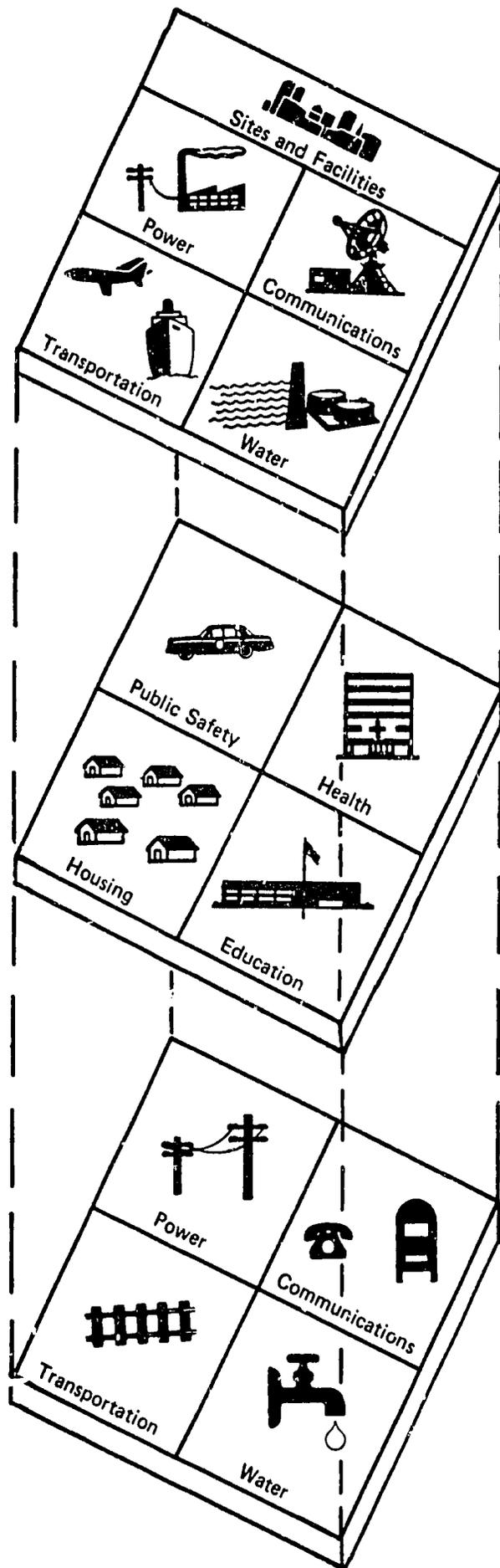
region can be described as exhibiting the following characteristics.

### Current Infrastructure Conditions

With limited exceptions, the basic systems of economic and social infrastructure are either in place or in the process of being installed.

From an analytical perspective, infrastructure can be broken down into three categories, as shown in Figure 1. Economic infrastructure serves as the underpinning of all economic activity, and includes basic transportation, water, power and communications. Social infrastructure involves facilities needed to provide housing and education, health and public safety services. Enterprise support infrastructure represents a more advanced system of economic infrastructure and is geared toward directly assisting productive activities (see Appendix 2 for a more detailed discussion).

In the Eastern Caribbean, essential economic and social infrastructure has been constructed, especially when compared to lesser developed economies in Africa and South Asia. Infrastructure in each of the countries examined in this study is adequate to meet a minimum threshold of social wellbeing and economic activity, but is insufficient to support more than modest rises in standards of living. The major road systems have been constructed or "allocated" among donors, as have basic transport facilities. Access to water, electrical power, and communications services is generally available, although not necessarily to all population groups. Similarly, most forms of social service infrastructure (schools, hospitals, fire and police stations, etc.) have been installed.



**ENTERPRISE  
SUPPORT  
INFRASTRUCTURE**

- Generates employment, income relatively rapidly.
- Niche identified for targeted, sector-specific RDO/C infrastructure assistance.

**SOCIAL  
INFRASTRUCTURE**

- Directly improves social wellbeing; also increases long-term development prospects.
- Focus of basic human needs approach to development.

**ECONOMIC  
INFRASTRUCTURE**

- High cost, long-term investment; Underpinning of all economic activity.
- Current focus of donor infrastructure assistance in OECS countries.

**FIGURE 1 SEQUENTIAL LAYERS OF INFRASTRUCTURE**

The infrastructure in place will be unable to meet rising demand.

In most instances, utilization of existing infrastructure is at or near capacity, and there is a general dearth of comprehensive plans or capabilities for upgrading or expanding capacity. Once facilities are installed, primary emphasis is placed on remedial actions to restore service once it has been disrupted. Seldom do authorities seek to enhance or extend the quality and quantity of service. The principal reason for this deficiency is that government agencies are not equipped, administratively or financially, to engage in long-range planning.

Lack of appropriate maintenance is a major problem experienced throughout the region.

Nearly all forms of newly installed infrastructure have experienced and continue to face deterioration due to general neglect. Roads degenerate because of lack of repair, buildings decay for want of coats of paint, and electrical generation systems malfunction as a result of the absence of routine maintenance. Due to these and other forms of deterioration, considerable attention and funding have been allocated to the replacement or restoration of infrastructure already in place, leaving little time or money for the establishment of new, productive infrastructure. There is a strong degree of consensus on the view that recipient country governments often wittingly fail to fund and implement appropriate maintenance programs on the assumption that maintenance will be funded in the future by donor agencies in the form of "new" infrastructure projects.

The ability of countries in the region to finance and administer new infrastructure projects ("absorptive capacity") is highly limited.

A nation's ability to build and maintain infrastructure is dependent upon a number of variables which collectively represent "absorptive capacity." Appendix 2 discusses these factors in greater detail, but they generally comprise administrative and financial capabilities to identify, plan, implement, and maintain facilities. The SRI team observed a unanimity of opinion regarding the degree of infrastructure absorptive capacity on both a regional and country-specific basis.

In general, absorptive capacity is deemed to be "weak" throughout the region. The most severe deficiencies fall into the areas of finance (virtually no sizeable projects are funded from internally generated capital), project management, and ongoing maintenance. In other categories of absorptive capacity requirements, levels of capabilities vary. A major recurring problem is retention of trained, qualified professionals in relevant agencies in host country governments. Many capable engineers and managers leave public service positions due to low salary scales and more attractive opportunities abroad or in local private firms.

Within this generalized context of deficiency in available management and administrative skills, relative capacities vary by country. There is a strong consensus on the conclusion that the strongest overall capacity is to be found in Dominica, followed by St. Lucia and St. Vincent. St. Kitts falls into a middle category, and the greatest weaknesses appear in Grenada and Antigua. Throughout the region, shortfalls in governmental absorptive capacity constitute a considerable constraint to the timely and efficient introduction of new infrastructure.

Many of the recurring problems associated with infrastructure in the region are due to limited government capabilities and the absence of private sector involvement and/or commercially sound management.

As noted above, the administrative and financial resources of most of the governments in the region are stretched to the limit of their capabilities, and hence are unable to meet the requirements of new project implementation. While infrastructure is normally considered a "public good," governments in the Eastern Caribbean often assume responsibilities which could more effectively be held by local private sector entities. Private sector involvement could extend to the entire gamut of activities from project identification, to implementation and maintenance. Currently, such involvement tends to be informal at best and in many cases lacks transparency.

Similarly, many public utilities do not engage in commercially sound management practices. Public services are often administered as government entities with little or no regard for financial integrity. User costs are frequently heavily subsidized, and billing procedures tend to be lax, due to both political considerations and the assumption that users are simply unable to pay. The sum result of these and related factors is limited cost recovery to finance recurrent much less capital expenditures.

### Relationships Between Infrastructure and Economic Activities

The installation of physical infrastructure is not an end in itself. It is a means to support and enhance standards of living through productive economic activities and growth. The following conclusions relate to the critically important set of interactions between infrastructure and economic performance in the Eastern Caribbean region.

All nations in the region are experiencing a period of significant economic transition, which in turn complicates orderly infrastructure development.

As newly independent states, the countries in the region have only recently embarked on concerted efforts to develop and diversify their economies away from traditional pursuits (plantation agriculture, limited tourism, and import-substitution oriented manufacturing) and toward activities with greater long-term growth potential. The learning period is well under way, and lessons have been learned from both successes and failures, but many new operations require skills and processes for which there are limited traditions and precedents in these economies. Some new requirements relate directly to infrastructure. For example, export oriented manufacturing requires reliable electricity service which is not necessarily important for an agriculture-based economy. Similarly, success in large scale tourism is dependent on access to ample supplies of water and on acceptable waste treatment systems which protect the environment. In short, the demands which new forms of economic endeavors place on infrastructure differ from and are typically greater than those associated with traditional activities, and so the challenges of economic transformation in the Eastern Caribbean have been mirrored by challenges of adapting and enhancing infrastructure to meet new needs.

The greatest observed infrastructure requirement in the region is for facilities and services which directly support productive economic activities.

As noted above, the foundation of infrastructure has been largely laid in the countries studied, although weaknesses are widespread. The principal infrastructure bottlenecks are no longer basic transportation, water, power and communications systems, but rather extensions or enhancements needed to foster

foreign exchange earning enterprises. The project team observed a need to link infrastructure interventions more closely to actual levels of development and productive sector utilization and prospects. For example, one should not simply build a large new airport on the assumption that tourist traffic will inevitably increase. Similarly, the construction of feeder roads to open up agricultural land are unwarranted if agribusiness is fundamentally unprofitable.

Contrary to general opinion, infrastructure deficiencies are not the primary constraint to sustained economic development in the region.

Shortages of water or power or inadequacies in port facilities are often cited as the major checks to improved economic performance in the Eastern Caribbean, and in fact were deterrents in the past. However, an objective assessment of business related "assets" and "liabilities" -- in comparison with those of regional competitors for export or tourism markets -- generally indicated that the following factors are the most compelling constraints: Limitations on economies of scale, high wage structures, unreliable and high cost transportation to and from the islands, a dearth of skilled labor and middle management capabilities, lack of sufficient land of adequate quality for agribusiness operations, the absence of tourist attractions, an inadequate level of "entrepreneurial spirit," and perhaps above all, bureaucratic red tape, government inefficiencies and anti-business policy frameworks. Some of these constraints can over time be addressed and eased, and some cannot. Nevertheless, policymakers cannot legitimately blame infrastructure as the most important cause of shortfalls in economic performance.

On most islands, a clear vision of the individual nations' true comparative advantages and sectoral earning potential has yet to be developed.

The general tendency noted by the project team is that government officials assume that each country is capable of developing and sustaining a fully diversified set of economic activities in agriculture, manufacturing and services (tourism). This being the case, officials contend that infrastructure projects should be directed at all of these sectors. While one cannot and should not rule out the possibility of profitable ventures in each sector, nor disregard the importance of achieving a degree of diversification, the small size of these economies presents a compelling case for specialization. However, even if the logic of specialization dictates a targeted infrastructure strategy, this often runs counter to political pressures. For example, even though the potential for export oriented agriculture is limited, governments in the region feel obliged to promote agriculture infrastructure projects in order to sustain political support in rural areas. While political realities and pressures have to be acknowledged in any country, they must be tempered in areas or times of limited resources. Countries in the Eastern Caribbean are now in the situation where decisions on project alternatives should be made increasingly on the basis of clear economic potential.

Despite the level and nature of discussions currently under way, one cannot anticipate a serious degree of economic and/or political integration in the region in the foreseeable future.

Considerable attention has recently been given to the concept of regional integration. A number of governments actively support the initiative, whereas others have expressed skepticism or opposition. The concept of integration has strong merits, particularly in the case of small economic entities, for one can achieve economies of scale through specialization and the consolidated production and delivery of services. Therefore, the possibility of mutually beneficial forms of integration should

continue to be pursued. However, from the practical standpoint of infrastructure and economic potential, the likelihood of a serious degree of integration is limited. The islands are competitors, and infrastructure is locally provided. Nonetheless, opportunities for joint ventures or other types of economic cooperation are clearly possible, such as common processing facilities for agricultural products, joint tourism packages, etc. It is likely that these opportunities can most effectively be explored by private businesses rather than by government entities. The experience of regional cooperation in the area of specialization and joint production facilities (e.g., in the European Community, the Andean Pact, and the Association of South East Asian Nations -- ASEAN) has been disappointing to all concerned.

#### Donor Assistance Strategies and Approaches

The historical pattern of project identification shows little clear evidence of decisionmaking based on rational analysis and prioritization of competing proposals.

The process for initially screening infrastructure projects appears to be an ad hoc operation with governments and donors interacting on several informal and formal levels, sorting out project ideas within the framework of available funds and donor strategies. It could be argued that this "ecumenical" approach was the most feasible given that all facets of infrastructure--social as well as economic -- were demonstrably deficient and unable to meet levels of demand. Today, however, in light of the general consensus on the highest priority objective--strengthening the private sector in export-oriented productive activities -- and the looming threat of funding reductions, inefficient allocation of scarce resources must be avoided. More

rigorous project screening and selection is an operational imperative.

RDO/C's infrastructure program has consistently been well integrated with USAID's overall strategy and objectives for the region.

An objective analysis of available documentation indicates that the Regional Development Office/Caribbean has undertaken concerted efforts to orient infrastructure interventions to support the Office's overall program. While the Office's approach is appropriately flexible to accommodate the multi-recipient, multi-donor situation in the region, the infrastructure program is coherently tied to a well specified series of goals for the region. The Office's Infrastructure Expansion and Maintenance Systems (IEMS) project is well suited for meeting the region's requirements and objectives, and serves as a useful model for other assistance programs.

Donors currently do not seek an adequate level of input from the private sector in project identification and selection.

The Public Sector Investment Program (PSIP) provides a useful blueprint for infrastructure planning in the OECS countries. Unfortunately, private business communities are not adequately consulted during the PSIP preparation process, which primarily involves interactions between government and donor agency officials. As a result, infrastructure investment programs tend to be skewed toward the public sector's formulation of the countries' needs. Bureaucratic decisionmaking processes and the lack of entrepreneurial "niche-finding" that characterizes governments in the region work counter to the identification and selection of infrastructure projects that offer high returns. The role of the private sector in defining the infrastructure program should be strengthened.

While limited, the current level of donor coordination and cooperation is adequate.

Institutional mechanisms for donor coordination can be described as loosely structured, but are generally deemed to be sufficient. The Caribbean Group for Economic Cooperation and Development (CGECD) plays a valuable role in providing all of the donors with a common set of information and assumptions upon which to make funding decisions. The Tighter Consultative Group provides an additional amount of collaboration on structural adjustment assistance, and the OECS Economic Secretariat is in the process of developing regionwide data on projects and initiatives.

Of necessity, each of the donors operates with its own internal agenda and set of selection criteria. However, the donors reach decisions in a consistent manner on the basis of formally and informally shared information. There is little scope for additional donor coordination in the region without restricting the ability of individual donors to fund those projects which they deem to be the most valuable.

#### IV. RECOMMENDATIONS FOR AN RDO/C INFRASTRUCTURE STRATEGY

##### Infrastructure Strategy for 1988-1993

As noted at the outset, the purpose of this report is to suggest an infrastructure strategy with a five-year time horizon for consideration by RDO/C. On the basis of the research and analysis undertaken as part of this study, the SRI project team has developed an infrastructure strategic plan which consists of the following elements.

- A central objective which serves as a focal point and guiding principle for infrastructure development activities in the region.
- A definition of scope which sets parameters for infrastructure interventions but provides sufficient flexibility to meet new needs as they emerge.
- A methodological framework which establishes a process for leading logically to desired concrete decisions regarding infrastructure projects.
- A set of evaluative criteria to serve as a basis for judging and ranking project alternatives and take into adequate account appropriate concomitant actions and benefits.

A more detailed discussion of each of these elements is presented below.

##### Infrastructure Strategy Objective

The central objective of the proposed RDO/C infrastructure strategy is to:

Undertake a coherent program of infrastructure interventions which directly enhance the capacity of OECS countries to accelerate the introduction of private sector-led, export-oriented economic growth and development. The ultimate goal is the achievement of self-sustained, productive economic activities which are based on true comparative advantage and which reduce degrees of dependence on external sources of financial capital.

The strategic objective places RDO/C's infrastructure program at or near the core of the four-part cluster of development assistance activities. Infrastructure interventions would be intended to lead directly to sustained economic growth through assistance to existing and newly emerging productive enterprises, especially those owned and managed by the private sectors in each country. And, as indicated below, the implementation strategy will incorporate elements supporting lasting structural reforms. The strategy also is aimed at ultimately supporting economic stabilization and a more even sharing of the benefits of growth. Finally, inasmuch as consistently improving economic conditions and increasingly viable private sectors contribute to social wellbeing and political stability, the strategy seeks to foster a strengthening of democratic institutions in the region.

#### Definition of Scope

The range of project and program activities to be carried out under the proposed strategy encompasses the three categories of infrastructure noted above -- economic, social, and productive sector support infrastructure -- insofar as they directly and measurably assist the foreign exchange earning capabilities of productive enterprises in each of the recipient OECS countries. The operational definitions of the terms used in this scope are intended to provide practical, ongoing guidance in the implementation of the RDO/C infrastructure strategy.

- The inclusion of all prospective forms of infrastructure in the scope is intended to preclude the possibility that any high potential investment would be eliminated from consideration. However, it is understood that the majority of projects would fall into the categories of extensions of basic economic infrastructure already in place, and especially productive sector support infrastructure.
- The emphasis on "foreign exchange earning capabilities" acknowledges the fact that purely domestic sources of growth cannot be realistically anticipated, and that the success of both growth and adjustment in the region is dependent on foreign exchange earning sectors.
- The term "productive enterprises" implies that beneficiaries of infrastructure investments are economically and financially viable (profitable and not subsidized) and are owned and/or managed by private entrepreneurs or firms.

#### Methodological Framework

Conducting an effective infrastructure program over a period of up to five years requires the design and utilization of a rational methodology for identifying, reviewing and selecting individual projects. Ideally, such a framework should provide the means for leading logically toward ultimate decisions, assuring the greatest potential benefits, and tracking progress and performance over time. Equally importantly, the process should be as uncomplicated and non-bureaucratic, easily understood and implemented, and sufficiently flexible to accommodate contingencies and capitalize on opportunities as they arise.

The SRI project team proposes that RDO/C adopt a simple three phased process for infrastructure project identification, review, and selection. These phases and their substantive

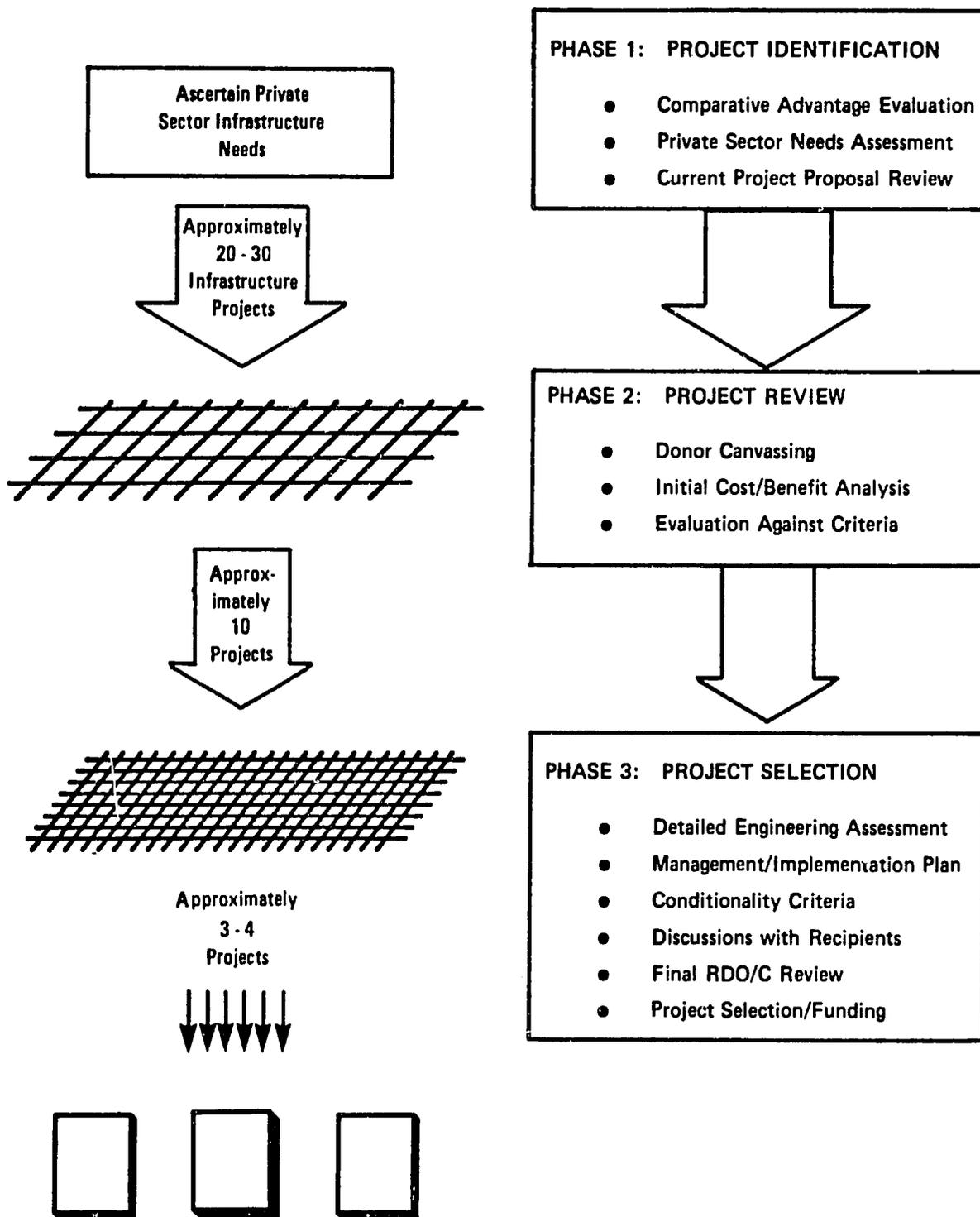
components are described briefly below and illustrated in Figure 2.

### Phase One: Project Identification

The purpose of this important initial phase is to establish a clear sense of the sectoral economic potential of individual OECS countries, and to identify underlying infrastructure needs which should be met in order to develop determined areas of potential. Undertaken on a country-by-country basis, this initial step can be completed within a relatively short time-frame and involves the following tasks.

**Comparative Advantage Evaluation:** The basic premise underlying the proposed infrastructure strategy holds that infrastructure investments should relate directly to recipient countries' actual comparative advantages for earning foreign exchange. This component involves an objective analysis of relative advantages and disadvantages. It can be based on a review of existing published sources of information (e.g., World Bank "gray covers," IMF economic memoranda, forthcoming sectoral studies currently being prepared by the CDB, etc.), a select number of interviews with experts on economic conditions and prospects, and most importantly an assessment of the "revealed performance" of previous and current efforts aimed at developing agriculture, manufacturing, and tourism as exchange earning sectors in each recipient country. The object of this exercise is to determine with a reasonable degree of certainty the absolute and relative prospects for growth in each major sector and individual subsectors within them. In addition, the evaluations would include an initial indication of infrastructure needs associated with sectoral development.

In a reverse sense, a major comparative disadvantage -- such as the perennial water shortages of Antigua -- could become the



**FIGURE 2 RDO/C INFRASTRUCTURE PROJECT SCREENING PROCESS**

rationale for an imaginative approach to fundamentally eliminating the constraint on development. Since 1983, AID has been funding a multi-faceted program designed to effect a basic long-range solution to Antigua's water problem, including: rehabilitation of inoperative wells, upgrading water treatment, distribution and storage facilities, improving management and financial performance of the water authority, and of paramount importance, the installation of a 2 million gallon/day desalinization plant. The desalting process will require 9 MW of steam-generated power. Two 9 MW generators are built into the design, leaving 9 MW to meet the country's growing power demand. Thus, the water constraint of Antigua -- a serious historical comparative disadvantage -- has, in effect, triggered a very basic solution to that problem as well as making a major contribution to the energy problem.

The comparative assessment must necessarily be done on a country-by-country basis, because each island is unique and in a very real sense is competing with the other OECS nations for opportunities. Of course, to a certain extent the islands are similar. It has generally been the case that the OECS countries are not as attractive to foreign investment as was originally envisaged. Foreign investment has not proven to be the leading source of investment in export-oriented productive sectors as had been projected in the early to mid-1980s when the PDAP and IPIP programs were being implemented. In hindsight, the OECS generally seems to be at a competitive disadvantage in terms of labor rates, power and water supply cost and reliability and, of special importance to export-oriented industries, the capacity, quality and frequency of external transport services (air and sea). Although some export-oriented foreign-owned industries have been and will continue to be established -- in St. Lucia, St. Kitts, Grenada, and to a lesser extent in the other islands -- there is little likelihood of any further growth surge in this sector.

**Private Sector Needs Assessment:** Under the current decisionmaking system, project candidates either do or do not make their way to formal "PSIPs" through discussions and negotiations between recipient governments and officials in the various donor agencies. While private sector inputs may be received at some stage of this process, they are informal and are largely based on personal relationships. This component of the project identification phase seeks to solicit private sector views through a simple survey which allows private executives to offer their views on infrastructure capacities and needs. The survey can be either a written questionnaire, perhaps distributed by local chambers of commerce or similar business associations, or a series of short interviews with a representative sample of entrepreneurs in each of the sectors identified as holding promise. A third alternative is to collect private sector views and recommendations on infrastructure in a single meeting involving a number of business leaders.

**Current Project Proposal Review:** This component merely replicates the existing system of project identification. A list of project proposals made by relevant ministries and agencies is requested from each recipient government. This list is then added to the potential project "inventory" generated by the objective comparative advantage assessment and the private sector needs assessment. A main purpose of the exercise would be to seek out "sleepers", that is, potentially beneficial project proposals that have been overlooked or shunted aside up to now.

The completion of these three tasks, either individually or collectively, should not require a major level of effort, but perhaps could be undertaken during the normal course of RDO/C staff activities. However, in view of existing sensitivities both within and among individual recipient countries, as well as the potential for undesired "lobbying" on the part of "champions"

of specific project candidates, those carrying out the identification exercise should exert great care to elicit objective suggestions and to avoid the creation of excessively high expectations.

### Phase Two: Project Review

Once an initial universe of potential infrastructure project ideas has been established, the next logical step is to subject these proposals to a predetermined review process, consisting of the following "tests."

**Donor Canvassing:** Given the multiplicity and limited resources of donor agencies in the region, RDO/C needs to determine the level of interest of other donors toward funding of either general sector or specific project initiatives. Competition among donors for the limited number of "attractive" projects has heretofore dictated against formal donor collaboration other than in ad hoc situations. However, it is important to have some sharing of information on infrastructure strategies to avoid unnecessary forms of competition and hopefully to achieve some economies of scale and leveraging. The purpose of this task is for program and project officers to obtain through informal networking channels a sufficient amount of "base line" information on the intentions of other donor groups.

**Initial Cost/Benefit Analysis:** Unless infrastructure project candidates are judged as fundamentally not feasible, they should be subjected to an initial test of their costs and benefits. At a minimum, this involves a presentation in schematic form of the direct and indirect beneficiaries of prospective infrastructure facilities, an analysis of the form and level of benefits derived, and a general estimate of costs to be incurred.

**Evaluation Against Criteria:** The principal goal of any process for reviewing alternatives is to select projects for further consideration on the basis of relative merit. To determine merit, alternatives can be scored according to a systematic set of evaluative criteria. A list recommended by the SRI team is presented below.

- Do the sectors/subsectors which are primary beneficiaries of infrastructure improvements have proven or persuasively determined potential for expansion of foreign exchange earnings? (list current levels and projections).
- Are non-infrastructure related constraints to growth (e.g., labor costs or availability, market size, external transportation costs, etc.) either absent or feasibly overcome within a reasonable period of time?
- What is the most plausible schedule within which measurable foreign exchange earnings can be achieved?
- To what extent do aggregate costs exceed identified benefits?
- What is the degree to which initially assisted sectors/subsectors can generate ancillary enterprises in similar activities over time (demonstration effect)?
- What is the level of and nature of positive multiplier effects of the beneficiary enterprises (e.g., local input sourcing, servicing, tax revenue generation, etc.)?
- To what extent is direct or indirect cost recovery possible and planned?
- Is infrastructure maintenance taken into sufficient explicit consideration?
- What is the degree of involvement of the local private sector in the planning, management, construction and maintenance of the infrastructure envisioned (i.e., to what extent

can the project itself promote private sector development)?

- To what extent are the public sector implementing authorities capable of administering the project?
- Is it possible to attach desired policy reform conditions (reducing policy-induced constraints to targeted sectors/subsectors) to project approval?

Under the proposed review process, individual infrastructure projects would be scrutinized according to the criteria established, either under a simple scoring system (ratings from one to ten) or under some form of weighted system. Based on scores received, the initial list of perhaps ten to twenty potential candidates would be winnowed down to about three or four high potential projects per country.

### Phase Three: Project Selection

The ultimate phase of the process involves the final selection of infrastructure projects to be funded by RDO/C. The first step in this phase is the preparation of a detailed engineering assessment of the finalist candidates determined in the preceding phase. This would be supplemented by a detailed project management and implementation plan. The proposals would then be presented for formal review by senior RDO/C officials, and would be discussed in detail with relevant recipient country leaders. If all necessary conditions and criteria are met, the project would be approved and would proceed to implementation.

### Country Specific Infrastructure Recommendations

The previous section described a general infrastructure strategy for RDO/C to consider for the Eastern Caribbean. This

section presents initial elements of infrastructure programs for each of the six countries included in the study. Following a discussion of the condition of infrastructure in place in each country is a preliminary assessment of each nation's comparative advantage, a list of appropriate infrastructure projects, and a review of the "absorptive capacity" of each country to implement the proposed projects.

The discussion and recommendations which follow do not constitute formal country strategies, the methodologies for which were proposed in the preceding section, since the current project allowed for only a limited amount of analysis and number of interviews with government officials and business leaders. However, this section does seek to cover the major points that would be pursued in the development of such strategies.

#### Antigua and Barbuda

Antigua has a relatively advanced core of infrastructure. The two main problems, lack of water and power, are being addressed with the installation of a desalinization plant that has the capacity to meet expected demand for power and water for the next 5 - 10 years. Nonetheless, the transmission and distribution network linking tourism and light manufacturing users with the plant is generally considered inadequate. In contrast, the road network is adequate, although maintenance is poor.

One problem that has not yet been addressed is the poor telephone service; there is allegedly a long list of potential customers. Inadequate telecommunications are constraining the attractiveness of Antigua as a site for tourism and for data processing activities which require rapid, dependable data transfer.

A latent but serious problem is sewerage treatment and surface drainage. Little has been done in these areas to date. In some cases, individual septic tanks have been built, but in others, raw sewage flows directly to the ocean. Depending upon currents and build-up, this could potentially threaten and even devastate the island's tourist industry. In addition, groundwater seepage could have extremely harmful health effects.

More than the other OECS countries, Antigua has attempted to identify its comparative advantages. More importantly, the government has taken concrete steps to direct its resources to the high-growth sectors. Antigua has foreign exchange earning potential in two areas -- tourism and manufacturing, in that order -- and is pursuing a two-pronged development strategy.

Assuming that the sewage problem is controlled, Antigua foresees a bright future for tourism. Antigua has already developed its tourism potential to a greater extent than the other countries in the region. In 1986, Antigua received nearly two stayover visitors for every one resident, a ratio that exceeded even Barbados' ratio of 1.5 visitors per resident. Large expanses of undeveloped beaches and adequate vacant sites indicate that Antigua's tourism potential has not yet been fully tapped, and that tourism can continue to grow at a rapid pace. A luxury 350 room resort opened in December, and 15 new hotels are planned, some with government participation.

The tourist market can be tapped for additional Antiguan products, and in the process stronger links can be forged with other sectors of the economy. Production of fruits and vegetables such as peppers and cucumbers, as well as alcoholic and nonalcoholic beverages, have already increased, and have a large potential. However, except for supplying the domestic market, no large role for is foreseen for agriculture.

The second development priority is light manufacturing, particularly for the North American market. The current scope of light manufacturing is small. Manufactured exports include garments, electronic components, furniture, alcoholic and nonalcoholic beverages, foodstuffs, packaging materials and consumer household durables. Manufactured goods for the hotel rooms and the handicraft and souvenir industries also face increasing demand, and therefore are growth sectors. However, the extent of future growth is limited by three factors: a small domestic market, which lowers the attractiveness of the country as an investment site; the small size of the labor force, which currently numbers only 25,000; and the relatively high minimum wage, which is approximately twice the minimum wage of competitor countries such as the Dominican Republic or Honduras.

Several infrastructure projects would assist Antigua in realizing its potential in tourism and light manufacturing. The costs and benefits of each project would need to be carefully assessed prior to approval and funding. The projects are preliminary ideas and are not presented in order of priority.

1. Beautify downtown St. John's, and link it visually with the new 40-shop duty free complex under construction at the waterfront. Road and sidewalk repair, upgraded awnings, streetlamps, and sidewalk trees or flowers would encourage tourists to shop not only in the duty-free area, but in the town itself. The beautification would increase the linkage between tourism and St. John's commercial district, and promote a more widespread infusion of tourist dollars into the local economy.
2. Prepare multi-donor sewerage plan. The sewerage problem is likely to be severe in Antigua if it

is not addressed soon. Given the cost of the alternatives, sewerage is an area in which donors will need to cooperate. An informal working group composed of officials from all of the major donors should be formed as soon as possible, and charged with preparing a needs assessment and an initial review of options and responsibilities.

3. Install additional electrical power generators. While the extra generators installed at the desalinization plant are expected to meet demand for the next several years, electric power demand on Antigua has been growing faster than projected. While the fast-growing demand is welcomed as a sign of development, additional generating capacity will be required earlier than was originally planned. Assuring a continuous supply of power is critical to sustaining and promoting both tourism and light manufacturing, Antigua's two highest priority sectors.
4. Build additional industrial space. The export processing zones in Antigua are at full occupancy. Two factory shells were reportedly subdivided in order to accommodate four tenants. Additional factory space would facilitate the arrival of additional light manufacturing firms, and accommodate the expansion of current firms.
5. Improve road quality. The donor community has provided Antigua with a fine road network. Unfortunately, some of the roads have not been properly sealed, and lack adequate drainage. Putting down higher quality roads initially will reduce the need for maintenance and increase the

useful life of the roads. In future road requests, priority should be given to constructing higher quality roads, even if the number of miles of road has to be reduced.

6. Assist in the rehabilitation of historical buildings at English Harbor. These sites could be reconstructed into valuable tourist attractions. It might be possible for Antigua to capitalize on the expanded Caribbean tourism that will take place in 1992 to celebrate Columbus' discovery of the new world.
7. Examine the possibility of increasing the use of the country's port as a hub for transshipment. This conversion would involve little change in infrastructure, but would require a change in port administration and pricing mechanisms. By "commercializing" the port management systems, that is, grounding them firmly in business-like practices, it may be possible to both lower the current high rates for docking and related services, and finance expansion and maintenance internally. One way of encouraging administrative change would be to offer desired infrastructure in exchange for specific adjustments in current policies.
8. Assess the feasibility of establishing a high-quality university-level marine biology department on Antigua. It is very likely that the services sector will be the leading sector on Antigua for the foreseeable future. One niche that could be filled by Antigua, given its location and geographical characteristics, would

be as a leading marine biology center. This project would have an infrastructure component in the form of an instruction center and laboratories, as well as a human resource development component.

9. Construct an "incubation site" for mini-businesses. The incubation site would provide fledgling small businesses with factory space and shared facilities such as offices, phone lines, telex equipment, etc. The leases will specify that firms that successfully reach a certain income level graduate from the program and lease regular factory space, thus freeing up the incubation space for an additional new firm. The incubation site should be adjacent to the industrial free zone, thereby facilitating the supply of inputs to the exporters, increasing local value added, and raising net foreign exchange earnings.

Several factors limit the absorptive capacity of Antigua to implement new infrastructure projects such as those just listed. The government has reportedly been reluctant to work closely with donor agencies, apparently preferring to pay commercial rates for its high-priority projects. As a result of this preference, relations have soured between the donors and the government. In addition, due to its dependence on commercial credit, the government debt has increased, although the debt repayments as a percentage of exports have not reached the danger levels they have in many Latin American countries. Interest and amortization payments rose from \$4.7 million in 1986 to \$19.3 million in 1987 and an estimated \$33.5 million in 1988. The country has arrears in interest payments of \$7.7 million. The external public debt as a percentage of gross domestic product nearly doubled from

33.9 percent in 1985 to 64.5 percent in 1986. Lastly, funding irregularities have reportedly occurred on Antigua, making contracting arrangements more problematic.

### Dominica

Most of the basic infrastructure on Dominica is either in-place or being constructed. The road system is among the best in the region, although additional feeder roads would open up new agricultural lands for cultivation, and the road connecting the country's largest airport at Melville Hall with the capital city, Roseau, is dangerously narrow.

The Roseau Hydroelectric project under construction will address the lack of electrical power. Water availability is not a problem, although the distribution system could be improved. The Canadian International Development Agency is in the process of launching a major initiative to inspect and rehabilitate up to several dozen water collection points throughout the country. Their efforts obviate the need for involvement by other donors.

There are two airports on the island. The Canefield airport at Roseau lacks the infrastructure necessary for instrument landings. The absence of this infrastructure reduces the airport's usefulness during the many rainy, cloudy periods the island experiences, and precludes night landings. The other airport, Melville Hall, can accommodate both, as well as larger aircraft.

Dominica's comparative advantage probably lies in becoming the "fruit and vegetable basket" of the Eastern Caribbean. Its small physical size and labor force mitigate against a large increase in light manufacturing. The island's relatively high rainfall (it rains many mornings) and lack of white sand beaches limit its appeal as a vacation site. In addition, the current

Prime Minister, Mrs. Eugenia Charles, has strong reservations about the value of tourism as an engine of growth. While some development is possible in manufacturing and tourism, Dominica should make agricultural development a major thrust.

Unfortunately, Dominica's agriculture is currently facing an enormous threat. The banana industry is preeminent on the island, representing 42 percent of all merchandise exports. However, the arrangement whereby Dominica and the other Eastern Caribbean ex-British colonies ship bananas to the United Kingdom at a preferential "green price" is in jeopardy. The United Kingdom has allegedly issued an ultimatum to the regional banana producers, instructing them that unless they significantly improve the quality of their fruit, they will lose their special access. The loss would mean a dramatic decrease in export earnings, national output and employment.

The importance of agriculture to Dominica, combined with the threat of the loss of its protected market, indicate that RDO/C and other donors should expand their efforts to strengthen the infrastructure and administrative capabilities on the island to facilitate rapid growth and diversification in agriculture. A number of infrastructure projects would, if funded, assist Dominica in its efforts to define and aggressively pursue its comparative advantage in agriculture.

1. Construct feeder roads to open up new lands for cultivation. One road of particular importance is a 26.5 mile segment that would connect St. Joseph and Governor in the Marigot region and open a large area with a high agricultural potential. The site is being surveyed. The Ministry of Communication and Public Works has received requests for over 100 feeder roads, a

number of which are likely to have significant potential.

2. Continue funding the Basic Needs Trust Fund. Described as "one of the very best programs in existence," the Trust Fund is uniquely capable of providing tailored small projects on a quick-response basis. The program can be accurately described as the "mortar holding together the paving stones" represented by large infrastructure projects.
3. Provide an additional crane and an additional forklift at the port of Roseau. Currently, frequent downtime on this equipment is causing expensive delays in shipping agricultural produce and other goods. Additional equipment will help break a bottleneck that is seriously impeding Dominica's exporting ability. RDO/C should take the opportunity to condition funding of new equipment on altered maintenance policies. The present breakdowns are due in large part to poor maintenance. Prompt action on improving the port's functioning will facilitate growth in export earnings both in the short term, as the new equipment is installed and utilized, and in the long term, as the improved maintenance procedures reduce the periods when the equipment cannot be used.
4. Improve the Canefield airport to accommodate larger aircraft. This should be done in concert with the British Development Division, which is studying the feasibility of providing night landing capability for the airstrip. While it is

doubtful that the airport needs a runway sufficient for jet landings, a runway to accommodate the de Haviland Dash-8 craft would open new possibilities for increased tourism and cargo capacity. In addition, fund the necessary pre-investment studies of an airport at Crompton Point. The studies should be oriented to an examination of the feasibility of a privately-owned and managed airport as one alternative which has been successfully established in other locations. Public sector funding might then become secondary.

5. Remove hazards on primary roads. The country's 300 miles of hard-top primary roads are generally in first class condition as a result of the intensive road-building and rehabilitation investments in recent years. Funding for removal of potential hazards, however, was not expressly provided during the intensive construction period. Under heavy rainfall and wind conditions -- not an unusual event in Dominica -- there are frequent landslides and washouts resulting in road blockage, sometimes for extended periods. According to the road construction engineer who had supervised the AID-funded project in 1983-85, US\$0.5-1.0 million is required to eliminate the more dangerous spots (rocky overhangs, adjacent clay and mud slopes at too sharp an angle, inadequate culverts to accommodate peak load runoff conditions, etc.) along the heavily travelled roads over the mountains from the east coast to the two main centers on the west coast -- Roseau and Portsmouth.

6. Finance the construction of a small cultural exchange facility on or near the Carib reserve. This facility would assist Dominica in developing its services sector by providing access to the Carib Reserve, home to 2,300 Caribs, for interested visitors and researchers. An ex-Chief of the Reserve, Mr. Hilary Frederick, has expressed strong interest in collaborating with potential investors in the creation of a small hotel of 8 - 12 rooms, a restaurant, a craft center and an exhibition stage for folk culture. Such a facility could draw tourists to the island.
  
7. Assist in the construction of additional industrial facilities near the Melville Hall airport. The lack of factory space is constraining the level of manufactured exports. According to the Minister of Communications and Public Works, the country recently lost 100 potential jobs that would have been created if a Korean investor had been able to locate on the island, but the lack of available industrial space compelled him to settle elsewhere. Developing the industrial park near the Melville Hall airport would facilitate the import of inputs and the export of the finished goods. Recent studies by the World Bank project a need over 1987-1991 for at least 112,500 square feet under-roof to a maximum of 225,000 square feet, i.e., a construction program averaging 22,500-45,000 square feet per year. This is a modest projection -- implying manufacturing job creation of some 200-400 jobs per annum -- and tends to confirm our assessment of the country's

comparative advantage handicap. Nevertheless, whether at the level projected and certainly if demand increases by removal of certain constraints, phased construction of industrial facilities and supporting infrastructure is justifiably a priority need. While CDB has been providing funds to date, there may be a rationale for AID intervention, as discussed below, in order to improve overall efficiency and viability.

In addition, expert assistance is needed to review national policy and development objectives, analyze institutional and procedural needs, survey the most promising markets and sectors as promotional targets and prepare a comprehensive action plan aimed at achieving realistic industrial growth goals consonant with Dominica's limited comparative advantages--USAID financial support could be the vehicle for providing this sorely needed technical assistance. In addition, it would help nudge national strategy closer to the private sector--and this would be a major step to placing the program on a sound financial footing.

8. In the future, provide some construction and maintenance equipment to private contractors, not to the government. While the Dominican government is fairly effective in providing maintenance, competition for private sector contractors could force additional improvements in service and efficiency of maintenance.

9. Fund a feasibility study of a marina at the mouth of the Indian River at Portsmouth. Dominica is ideally located to benefit from the heavy north-south yacht traffic of the leeward island chain. Boats moving between Martinique (south of Dominica) and Guadeloupe (north) would find a protected anchorage with marina amenities in Dominica an attractive alternative to an otherwise long jump between islands. The Indian River location has the added advantage of offering a fresh water anchorage, which, according to experts, is desirable as a means of reducing barnacle and algae growth on the hull.

The Ministry for Communications and Public Works has requested CDB finance of a feasibility study but would prefer AID support in order to accelerate the process. This potential project is inherently interesting from several points of view: (i) it would contribute to tourism growth, i.e., one of the two lead sectors in Dominica; (ii) as a potentially very profitable venture, private capital and management should be promotable; (iii) AID intervention would assure the appropriate private sector orientation, without which it should not be pursued.

Dominica is universally considered to possess the strongest administrative capabilities for planning and managing projects in the region. While the country is poor, and possesses a rugged terrain that is not suitable for substantial manufacturing or tourism potential, the government is well run and the population is willing to adapt in order to achieve accelerated development. The Ministry of Communications and Public Works is assisted by foreign advisors and is viewed as relatively effective. The

electricity generation and distribution system could be a model for other countries in the region. While 49 percent owned by the government, it is run like a private business. In sum, Dominica has a higher ability than the other countries to implement additional infrastructure projects.

### Grenada

Years of disrepair have seriously degraded infrastructure quality in Grenada. Nearly all types of infrastructure are in poor condition. The electric power provided by the state-owned Grenada Electricity Services, Ltd., (GRENLEC) is inadequate and unreliable. The absence of a pricing schedule that covers costs means that few funds are available for routine maintenance, much less for capital expansion to meet growing demand. The telephone network and the water supply are in similarly bad shape. During dry periods, tourist areas near St. George's and the island's southern coast are acutely affected by a lack of water. Most roads, especially agricultural feeder roads, are in poor condition. While the substantial assistance that RDO/C has provided since the intervention has alleviated some of the problems, serious infrastructure deficiencies remain.

Grenada has yet to identify its key growth sectors and devise a plan to maximize the potential benefits of the island's comparative advantages. This lack of focus has, over time, resulted in stagnation in all three sectors: Light manufacturing, tourism, and agriculture.

In the near term, Grenada's comparative advantage seems likely to lie in tourism and, to a lesser extent, agriculture. Tourist arrivals to Grenada rose 31 percent in 1985 and 10 percent in 1986, and tourism-related foreign exchange earnings comprise a large share of the total. In terms of annual visitors per resident, Grenada, at 0.6, falls in the middle tranche of

Eastern Caribbean nations, between Dominica's 0.3 and Antigua's 1.9, thus there is ample room for continued growth. Unfortunately, this growth is more nascent than real, due to the government's inaction. Tourist arrivals rose a scant 2.4 percent during the first six months of 1987 compared with the same period in 1986. Nonetheless, the island's beauty and appeal bode well for a tourist boom once the government stops drifting and focusses its resources and attention.

A second key growth sector for Grenada could be agriculture. This sector is already an important source of national income, export earnings and employment. While the market growth trends and prices for Grenada's traditional exports, bananas, cocoa, nutmeg and mace (a byproduct of nutmeg) are not very good, nonetheless fruit and vegetable production for tourism on the island and for export to Trinidad and Tobago has increased. There is scope for substantial increases in the cultivation and export of nontraditional agricultural products. Grenada also has a variety of attractive agroprocessing options.

The large size of the Grenadian labor force relative to the other islands makes the country of interest to investors seeking sites for light manufacturing. However, rather than developing this potential, government policies have undermined this dormant comparative advantage. High tax rates and a slow investment approval process are two of the policies that are limiting growth in light manufacturing. It is important to note that it is government policies and not infrastructure deficiencies that are constraining the growth of manufacturing in Grenada. There is reportedly 80,000 - 100,000 square feet of unrented industrial factory space.

The SRI project team did not spend scarce field time visiting Grenada, in large part because a great deal of high-quality, recent data concerning the island was readily available,

and because individual team members were familiar with Grenada from past work. The following infrastructure project suggestions were selected in part from consultant reports, especially one prepared in January, 1987 by Robert R. Nathan Associates, Inc. However, our list is not comprehensive, as the Nathan list was, but rather focusses specifically on those infrastructure projects that will prepare Grenada to make fuller use of its comparative advantages.

1. Beautify and improve the roads, sidewalks and pocket parks in the most often frequented tourist areas in St. George, including the Esplanade and the Carenage. This investment will improve Grenada's image in the tourists' minds, and will encourage them to shop in a larger area, which may well result in a wider distribution of tourist spending.
2. Construct a marketplace and workshop for handicrafts in St. George. By facilitating the sale of labor-intensive, hand-made goods, RDO/C will generate links between tourism and the domestic economy, create jobs, and increase foreign exchange earnings. In addition, an adjacent workshop where customers can see crafts being made will further increase sales, and provide an appreciation of Grenadian workmanship and culture.
3. Establish a tourism infrastructure trust fund for Grenada. The Department of Tourism, in conjunction with the Organization of American States, has prepared a portfolio of approximately a dozen projects that would improve the tourism infrastructure on the island. Since

many of the projects are relatively small, a trust fund financing mechanism would facilitate project evaluation and approval. Organizations and agencies seeking tourism infrastructure improvement funds could submit simple yet complete application forms to the trust fund. The experience with the Basic Needs Trust Fund has been exemplary, and the trust fund concept is well-suited to additional applications.

4. Working with the other donors, prepare a comprehensive solution to the sewage disposal problem in the St. George's area. The Canadian International Development Agency is developing a sewerage outfall design to redirect sewage contamination away from the Grand Anse area, but it is not at all clear that this approach will provide a long-term solution to the problem. Given the high cost of sewerage infrastructure, RDO/C should convene a multi-donor meeting to begin to devise a comprehensive response to the sewage problem. The solution may lie in adequate effluent collection, chemical and bio-treatment techniques, and careful disposal of sludge (or conversion to organic fertilizer).

If a treatment plant is built, user-fees should be charged. Pollution control is a cost of doing business, and the business community should pay its share of the clean up. Those households that are able should also be assessed a portion of the total cost. RDO/C should condition infrastructure construction assistance on the setting and the collection of reasonable user fees that cover costs.

5. Fund infrastructure improvements to support agricultural diversification. After identifying foodcrops and livestock products with a high export or import-substitution value, RDO/C should determine what infrastructure is necessary to promote growth in the designated areas and foodcrops. The projects are expected to include feeder roads, irrigation projects, rural electrification, and development of unused agricultural lands.
  
6. Prepare government agricultural lands for divestment by constructing access roads, drainage, and irrigation works. As of January 1987, 3,400 acres of farmland were still in government hands. Neglected for many years, these lands will require approximately \$2.2 million for basic on and off-farm infrastructure in order to convert them to profitable enterprises. The capital investment could generate substantial benefits such as increased export earnings from nontraditional crops, greater employment, and slower out-migration from rural areas.
  
7. Monitor occupancy rates at the Frequente industrial estate and provide additional infrastructure funding if conditions warrant it. Attempt to maintain some unrented space at all times to facilitate rapid response to investor requests.

Grenada's ability to absorb RDO/C assistance on the tasks just listed is limited. Some progress in project implementation capability has been made in recent years as a result of the level

of attention given to the nation by donors, but professional resources are stretched, and the administrative and management capabilities of implementing agencies are limited. Grenada suffers from a major fiscal management weakness. Despite the newly introduced value added tax, the government continues to experience cash shortfalls, and has almost no control over budgeting. As a result, financial information relating to capital projects is often retained by donor agencies.

Two other underlying absorptive capacity deficiencies are important. First, the people and the government have not sufficiently defined the appropriate relative roles of the public and private sectors in the economy. In addition, the authorities have not yet established a clear sense of where the country's true economic potential lies, and hence tend to spread scarce resources among all sectors.

#### St. Kitts and Nevis

St. Kitts benefits from the fact that all forms of basic economic infrastructure are now in place. The ring road and feeder road system is in good condition, although some road sealing is required. The new U.S.-financed road in the Frigate Bay area will open the region for tourism. Port facilities in Basseterre are sufficient and conveniently serve the nearby industrial estate. Despite some criticisms on design, the island's airport, constructed by the Canadians, is deemed to be a net asset for air transport.

Telecommunications services are excellent, and are based on a new fiber optics system recently installed by the telephone company, which is 80 percent-owned by private interests. Recent shortages and disruptions of electrical power have been addressed by the recent installation of a new generator, another of which is to come on line in the next four to six months. The common

view among the business community is that the island's basic generating capacity is under control, but distribution remains a problem. Beyond the immediate future, however, there is growing concern that electrical generating capacity will not be able to keep up with demand.

The island's water system is considered adequate to meet current requirements, but again faces capacity constraints over time. There is ample rainfall to meet even projected needs, but water storage facilities are insufficient to harness existing water resources. The water authority is not known for its efficiency. Whether for political reasons or due to bureaucratic inefficiency, many industrial customers have reportedly not received bills for their use of water for several years.

The small island of Nevis is not as well endowed with basic infrastructure. The principal near-term constraints to tourism and construction are limited airport facilities and erratic supplies and inadequate distribution of electricity. Over the long run, improvements in the island's seaport to allow docking of more efficient container vessels are considered necessary to support expansion of the currently small manufacturing sector. It remains uncertain whether the limited economic activities on the island can achieve sufficient economies of scale to warrant high-cost infrastructure investments.

Agriculture in general and sugar production in particular have represented the mainstays of the St. Kitts/Nevis economy, but have been in steady decline in recent years. The government sees agricultural programs, especially diversification efforts, as a major thrust in its economic strategy. However, no progress has yet been achieved in this area. Agricultural diversification into food crops to meet local requirements and substitute for imports has some potential, but only in the long

term. Efforts are currently being made to develop a model farming community in the Sandy Point area, but infrastructure for the project is not yet in place and results are not anticipated for five to seven years.

In recent years, the island's principal "engine of growth" has been manufacturing, the fastest growing sector in the economy. The country has been involved in light manufacturing for some 14 years, but these activities began to expand rapidly in the mid-1980s and some twelve new industries have been introduced. The primary focus in the manufacturing arena is on the production of increasingly sophisticated electronics components, particularly by joint ventures with local partners. More complex manufacturing is needed to accommodate the high wage structure prevailing in St. Kitts.

Manufacturing on the island is supported by existing infrastructure but is faced with other constraints, the most important of which is the supply of labor. Production labor is increasingly drawn toward higher paying jobs in the tourism sector. There is an acute shortage of skilled labor (carpenters, electricians, machinists, etc.). Another bottleneck to growth is the fact that all existing factory space is filled.

The most dynamic sector over the next twelve to eighteen months will be construction, driven by tourism projects instigated by the opening of the Frigate Bay area. A major building boom is anticipated. One new hotel with about 250 rooms has already opened, and at least two additional 200+ room hotels are expected to be completed within the next year. Again the shortage of skilled labor will constrain the pace of construction and most likely lead to a bidding up of wage rates. An additional problem noted is a dearth of specific construction related machinery, such as a large crusher of stone aggregate, which causes delays.

Once the current construction phase is completed, the most likely source of growth and foreign exchange earnings on St. Kitts is tourism. While lacking white beaches, the island boasts considerable assets for tourism, and the local business community is planning to take advantage of projected increases in the tourist trade. Local merchants and vendors of services have complained that the packages offered by newly-opened hotels tend to insulate guests from purchasing goods and services in the community, and may attract tourists who are not in the "up scale" category which has greater multiplier benefits to the economy. Nevertheless, tourism is expected to grow considerably, and may in fact stunt the expansion of manufacturing, since labor will be drawn into tourism.

Inasmuch as St. Kitts basic infrastructure is complete, interventions over the next few years should be as directly as possible related to enhancing the nation's productive activities. One potential exception to this guideline would be marginal projects in electricity and water to assure the existence of sufficient capacity. Suggestions raised for infrastructure projects include the following.

1. RDO/C should consider the creation of a general fund to support small scale projects to beautify the capital of Basseterre, restore historical sites and develop other tourism attractions. With relatively small infusions of funds, the capital's city center could be renovated and transformed into an attractive "mecca" for tourists. The architecture and city layout are attractive, and new cafes and shops are now being introduced. Similarly, the island's rich history could be developed as a drawing point for tourists, supplementing the impressive

restoration of the Fort at Brimstone Hill. Restoration of early British settlers' homes and De Ponce's chateau represent more ambitious undertakings, as would opening up the island's rain forest to tourism.

2. The construction of factory shells is cited as the principal prerequisite for growth in manufacturing. RDO/C should consider the establishment of a small revolving fund to finance the construction of new shells to take advantage of investment opportunities as they arise, since the current lack of space forces investors to look elsewhere. It now takes six to eight months for 10,000 square feet of additional factory space to be provided under CDB/AID programs. Once existing space is leased or sold, funds would be rolled over to finance new space. However, nothing more than a small inventory of incremental space should be contemplated.
3. The RDO/C should seriously consider assistance in installing the infrastructure needed for an agricultural diversification project, perhaps in the Sandy Point area. St. Kitts would clearly benefit from import-substitution based food crop production to supply both the local population and the tourism industry. Such an effort should be undertaken, however, only after government commitments have been secured regarding land use policy.
4. The establishment of a small industrial park in Sandy Point has been posed as an alternative to expansion of the existing industrial estate.

Road connections are good, and the creation of local employment would reduce pressures for daily migration to the capital.

5. Given the fact that Frigate Bay development represents the major source of growth in the future, selected infrastructure extensions (small feeder roads, utility hookups, etc.) could accelerate the achievement of benefits.

On St. Kitts, efforts to extend the nation's infrastructure to support economic diversification have only recently been initiated, and therefore are encountering some "startup" institutional deficiencies. The lack of implementing agency management capabilities appears to be the principal constraint. The country now has a development plan, but infrastructure projects are put forth by individual ministries (each of which exerts political pressures for pet projects), and there is no centralized planning unit to review and coordinate projects. Decisionmaking is decentralized and fragmented, especially in view of the small size of the economy and government.

The structure and management of utilities warrant attention and reform. Many feel that utilities, which are now a part of general government services, should be reorganized as separate public utilities. As noted above, the telephone system was recently transferred to private management, but the government has declined from considering such a move for electricity generation and transmission and water.

#### St. Lucia

Infrastructure is not a serious constraint on economic development in St. Lucia. The economic infrastructure is all basically in place. The power and water supplies are adequate,

and the telephone system is dependable. The road network is considered one of the region's best. The island boasts two airports and good port facilities. The enterprise support infrastructure that has been built, such as the free zone at Vieux Fort, has been very successful in generating jobs and foreign exchange earnings.

St. Lucia is in the coveted position of exhibiting fast-paced economic growth in two sectors: Tourism and light manufacturing. St. Lucia experienced high growth in stayover arrivals among OECS countries in 1986, attracting 18.2 percent more visitors than the previous year. While St. Lucia's 111,700 1986 visitors were still outnumbered by the 149,300 that vacationed in Antigua, St. Lucia boasts marginally more tourist accommodation rooms than Antigua (2003 in St. Lucia compared to 1931 in Antigua). Continued strong demand in the tourist sector is projected.

Light manufacturing is also flourishing in St. Lucia, due to several comparative advantages. A high-quality infrastructure package, including a port, an international airport, and a free zone has attracted domestic and foreign light manufacturing. Exports from all of the OECS countries including St. Lucia benefit from duty-free access to the United States and the European Community under the Caribbean Basin Initiative and the Lome Convention, respectively.

When compared with lower wage alternatives such as the Dominican Republic, St. Lucia has both advantages and disadvantages. On the positive side, the small size of St. Lucia's total exports has thus far kept U.S. quotas at bay. However, the relatively high wage rates reduce the attractiveness of St. Lucia as an investment site for highly labor intensive activities such as garment assembly. Over time, St. Lucia must

target its promotion at higher value-added industries such as electronics assembly and data entry.

St. Lucia does not appear to offer a comparative advantage in agriculture. Labor and capital have been flowing from this primary sector to the secondary sector, manufacturing, and the tertiary sector, services. However, the economy is still heavily dependent on agriculture as a source of family income. Agriculture employs approximately 40 percent of the labor force and generates 15 percent of Gross National Product.

Since St. Lucia does not have the glaring infrastructure deficiencies of its OECS neighbors, there are fewer infrastructure proposals being circulated in search of funding. Nonetheless, the SRI has grouped below a number of proposals that merit serious consideration. Infrastructure directly linked to manufacturing and tourism should be assigned the highest priority.

1. Extend basic infrastructure and build additional factory space at the Vieux Fort industrial estate. The small yet dynamic light manufacturing sector in St. Lucia is a key component of the nation's growth strategy. Real value-added in the manufacturing sector grew at twice the average rate of agricultural growth between 1977 and 1984. Light manufacturing is an important source of foreign exchange and employment in St. Lucia's economy. In order to accommodate future growth in this sector, funds should be made available for:

Vieux Fort Port Development - Expand port capacity through a new pier, additional cargo

holding space and facilities for containerized cargo handling.

Sites and Services Development - Provide fully serviced home-building sites for low-cost units (for the growing labor force at Vieux Fort).

East Coast Highway - Connect the Hewanorra Airport/Vieux Fort area to the capital, Castries, and the major tourism areas to the north.

2. Develop the town of Soufriere and its surroundings as a tourism center on a par with the successful developments in the northwest of the island. This would require:

Port Rehabilitation - Building a new pier to handle cruise ships.

Roads, Water, and Electricity - Upgrade and install in the areas of scenic beauty near Soufriere where hotels are planned.

All of the industrial and tourism components listed above should be considered as parts of an integrated program of development for the southern portion of the island.

3. Assist in the provision of packing facilities for the farmers who are cultivating on plots recently divested by the government. St. Lucia has taken an important step by reducing direct state ownership of agricultural lands. In order to facilitate timely renewal of the lands that were recently divested, RDO/C should make funds

available, preferably through and to the private sector, for the construction of packing facilities. The existence of small, simple yet accessible packing facilities will allow small landowners to pool their harvests and ship them more economically. The packing facilities are considered an important component of an overall strategy to increase nontraditional exports.

St. Lucia has demonstrated a high level of ability in project implementation. The country possesses a relatively large pool of competent personnel to administer projects, and the government has sufficient technical capabilities. In several projects, the government supplied manpower but successfully arranged for a private company (Crown Agent) to manage the activity. Therefore, RDO/C can be confident that St. Lucia would be able to handle a substantial inflow of new infrastructure projects and funds efficiently and effectively.

#### St. Vincent and the Grenadines

Most of the basic infrastructure on St. Vincent is in good operating order, with the notable exception of the poor roads. There is sufficient water, at least for the medium term, and the completion of the Cumberland Hydroelectric Plant will assure adequate electricity for the foreseeable future. The telephone service under Cable and Wireless has been very good; the company introduced international direct dialing in 1986, and there are enough phone lines to meet demand. The Arnos Vale airport in Kingstown is not equipped to handle jets, but is adequate to meet the country's needs. Most exports are shipped by sea to foreign markets. With the assistance of CIDA and the CDB, the port has been upgraded to include two deep-water berths and two schooner berths for inter-island traders, and suitable cargo handling facilities. In the agricultural sector, lands recently divested

by the government lack adequate on and off-farm infrastructure. Turning to manufacturing, the available factory space is being utilized, and there is pent-up demand for additional factory shells.

St. Vincent is fundamentally an agricultural nation, although light manufacturing is beginning to take hold. Agriculture generates a substantial portion of the nation's output, foreign exchange, and employment. Sales of bananas bring in approximately one-third of all export earnings. Given the country's relatively large expanse of arable land compared to other OECS countries and its current emphasis on agriculture, St. Vincent's economy is likely to be agriculturally based for the foreseeable future. In recent years, resources have been flowing to light manufacturing, and the government has been supportive of the change. Two industrial parks now operate in the country--one completed estate at Campden Park, and a second estate under construction at Diamond. The estates are generally regarded as successes, as they have maintained high occupancy rates and are producing notable quantities of export earnings for the country.

In contrast to most of the other OECS countries, St. Vincent has not attracted large numbers of tourists. Weak tourism infrastructure can be blamed for some of the stagnation in the arrival rate. St. Vincent has carved itself a small tourism niche by attracting the upscale yachting market. However, in general tourism has made only a modest contribution to development on St. Vincent, and is not expected to take off in the near future.

A number of infrastructure projects will assist St. Vincent in exploiting its comparative advantages in manufacturing and agriculture.

1. Consolidate the improvements made at the Kingstown port. The port serves as the principal gateway for St. Vincent's agricultural exports. Limited cargo holding space, deficient cargo handling facilities and general congestion give rise to costly delays and damage that could be avoided with a modest investment. Improved transit and processing facilities for the inter-island traders in agricultural produce will greatly assist in reducing damage and spoilage of produce, and thereby increase export earnings. As a first step, under terms of the Louis Berger contract, a port design expert could be provided to prepare a plan and arrive at a credible cost estimate.
  
2. Construct a research station to conduct research and development and provide technical assistance to producers of cut and ornamental flowers. This station is an important first step in increasing St. Vincent's nontraditional agricultural exports. The facility will stimulate the cut flower industry, generate foreign exchange and employment, and diversify the agricultural sector and the economy as a whole. The government estimates that the construction of the center will cost \$200,000. A second necessary project component, training, will somewhat increase the total project cost.
  
3. Maximize the development benefits of the new Diamond industrial estate by funding a housing sites and services program on lands near the industrial park. RDO/C should fund the construction of basic infrastructure--

electricity, water and sewerage hookups, roads and streetlights -- on 100 - 200 lots in the Diamond Estate area, and facilitate their sale to low-income families. As the estate develops, the land value of surrounding areas will increase, often substantially, and the increase will be captured by the low-income owners.

The government agencies on St. Vincent are considered to have reasonably good technical capacity to implement projects, although project management capabilities are deficient. The presence of competent private sector contractors on the island greatly enhances the country's infrastructure implementation ability. In addition, the government has recently been generating substantial budget surpluses, thereby potentially adding to its internal financing and maintenance capabilities. In sum, the government's has demonstrated its ability to design and implement additional infrastructure projects, although project management assistance is somewhat weak and should be addressed as a component in any infrastructure projects that are funded.

### Regional Recommendations and Guidelines

In the course of researching and designing an infrastructure strategy for RDO/C in the Eastern Caribbean, the SRI project team has identified a number of recommendations that can serve as useful guidelines for regional programs and interventions. It is the project team's intention that these recommendations be utilized in concert with both the general strategy and country-specific programs.

RDO/C should adjust its portfolio of infrastructure projects in the future to focus resources on those projects that directly support private, productive enterprises.

Economic infrastructure -- basic transportation, communications, power and water -- has been installed in the islands, although in some cases lack of maintenance has caused severe deterioration. The key infrastructure-related bottlenecks have shifted from basic facilities to more specific infrastructure to support private enterprises, particularly those which currently and prospectively have significant foreign exchange earning potential. To keep with this change, the RDO/C strategy and portfolio should more directly address current needs, and the shift in priority should be discussed with host country governments.

The project identification process should incorporate and be based largely on two inter-related tasks: Surveys of the infrastructure needs of private sectors, and objective comparative advantage assessments.

In an era of increasing funding scarcity, greater emphasis will have to be given to scrutinizing the utility of alternative projects. In the past, relatively short shrift has been given to the infrastructure needs expressly identified by private entrepreneurs. This problem can be redressed through the implementation of a relatively simple but direct private sector needs assessment.

In conjunction with each host country, RDO/C should also undertake to identify those niches which will best utilize each country's comparative advantages. No sector should be neglected, but neither should funds be divided evenly among sectors based on some misguided conception of "equity among sectors." A tripartite division of funds between agriculture, tourism and

light manufacturing may prohibit the country from reaching a critical mass in any one sector capable of promoting growth. RDO/C should telescope its infrastructure interventions to lay a firm foundation for growth in those sectors that are most likely to generate foreign exchange and sustained development.

In the future, facility maintenance should be more explicitly reflected in infrastructure projects from the outset, further reinforcing a trend now under way within donor strategies.

A serious and ubiquitous problem associated with infrastructure in the OECS countries is the notable lack of maintenance. Much of this problem can be ascribed to the fact that the government agencies responsible do not fulfil their obligations. One method for addressing this systemic deficiency is to require recipient countries to allocate counterpart funds for maintenance and to place them into "trust funds" which can be accessed only for maintenance purposes. Failing this, RDO/C and other donors could earmark and set aside funds for maintenance within the structure of project financing, even though it runs counter to the donors' reluctance to provide funding for "current expenditure." In this latter case, if user fees or local taxation cannot be anticipated, then donors should consider the "capitalization" of infrastructure maintenance costs. This would naturally lead to smaller scale projects, but would help prevent the early deterioration of facilities.

RDO/C should consider the possibility of funding a program to improve host country technical competence, thereby enhancing the bureaucratic "infrastructure" needed to support infrastructure development activities.

Deficiencies in "absorptive capacity" are cited as significant constraints to infrastructure development throughout the region. The principal problem lies in inadequacies in the

numbers and competence of administrative and technical personnel in planning and implementing agencies. The only ultimate solution to this difficulty is for local governments to provide sufficient incentives to retain qualified professionals. Another answer could be found in governments' "contracting out" professional service requirements to local firms which can provide better compensation for their professional staffs.

Regardless of these initiatives, governmental capabilities for planning and managing infrastructure projects are diminished by a critical shortage of trained personnel, and this problem should be addressed directly. RDO/C should support existing training programs, such as those currently being conducted by the Caribbean Development Bank, and should consider new training initiatives. Such programs could be managed under other RDO/C activities in the training area (e.g., IMPP), since they do not involve the construction of actual physical facilities, or could be implemented through support or extensions of other ongoing efforts. Regardless of the modality, the objective of such programs would be to train and retain competent professional resources in OECS government administrations.

Infrastructure projects and programs should be integrally and directly related to constructive policy dialogue and structural adjustment reform initiatives.

Inasmuch as foreign assistance is not intended to create permanent dependence on aid inflows, but rather aims to establish a sound basis for sustained growth and development, it is appropriate to associate project assistance with efforts to remove constraints arising from government policies, regulations and procedures. For example, the provision of the most advanced transportation networks or most reliable utilities to manufacturing firms will be meaningless if onerous tax systems or customs procedures render the enterprises unprofitable. While

acknowledging strains and tensions, one can conclude that the most effective donor-host country relationships have been approached as partnerships, with both sides raising, debating and solving policy-induced constraints. These efforts require considerable amounts of patience, skill, and willingness to allow objectivity to take precedence over pride, but SRI has concluded that initiatives to establish appropriate policy environments generate much higher returns than simple development assistance projects. Therefore, we recommend that policy factors be taken explicitly into consideration in the identification and selection process. This includes the introduction of specific conditions required for approvals, and monitoring and rewarding compliance.

In the project approval process, RDO/C should place considerable emphasis on financially and economically viable operations.

The economic integrity of infrastructure projects has always been addressed in cost/benefit analyses and engineering studies. However, due to the realities of the operating climate, roads, facilities and even utilities have in practice often been offered at subsidized rates. Since the proposed strategy is to give a higher priority to infrastructure which supports productive enterprise, it is reasonable and appropriate to expect a greater degree of cost recovery, at a minimum to maintain and upgrade facilities. This entails the introduction of direct user fees or indirect taxes or associated fees to a larger extent than in the past. It also suggests that the project approval process should extend preferences for utilities, port facilities, etc., which are organized and administered on a commercially sound basis, regardless of whether they are operated by the government or by the private sector.

RDO/C should continue to employ the existing IEMS project model, structure, and staff to administer the regional infrastructure strategy, utilizing inputs from relevant staff groups.

The SRI project team concludes that the IEMS model is sound and provides an appropriate basis for managing infrastructure projects in the region. The system is sufficiently flexible to meet the unique needs of each country, but simultaneously offers a structure for proceeding rationally and integrating infrastructure interventions with other programs and goals.

While the IEMS team -- the Infrastructure Office and the local project consultant team -- should continue to administer projects under the current framework, other groups should be more directly involved in country strategies and project identification and screening. For example, the Program Office and the Private Sector office should participate in comparative advantage reviews and private sector needs assessments, which would in turn provide guidance for new project initiatives. To assure coherence in the strategy, these two offices should also be consulted early in the project identification process. Infrastructure project ideas could of course be initiated by any functional or sectoral office, or by local business executives or public officials. However, all proposals would be subject to the screening and evaluative process described above.

RDO/C should seriously consider replenishment of the Basic Needs Trust Fund, or as an alternative, incorporate a similar fund into the regional infrastructure strategy.

The Basic Needs Trust Fund has offered a highly useful mechanism for financing small scale projects, many of which fall into the category of infrastructure. These projects have generated both political support and community spirit at the same time they have improved local standards of living. The project team makes no recommendation as to whether a replenished fund should continued to be administered by the Caribbean Development Bank, or whether a comparable financing window should be

established under direct RDO/C control. However, the mechanism itself is valuable and should be retained. Whether the fund is under either RDC/C or CDB administration, credit for funded activities should be more directly attributed to U.S. foreign assistance. In addition, the fund should also include application/approval criteria which relate to the strategic goal of providing direct assistance to productive activities.

RDO/C should increase the participation of the private sector in implementing and maintaining infrastructure projects.

In general, government public works agencies have demonstrated low levels of competence and efficiency in constructing and maintaining infrastructure. Low incentives and morale, and inadequate budgets all contribute to low performance levels. While training programs and higher government incentives will improve performance to an extent, RDO/C should seriously consider contracting out infrastructure construction and maintenance whenever it is feasible. In some countries, no private contractors exist; in those cases, RDO/C would need to encourage their formation, or attract private contractors from other islands. Private sector project construction and maintenance is likely to improve quality and efficiency, and allow scarce assistance funds to generate more benefits than are being achieved under the current system of utilizing government public works agencies.

## V. SELECTED INFRASTRUCTURE ISSUES

At the outset of this project, the SRI team was asked to address several issues which bear directly on infrastructure development in the Eastern Caribbean. A number of other topics which warrant some attention arose in the course of the team's research and analysis. These issues are discussed below.

### Private Sector Involvement and Maintenance

Important steps toward private ownership and management of infrastructure facilities have been taken in some of the OECS countries, but much more could be accomplished in this area. The project team noted concern among the entire donor community regarding the dearth of proper infrastructure maintenance. Increased private sector involvement in the provision of infrastructure could hold significant promise for alleviating the maintenance problem.

Government agencies responsible for specific services -- power, water, roads, ports, waste disposal, telecommunications-- with a few exceptions, lack the funds, the managerial capability and technical competence to plan and implement with reasonable efficiency both their capital investment and operational (maintenance) programs. Thus, they are unable to assure reliability of service or maintain over time an adequate balance between supply and demand. The characteristic historical pattern is an accelerated deterioration of plant (fixed assets such as buildings, roads, equipment, vehicles) and quality of service to the point where economic penalties -- and sometimes the imminent collapse of the system -- forces emergency allocations of funds to remedial action programs. These generally are "ad hoc" in nature rather than planned inputs to

long-range growth and maintenance. To date, donors have been unable to improve maintenance substantially. The popular road sector, for example, consumes huge resources in so-called capital investment projects when, in fact, the funds are really applied to the cumulative need for repairs and maintenance that were not performed over the years as a routine recurrent expense.

Scarcity of finance has assuredly been a contributing factor to the discouraging performance outlined above. But this is a result more than a cause of the chronic malaise. It may be laid directly at the door of the public sector utilities who have demonstrated little inclination to adopt businesslike pricing criteria and, as a result, are unable to generate the cash flow to meet "normal" counterpart funding requirements in capital projects or to defray the recurrent cost of operation, especially in maintenance.

If the repetitive cycle of infrastructure deterioration and excessive dependence on external resources is to be broken and the OECS nudged along the road to self-sustained economic growth, it would seem that more effective measures must be instituted than in the past. If technical assistance and training in all its forms, as practiced over long years of foreign assistance at substantial cost to the donor countries/institutions, has been unable in general to alter the traditional inefficiencies of public sector operating agencies -- an evaluation freely admitted by most OECS officials -- perhaps the time has come to redirect resources more forcefully towards the private sector.

"Privatization" is not a new or innovative concept to RDO/C. In the Annual Action Plan Report for FY1988-89, there are references to actions reflecting RDO/C interest in pursuing privatization objectives. For example, the Country Annex for St. Vincent states:

" . . . RDO/C continues to emphasize privatization and divestiture of state-owned corporations . . . in policy discussions at the macro level and with respect to infrastructure and agriculture levels."

And in St. Lucia, the policy dialogue is even more focussed, referring specifically to " . . . privatization of energy production and distribution."

An additional indicator appears in the Annual Action Plan Report. A study by Gray Cowan of PPC/PDPR conducted under the umbrella of the IPED program observed that:

" . . . in the OECS the overall receptivity to, and understanding of, the privatization process was among the highest seen in the world . . ."

but then concludes that

" . . . many of RDO/C projects support privatization indirectly and that there does not seem to be a strong need for a formal privatization program in each country."

The SRI team would draw a different conclusion on the need to stress privatization. The SRI team strongly suggests that RDO/C should intensify its efforts to capitalize on the high levels of "receptivity" and "understanding" of privatization within the OECS.

One need only compare the quality of the infrastructure that is managed publicly with that which is privately managed to see the benefits that can be achieved. Dominica, where power generation is operated in many ways like a private enterprise, offers perhaps the most reliable service of all the OECS islands. The private telephone service in Barbados provides another example. Private companies have at least three advantages over

government-run enterprises. First, by keeping careful books they know what cost and revenue streams they generate. Second, they can often (although not always) set their own prices and therefore insure that revenues will cover expenditures. Third, they can reinvest a portion of their earnings in maintenance and expansion, and thus maintain their business in good operating order.

While there may well be intense political opposition to actually selling the assets of publicly run utilities to private concerns, several steps can be taken to refashion government-owned enterprises to function more like private businesses. First, utilities should be taken out of government ministries and transformed into independent agencies, with their own separate budgets. Once the utility tracks its own revenue and expenditures, and actually receives payments for its services, it is easier to isolate the sources of financial difficulties and resolve them. Records indicating the monthly or annual losses of the utility due to subsidized prices for outputs will make evident the budgetary burden occasioned by the subsidies and ease the way toward their reduction or abandonment.

Thus, a first step toward business-like management of infrastructure entities is the establishment of an autonomous corporate structure while the utility or agency remains a 100 percent public sector entity. There are several other options short of a sale of assets to the private sector. Perhaps the most appropriate options are: 1) Private contractor management support in improving financial planning and management, operational reporting, maintenance, etc; and 2) Public/private sector joint ventures. The SRI team recommends that these measures be made use of to the fullest possible extent in planning projects, in order to reduce the dependence of current projects on government or donor support.

## Infrastructure and Structural Adjustment

As a direct result of the severe economic instabilities and financial disequilibria that have emerged over the past decade, considerable attention among development practitioners has been directed at the concept and objective of "structural adjustment." The term has taken on a host of meanings, depending on situations encountered. For heavily indebted countries, structural adjustment means reducing government budget deficits and other sources of borrowing requirements. Adjustment can also refer to reducing current account imbalances through contractions of import demand and expansions of exports. The concept has also been applied to efforts to reduce price distortions or realigning exchange rates.

In all of their manifestations, structural adjustment goals and policies can be distilled to the notion of "living within one's means." However, appropriately applied adjustment programs reject the assumption that this should be achieved solely on the basis of reductions in demand and consumption, which lead directly to decreases in standards of living. Instead, suitable adjustment strategies acknowledge current gaps between income and consumption and seek to place both on paths in which they ultimately converge. As a consequence, rates of growth and levels of economic wellbeing do not have to be completely "sacrificed on the altar of stability."

In the context of the nations in the Eastern Caribbean, structural adjustment should be defined in a specific manner which differs from many applications of the term. Notwithstanding clear differences among the nations, several common characteristics stand out. For the most part the Eastern Caribbean countries have not incurred significant amounts of external indebtedness due to their small size and access to

concessional assistance. Similarly, their governments have not created significant, structural budget imbalances, since they have essentially managed to match their revenue streams to meet pressing current expenditure requirements, while leaving their capital budget requirements largely to donor finance. In addition, given their lack of borrowing capacity most countries have organized their current accounts on a cash basis, precluding them from building up accumulated deficits in any magnitudes.

This assessment is by no means intended to imply that macroeconomic management and performance in the region has been good. On the contrary, there have been examples of serious mismanagement in recent years, and major dislocations would have occurred were it not for inflows of concessional aid. More importantly, the economies have for the most part reached a plateau and could face with equal probability prospects of growth or gradual decline.

The operative implication of this brief review is that structural adjustment in the Eastern Caribbean can best be defined as achieving self sustained, productive economic activities which are not dependent upon "structural" inflows of foreign exchange in the form of development assistance. In concrete terms, this suggests that adjustment efforts should be aimed to support as directly as possible ventures which generate foreign exchange earnings. Based on the overwhelming evidence of past experience, it is most likely that successful ventures will be owned and managed by private sector entrepreneurs. The emphasis on foreign exchange earnings rather than employment or other targets as the principal "structural adjustment" goal is intended to direct attention toward the ultimate achievement of economic viability in the region.

What role can infrastructure interventions play in the adjustment strategy described above? The obvious answer is that

access to adequate infrastructure is a prerequisite to the viability of any enterprise. Whether in agribusiness, manufacturing, or tourism and other services, firms use as critical inputs to their operations suitable land and structures, utilities, transportation links and communications capabilities, in adequate quantities and qualities and at reasonable prices. However, access to infrastructure inputs is a necessary but not sufficient condition to viability, and does not guarantee success. Other variables include the cost and quality of labor and other inputs, market size, management competence, government policies and procedures, and other factors associated with doing business.

Nevertheless, one can reasonably conclude that in the absence of necessary infrastructure, the questions of input availability and market potential are rendered immaterial. Infrastructure is the key initial requisite to economic viability, and efforts to promote structural adjustment in the Eastern Caribbean should be aimed at furnishing adequate infrastructure to those sectors deemed most likely to achieve long-term viability and the highest level of foreign exchange earnings.

### Infrastructure and Policy Reform

The installation of adequate infrastructure is a necessary but not sufficient requisite for achieving the desired economic structural adjustment described above. Prospective entrepreneurs do reach determinations as to whether existing infrastructure is sufficient in their investment decisions, but they place equal emphasis on the operating policy climate. Macroeconomic policies directly affect the costs of doing business (wages, taxes, interest rates, etc.), and business regulations can

alternatively improve or reduce profitability and management flexibility.

Designing and implementing an appropriate set of laws, policies and regulations is a central component of structural adjustment. One common thread of the development experience of the past 40 years has been that in nearly every case, those countries which have adopted sound policy structures which place a high priority on market forces and private enterprise have posted higher growth rates than countries where policy change has been ignored or rejected.

Many policy-related constraints to private sector development have already been identified by RDO/C in the regional Private Sector Strategy paper and individual Annual Action Plans. Examples include tax laws which do not allow entrepreneurs to depreciate capital investments, high tax rates, inefficient customs clearance procedures, and delays in investment approvals. These and related policy impediments reduce the business community's ability to create employment and earn foreign exchange in productive enterprises, thereby retarding growth.

In view of this situation, it is not only appropriate but also imperative that policy dialogue and reform programs between donors and recipients constitute a central component of infrastructure projects. External funding for infrastructure should be made contingent upon discussions on policy reforms and implementation of necessary changes.

### Industrial Estates

A special category under the generic term "physical infrastructure" is the industrial park or estate. The industrial estate may be called a "package" of infrastructure -- roads,

power, water, sewerage, telecommunications, etc. -- designed to provide efficiently and at reasonable cost the services needed by a cluster of industries at one planned site. Such projects often involve incremental infrastructure development (e.g., an access road or connections to high-tension power lines or the municipal water distribution main, etc.) as well as the internal on-site road or other service networks.

USAID has been deeply involved in the execution of the Frequente Industrial Park in Grenada, and is considering support for expanding Frequente and establishing a second estate at Pearls on the East Coast. Additional assistance is being examined for industrial park projects in St. Vincent and St. Lucia. In all such projects, investment in land preparation, roads and utilities is complemented by the financing of factory shells, and the whole complex is often categorized as industrial infrastructure.

The need for organized packages of infrastructure in the form of industrial estates, including specialized free zones, is taken as a "given" in all OECS countries. Suitably planned, executed and managed, such developments are the most efficient way of providing manufacturers with industrial land, buildings and services. Unfortunately, public sector sponsorship and operation of industrial estates usually is tantamount to placing a permanent financial burden on the government while delivering a less than optimum quality of product to occupant manufacturers. The private sector alternative fostered by the IPIP project was not conspicuously successful for one basic reason -- public sector competition based on subsidized, uneconomic pricing standards made private sector competitive projects high priced and excessively risky by comparison. It should be noted that the preinvestment studies leading to IPIP clearly illuminated this issue. Unless government policy could be moved in the direction

of economic pricing of estate facilities, IPIP's feasibility was questionable.

The Caribbean Development Bank has been the chosen instrument for most funds allocated to industrial estates. The RDO/C, in concert with other donors, should link further finance of industrial estates to structural adjustment policy reforms along the following lines.

1. Require firm commitments to adopt rational economic pricing criteria.
2. Where feasible, encourage disinvestment to the private sector or promotion of joint ventures based on private management.
3. Establish lending practices to public sector projects to be focussed increasingly on land development and utility services only, with lines of credit extended directly to private firms interested in building their own factories.

The suggested reforms may be categorized as a push for "privatization." Experience world-wide suggests that substantial benefits will be derived to the extent that the restructuring of the sector can be realized over time.

### Road Maintenance

Perhaps more so than for any other component of infrastructure, adequate, well maintained roads are fundamental to economic development. Nevertheless, the problem of road maintenance in the developing world is recognized as one of the

most intractable and frustrating of all. The World Bank, after decades of discouraging experiences in financing both capital assets as well as technical assistance and training to upgrade public sector road maintenance capabilities, has recently redirected its attention toward private sector alternatives.

Private sector road maintenance contracts offer a viable and potentially less costly alternative in the Eastern Caribbean. There are no easy answers to road maintenance problems, and considerable efforts would have to be undertaken to develop suitable contract approval and monitoring procedures. Whether or not qualified firms exist or could be nurtured would have to be determined. Nevertheless, World Bank experience in Africa suggests that problems associated with privately operated maintenance can be solved, and in any case are less intractable than those linked to the typical public sector maintenance alternative.

As an initial move in this direction, the provision of mobile maintenance units to St. Vincent and St. Lucia should be reexamined to determine the feasibility of shifting the operation to private firms under contract to the government road maintenance agencies. The mobile units could be leased or sold to the winning contractors on reasonable financial terms and conditions.

### The IEMS Project

As stated in the Project Paper, "the Infrastructure Expansion and Maintenance Systems (IEMS) Project is a comprehensive program to provide and upgrade primary infrastructure for the productive sectors of agriculture, manufacturing and tourism in the Eastern Caribbean." In functional terms, the project represents an innovative approach

for funding and administering a "cluster" of related infrastructure activities under the rubric of an individual project. The project includes an umbrella engineering and technical assistance component, a "small activities" fund, and a large subproject program, each of which are discussed in further detail in Appendix 3.

In the view of the SRI project team, the IEMS project and "model" constitute a sound, common sense approach for administering an infrastructure strategy for the region. The most attractive feature of the model is that it draws an appropriate compromise between flexibility and control. In the context of the region's requirements, involving numerous donors and recipients and relatively small scale activities by AID standards, built-in flexibility is critically important, and the model does not "preselect" precise interventions. At the same time, however, the model incorporates a sufficient system of selection criteria, approvals and monitoring capabilities to cover project control and meet AID requirements.

In design, the IEMS project contains a number of other positive elements. It includes an on-site engineering contractor to provide ongoing assistance to RDO/C on infrastructure initiatives. In addition, it explicitly recognizes the importance of maintenance of existing and prospective facilities. The project accommodates the possibility of both large-scale and small-scale projects through its different funding windows, and it carefully integrates infrastructure ventures into RDO/C's overall program for the region. Finally, the project strategy-- to support infrastructure delivery networks aimed at mobilizing economic growth and self-reliance led by export earnings -- fits not only with RDO/C's stated mission but also with the real needs of the countries in the region. The project is correctly oriented toward stimulating private investment and productive activities in the region.

The IEMS project is hence an effective mechanism, now fully in place, for administering a regional infrastructure strategy. What is missing from the project is a systematic method for identifying the most appropriate projects on each island, and that is precisely the gap this report is intended to fill. If the strategy proposed above is implemented, it can be easily integrated into the operational program of the IEMS project and team.

### The Basic Needs Trust Fund

Since its inception in 1984, the Basic Needs Trust Fund has proved to be an important source of social and economic infrastructure. As of September 30, 1987, the BNTF had financed 154 subprojects in nine countries, for a total of \$12.4 million. The funds have been targeted for the provision of basic social services, such as schools, health clinics, water systems and rural roads. In addition to providing a means to finance infrastructure projects requested by the host country governments, the fund has served to support the local democratic institutions in a concrete, visible way. Also, the Maintenance Systems Component of the BNTF is attempting to improve the maintenance capabilities of the OECS country governments, which are seriously deficient throughout the region.

There is unanimity of opinion that the BNTF has had strong positive development impacts and should be recapitalized. In order to maximize the benefits of the project, two changes could be made in the way the BNTF is implemented. First, additional feasibility analyses should be conducted prior to approving projects under the Trust Fund. This measure would improve the quality of the projects being funded and assure that the Fund is not a source of ready financing for any projects a government may

desire, but a source of ready financing for appropriate projects. In addition, the role of the private sector in selecting projects to be financed through the Fund should be strengthened. These two changes will increase the impact of the BNTF in supporting private-sector, export-led growth.

### Differential Funding Levels

In the United States as elsewhere, the funding process for foreign assistance is changeable and is subject to constantly shifting constraints, political pressures, and objectives. Donor agencies and recipients alike strongly desire funding stability to assure project and program continuity, but this is a luxury which is seldom achievable in the real world. Therefore, it is necessary to adapt to and even plan for variations in funding levels.

What are the implications of changes in funding availability for infrastructure projects in the Eastern Caribbean region? For the purpose of argument, we shall assume three alternative scenarios -- annual funding of \$20 million, \$10 million and \$5 million respectively. At the higher threshold, RDO/C could sustain a significant infrastructure program in each nation in the region. This could include two or three major ongoing projects, and a series of smaller, targeted activities. The U.S. presence would clearly be felt, RDO/C would have considerable leverage in the area of policy dialogue, and the country programs would have a strong, measurable impact on the host economies.

At the level of \$10 million annual funding, RDO/C could still administer a serious infrastructure program on each island. However, much greater scrutiny would be required for larger projects, which would number closer to one per island at any given time. An increasing emphasis would have to be placed on

smaller interventions. The policy leverage of the United States would be diminished, as would the economic impact of the program.

An infrastructure program funded at \$5 million per year would be little more than a "caretaker" activity. This permits an allocation of less than \$1 million per country, and would by necessity be oriented toward several small projects. At this level of funding, primary emphasis should probably be placed on maintenance of existing infrastructure. The project engineering consultants would be underutilized. The United States would in this scenario have only marginal policy dialogue leverage, and in fact recipient countries would likely resist the imposition of any conditions associated with infrastructure project. This would obviously depend, however, on the quantity of funding for other U.S. assistance programs in the region.

The implication of this discussion is that a critical mass of funding is necessary to support a viable infrastructure program. At the higher end of the continuum, important impacts and benefits could be achieved. At the lower end, however, RDO/C would have to reach a determination as to whether any infrastructure strategy and activity would be warranted.

## APPENDIX 1: REGIONAL ECONOMIC REVIEW

The economic performance and prospects of each island are described in the following table. Below, we briefly discuss each island.

### Antigua and Barbuda

Antigua and Barbuda are small islands with a combined population of 80,000, a labor force of 25,000, and an area of 442 square kilometers. Antigua and Barbuda are substantially more affluent than most developing countries and most members of OECS. Per capita GDP in 1985 reached \$2030. The economy is based on tourism. The services sector produces \$0.75 of every dollar of output in the economy, of which perhaps half is contributed by tourism. Industry is responsible for 18 cents of every dollar of output, and agriculture contributes the remaining 7 cents.

The Government of Antigua and Barbuda has been relatively successful in providing educational opportunities to its citizens, but less successful in offering other public services. An estimated nine out of ten adults are literate, and four out of five children attend primary school. However, only one urban resident in three has access to safe water, and that percentage falls to one in eight for rural residents. The calorie intake represents on average only 86 percent of requirements.

Antigua and Barbuda have exhibited higher rates of economic growth than developing countries on average. From 1984 through 1986, output increased at average annual rates above 6 percent. It can be argued that economic growth in Antigua has been financed by excessive borrowing. The cumulative external debt at the end of 1985 reached 40 percent of that year's GDP. Unsure of the county's ability to repay additional debt, foreign creditors

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ECONOMIC SECTOR ANALYSIS OF OECS COUNTRIES:  
PERFORMANCE AND PROSPECTS

Country	Tourism	Manufacturing	Agriculture
Antigua and Barbados	Leads OECS countries in stayover arrivals and visitor expenditure. Strong potential in tourism and related services.	High external debt limits borrowing capability. Low unemployment limits scope of new manufacturing.	Job opportunities in tourism, manufacturing attract workers from agriculture. Scope for increasing links with tourism sector, i.e., vegetables, meat, dairy products.
Dominica	Lack of white sand beaches limit potential. Should seek specialized niches, i.e., sulphur springs.	Rugged terrain limits quantity of land available for industrial sites. The few available sites are also suitable for tourism.	Economy based on agriculture. Agribusiness opportunities have growth potential.
Grenada	Tourism is important foreign exchange earner, but government is "drifting" concerning future development. Political uncertainty has discouraged investment.	Lacks manufacturing tradition. Lowest percentage contribution to GDP of all islands. Excess capacity in industrial parks.	Important source of income, export earnings and employment. Production declining due to high export taxes, weak demand, political events. Cacao among finest in world.

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ECONOMIC SECTOR ANALYSIS OF OECS COUNTRIES:  
PERFORMANCE AND PROSPECTS

Country	Tourism	Manufacturing	Agriculture
St. Kitts/Nevis	Visitor expenditures generate 3/5 of all exchange earnings, 1/2 of all GDP. Opening of Southeast Peninsula will increase capacity.	Low unemployment constrains entry of new firms. Favorable manufacturing investment environment has yielded rapid but unstable growth in this sector.	Viable sugar economy until 1960s. Land tenure uncertainty has delayed diversification.
St. Lucia	Strong growth in arrivals since 1980. Has more rooms than any other OECS country. Visitor expenditures account for 2/3 of total exchange earnings.	High growth sector. Prospects for additional increases good due to high-quality infrastructure.	Economy heavily dependent on banana exports. Some diversification to supply tourist industry has occurred.
St. Vincent	Tourism relatively unimportant in economy. Potential for upscale tourism in the Grenadines.	Industrial parks filled; lack of space constrains entry of new manufacturing concerns.	Traditionally dependent on agricultural exports, especially banana, arrowroot, and vegetables. Scope for diversification.

*2/2*

have drastically cut new lending to the islands. As a result, the government is more dependent than before on tax revenue and concessionary loans to finance infrastructure. In 1984, the government financed 46 percent of public investment with internally generated funds, but that percentage dropped to 15 percent in 1986. Tax revenues do not cover recurrent expenditures, and the islands consistently run a government deficit.

The balance of payments position of the islands has improved over the last several years, although it is still negative. The export sector has witnessed expansion: Exports rose by 35 percent from 1981 to 1985, reaching \$124 million. The country's principal exports are cotton and garments. Over the same period, imports were essentially flat at approximately \$140 million, leading to a resource gap in 1985 of \$24 million. Net transfers of foreign earnings and international aid reduced the gap to a \$12 million current account deficit.

Tourism is the leading sector in the economy of Antigua and Barbuda. Directly and indirectly, tourism generates approximately 40 percent of the islands' total output. The sector is growing rapidly; 72 percent more tourists visited the islands in 1986 than in 1982. Occupancy rates rose from 58 percent in 1981 to 72 percent in 1985.

Manufacturing represents a relatively small sector of the economy, although it does account for 85 percent of merchandise exports. Manufactured exports include garments, furniture, alcoholic and nonalcoholic beverages, foodstuffs, packaging materials and consumer household durables. Manufacturing on the islands is highly protected, and operates at low capacity utilization rates. Manufacturing output has stagnated over the last several years. Measures that would catalyze growth in this

sector include improvements in the regularity of electrical power, additional factory space, and international promotion.

Agriculture suffered setbacks due to drought in 1983 and 1984, but efforts to diversify away from sugar and toward fruits and vegetables, especially okra, peppers and cucumbers, are beginning to show results. Currently, the major constraints on growth in agricultural output include bureaucratic delays in leasing state lands to farmers, deficient marketing procedures, and lack of a sufficient and constant supply of water.

### Dominica

There are 76,500 Dominicans settled on the 750 square kilometers that make up the island. The country is largely agricultural: Agricultural goods represent 32 percent of total value added, while services represent 51 percent and industry 17 percent. GDP per capita is only \$970. GDP growth in Dominica has been a modest 3 percent per year for the past several years, excluding 1984 when it peaked at 6 percent due to a major road reconstruction program. In 1984 and 1985, concessional external assistance represented some 20 percent of GDP.

Imports to Dominica consistently exceed exports from the country. In 1985, exports totalled \$38.3 million. Bananas represent approximately 40 percent of total export value, and some 40 percent of the country's labor force is involved in their production, at least on a part-time basis. Total imports reached \$62.2 million in 1985, resulting in a trade deficit of \$23.9 million. Export diversification and growth are priorities for the Dominican government.

The Dominican government operates with a large and growing budget deficit. Although current revenues have slightly exceeded

current expenditures for the last several years, large capital expenditures place the overall budget squarely in the red. The deficit grew from \$13.2 million in 1983/84 to \$22.0 million in 1985/86. The country's external debt totalled \$38.6 million as of the end of 1983.

The agricultural sector, because of its importance, is a focus of government development efforts. It is still performing poorly as a result of a 1980 hurricane. The government has identified several obstacles to improved agricultural production, the most important of which are an insecure land tenure policy, inadequate extension services, and lack of organized marketing channels. The government is particularly interested in promoting forward and backward linkages between agriculture and the rest of the economy.

In manufacturing, the country has made some strides in encouraging agro-industry, especially the processing of coconuts and citrus. The government has had little success in attracting foreign investment in light manufacturing, in part due to extremely rugged terrain which limits the number of flat sites that would be appropriate as plant locations. Those factory shells that have been constructed are fully occupied.

Unlike the other islands, Dominica does not attract many tourists, because it lacks the white sand beaches that its neighbors offer. Only 25,000 stayover tourists visited the island in 1986, fewer than any OECS island other than Anguilla. The scenery is appealing to some groups of visitors, however, such as those interested in hiking, mountain climbing, camping and sulphur springs.

## Grenada

Grenada, an island of 344 square kilometers, is home to 97,000 people. The country's economy is based on agriculture, which contributes 20.1 percent of total output. The service sector is the origin of 47.0 percent of GDP, the government contributes 19.1 percent, construction represents 8.6 percent, and 4.9 percent can be attributed to manufacturing.

The years since the U.S. intervention in 1983 have been a period of renewal for Grenada. Over that period, real GDP has grown approximately 5 percent per year. Total output reached \$131.7 million in 1986. From 1984 to 1986, exports rose from \$18.2 million to \$27.8 million. Imports also increased, from \$57.1 million to \$83.1 million. The current account balance worsened over the period, falling from a \$3.4 million surplus to a \$9.7 million deficit. The Grenadian government reported a public sector deficit of \$4.0 million in 1986, equal to 3 percent of GDP.

Construction, electricity and water, and hotels and restaurants, exhibited real GDP growth rates of 15.0 percent, 12.8 percent, and 10.3 percent, respectively. Output in manufacturing rose by a scant 1.0 percent, and production in the agricultural sector fell by 1.0 percent.

Tourism has become the leading foreign exchange earner in Grenada, even in the face of a lack of a clear government commitment to the sector. Grenada's 57,000 stayover visitors in 1986 spent slightly over \$38 million, nearly 20 percent more than visitors spent the previous year. Tourism in 1986 accounted for 62 percent of the country's annual export earnings. The greatly expanded airport facilities will support additional growth in tourism.

The large and growing tourism sector offers linkage opportunities with the rest of the economy. Links could be fostered with several sectors, including handicrafts, fruits and vegetables, other foodstuffs, and goods used in the hotels.

Almost half the value of total agricultural production in 1986 consisted of 4 foodstuffs: Bananas, cocoa, nutmeg and mace (a byproduct of nutmeg). Agriculture has been declining in importance in Grenada, partly due to labor and capital flows to the profitable tourism industry, and partly as a result of weak world markets, disruptive political events and government-mandated pricing systems. Fresh fruit production has been spurred by demand from tourism locally and in Trinidad and Tobago, the main export market. Additional diversification into minor spices, cut flowers and ornamental plants appears feasible and beneficial.

The manufacturing industry in Grenada is very small, producing only approximately 3 percent of total output. The largest employer within the sector is the beverage and tobacco industry, followed by garment manufacturers and foodstuffs producers. The only assembled good that is exported in significant quantities is garments. There is reportedly enough unrented industrial factory space (80,000 - 100,000 sq. ft.) to support growth in light manufacturing. However, the prospects for such growth are constrained by high tax rates, a slow investment approval process, and limited managerial capacity.

### St. Christopher-Nevis

St. Christopher (commonly known as St. Kitts) and Nevis have a combined land mass of 269 square kilometers, and population of 46,000, making it by far the smallest country of the six nations under study in both area and population. The country's small

workforce and domestic market limit development options by severely restricting economies of scale. In part as a result of these constraints, St. Kitts-Nevis has one of the lowest per capita GDP rates in the region, \$820 per year.

In spite of its relative poverty, St. Kitts has managed, with donor assistance, to provide an adequate level of basic social infrastructure for its population. The government is currently building housing units for low-income families. Improved garbage collection equipment and new schools are high-priority social infrastructure projects for the next few years.

GDP growth on St. Kitts and Nevis has been erratic, in part because small variations in performance or weather are magnified by the small size of the economy. Annual growth in output averaged 4.0 percent in the early 1980s, fell by 2.4 percent in 1983 because of a drought, and has hovered at 2.0 - 3.0 percent since then. The largest contributor to GDP is the government, which generated 19.6 percent of total output in 1984, followed by agriculture at 16.6 percent (of which half was sugar), manufacturing at 14.2 percent (of which half was also sugar), and construction at 9.5 percent.

Like most developing countries, St. Kitts-Nevis consistently runs a trade deficit, importing some \$15.0 million each year in excess of what it exports. Net private transfers reduce the trade deficit by approximately one half, and official transfers and capital also reduce the deficit. The overall balance of payments is usually, although not always, slightly negative.

The economy is still based on sugar, in spite of government efforts at diversification. Sugar generates half of the nation's foreign exchange earnings each year, and, in either raw or processed form, represents 15 percent of total output. Since the country is just beginning to grapple with resolving the land

ownership issues associated with the sugar lands and providing assistance to small farmers, it is likely that any results of agricultural diversification will only be felt after several years. For the next few years, agricultural output will be closely linked to the international price of sugar, and is likely to remain low and stagnant.

While agricultural diversification is a slow process, there are clear signs that economic diversification away from agriculture and toward other sectors, especially tourism, is taking off. Stayover tourist arrivals to St. Kitts-Nevis jumped by 37 percent from 1984 to 1986, albeit from a very low base. With 55,000 stayover vacationers in 1986, St. Kitts-Nevis ranks third among the countries under study in terms of yearly visitors, behind Antigua and Barbuda and Grenada. The opening of the Southeast Peninsula will increase the area available for tourism development, and should facilitate continued growth in this sector.

The small size of the labor force may prove especially troublesome as the island attempts to diversify into light manufacturing. On Nevis, for example, the entire electronics industry consists of one firm with 18 employees. High wages relative to other Caribbean locations such as the Dominican Republic and Haiti also mitigate against large increases in manufacturing output in the near future.

### St. Lucia

St. Lucia boasts an economy with considerable potential in comparison to other OECS nations. The 123,000 inhabitants that live on the island's 619 square kilometers exhibit high rates of literacy, school attendance, and access to piped water. The long life expectancy (70 years for males, 75 for females) suggests

that the island's GDP per capita of \$1,071 has yielded good social performance.

Through most of the 1980s, St. Lucia could pay for only half of what it imported with its exports; the nation usually posted an annual trade deficit of approximately \$60 million. Increases in banana exports and tourism receipts have narrowed the gap in 1986. Official capital inflows and private direct investment compensated for the current account deficit from 1983 - 1985, resulting in an overall balance of payments that averaged approximately 1.0 percent per year.

As the balance of payments has improved, so have the public finances. Improved tax administration and greater export volume increased revenue, and the government reduced expenditures as well. As a result of these two factors, the government, which posted a deficit of 6 percent of GDP in 1982, recorded a surplus of 0.5 percent in 1985.

St. Lucia's economy is still fundamentally dependent on agriculture, supplying the preferential market in the United Kingdom with bananas. Given the limited size of that market, and the uncertainty regarding its future, diversification is important.

St. Lucia is successfully moving into enclave manufacturing and tourism and out of agriculture. A high quality package of infrastructure including a port, an international airport, and a free zone have successfully attracted domestic and foreign investment into light manufacturing on the island. As in other OECS states, locating in St. Lucia offers investors duty free access to the United States and Europe under the Caribbean Basic Initiative and the Lome Agreement, respectively. A second benefit is the lack of U.S. quotas on garments assembled on the island. High wage rates relative to their Caribbean competitors

mean that St. Lucia's comparative advantage may not lie in low value-added garment assembly operations but in higher value-added industries such as electronics assembly and data entry.

St. Lucia is successfully marketing itself as a vacation destination. In 1986, the 111,000 stayover tourists spent \$71.4 million, more than twice what their 70,000 counterparts had spent only four years earlier in 1982. Nonetheless St. Lucia lures only one-third the number of visitors that vacation in Antigua and Barbuda each year. Continued strong growth in the tourism sector is projected. The higher demand in the tourism industry is expected to have positive spin-off effects on other sectors in the economy, most notably handicrafts, garments, fresh fruits, vegetables and juices.

#### St. Vincent and the Grenadines

St. Vincent and the Grenadines is one of the least developed of the OECS nations, with a per capita GDP of only \$860. The island shares the agricultural heritage of its neighbors; agriculture is the third largest economic sector, behind commerce and government. St. Vincent and the Grenadines reported a healthy 4.5 percent average annual rate of growth in the 1981-1984 period.

St. Vincent and the Grenadines consistently post trade deficits, importing on average \$20 million more than they export each year. Bananas account for approximately one-third to one-quarter of all export earnings, and one-half of all merchandise exports. Private transfers from nonresident citizens offset approximately half of the trade deficit, and the rest is financed primarily through foreign direct investment and official transfers.

The Government of St. Vincent and the Grenadines covers its current expenditure with current revenue in most years, but capital expenditures are heavily supported by external concessionary loans. In fiscal year 1983/1984, the government recorded a current account surplus of \$3.5 million and a capital account deficit of \$1.3 million for an overall surplus of \$2.2 million.

St. Vincent has historically been a monocrop economy, growing first sugar and then bananas. Agriculture continues to generate a substantial percentage of output, exports and employment. As it prepares to reduce dependence on bananas, sugar and arrowroot, the government is seeking to attract foreign entrepreneurs, offer credit, and improve roads and packing and storage facilities. All of these efforts will generate benefits in the medium and long term, but not immediately. St. Vincent is unlikely to experience substantial growth in agricultural output in the near term.

Prospects are brighter for light manufacturing to catalyze growth on the islands. St. Vincent has attracted both domestic and foreign investment into light manufacturing. The free zone is now producing garments, metal products, furniture, packaging, and food products, and is reportedly operating at full capacity. The main obstacle to continued development of light manufacturing appears to be a lack of additional factory space, transportation, and an inadequate electricity supply. The Cumberland Hydroelectric Project should reduce the energy supply constraint.

Tourism to St. Vincent and the Grenadines has stagnated. The nation is the only one of the six countries under study that has not substantially increased its tourist volume in the last six years. In 1980, more than 50,000 overnight visitors spent time on St. Vincent and the Grenadines. In 1985 and again in 1986, that number was down to 42,000. The current government is

considering promoting yachting and upscale tourism in the Grenadines, because of the area's natural beauty. Before these new areas could be opened up, basic infrastructure such as power, communications, and roads would have to be put in place. Thus, the near term prospects for increased tourism to St. Vincent and the Grenadines are modest.

## APPENDIX 2: THE ROLE OF INFRASTRUCTURE INTERVENTIONS

Physical infrastructure forms the foundation for modern social wellbeing and economic activity. Since the beginning of history, human settlements have been located near reliable sources of water, and at geographic sites which allowed easy transportation to and from the centers of population. Among the earliest undertakings of civilized states was the provision of roads and water systems through various forms of "public works."

The provision of infrastructure not only is indicative of a nation's ability to take collective action to lay the groundwork necessary to support the public's wellbeing, but also establishes the fundamental underpinnings of productive activities. In short, infrastructure renders both social and economic benefits, since it contributes to the provision of goods and services to meet individuals' basic needs, and it enhances a society's ability to generate income and employment through productive economic activities.

Infrastructure has long been a focal point for both governments and international donor agencies. Over time, the majority of external development assistance projects have been directed toward meeting broadly defined infrastructure needs. The rationale for this concentration is the explicit or implicit assumption that the construction of physical infrastructure is more likely to achieve lasting development benefits than financial flows which to a large extent represent general government budget support for meeting current expenses.

The concept of "infrastructure" can be defined narrowly to include only those physical capital structures which are used by the general public, or more broadly to encompass the entire range of publicly provided, physical facilities required to meet basic

social needs and support productive activities. For present purposes, it is useful to divide infrastructure into three separate but to a certain extent overlapping components-- economic infrastructure, social infrastructure, and infrastructure directly supporting productive sectors (see Figure 1).

### Economic Infrastructure

Economic infrastructure constitutes the most basic physical facilities needed to support human existence. The foundation of adequate economic infrastructure is the sine qua non of both current social wellbeing and prospective economic growth and development. Depending on a nation's level of development, wealth, and aggregate productive capacity, the quality and depth of its infrastructure falls somewhere on a continuum ranging from rudimentary to highly sophisticated. The specific needs and systems which fall into this category are noted below.

**TRANSPORTATION:** All societies require a system to provide mobility for people and goods. Individuals must travel to and from places of employment and essential services. Similarly, economic inputs must be transported to where they are needed, and finished agricultural and manufactured goods must move through sequential points of production and ultimately to points of consumption. Land-based transportation systems consist mainly of roads, bridges, and railroads, and may be supplemented by river and canal systems. Economies dependent on external flows of goods and services also require infrastructure for sea and air transport, primarily in the form of docking facilities and airports.

**WATER AND SEWERAGE:** Supplies of water in adequate quantities and quality are crucial for human existence, since

water is used in almost all facets of life. Societies can adapt to major differences in water availability, but a certain minimum is essential, a fact which caused water-related infrastructure to be among the first of known "public works" activities. In rural areas, unless water is easily accessible from surface sources such as rivers or lakes, it must be drawn from constructed wells or rain collection systems. In densely populated centers, infrastructure is needed to carry water from often remote sources and pump the water to household and industrial users. A complete package of water infrastructure often includes surface catchment/reservoir systems, wells, distribution networks, and pumping stations.

Two corollary infrastructure needs are directly related to water. The first is sewerage, or systems to collect and remove rainwater and waste water, the latter of which typically requires treatment facilities such as liquid waste disposals systems including collection networks, pumping stations, treatment plants and disposal outlets. The second is water control, which either stores water collected during periods of surplus for distribution during times of shortage, or contains the damage that might arise from excessive rain or floods through water flow management. In general, water infrastructure is extremely expensive to construct and maintain, since it typically involves dams, river channelling, and pumping facilities, and extensive underground pipelines. Experience indicates that the provision of sewerage infrastructure is typically the last to be considered and implemented, due to cost considerations and a lower assigned priority relative to alternative uses of scarce capital resources.

**POWER:** Numerous forms of energy are used for cooking, heating, lighting and operating all forms of machinery required for producing goods and services. One sociological theory posits that comparative levels of "modernity" can be measured by the

ability of different societies to replace animate (human and animal) energy with increasingly sophisticated inanimate sources of energy. Power and energy can be furnished locally (fuel engines or generators) or through regional or national systems (electricity). The former requires storage and transportation infrastructure for fuels, and the latter requires transmission facilities and distribution lines.

**COMMUNICATIONS:** A final category of economic infrastructure is communications. While not in most cases critical to survival, communications capabilities are basic to all but the most rudimentary societies. The foundation of most modern communications services is the postal system, usually augmented by simple telephone service. Advanced communications capabilities (ground station/satellite links, microwave relay stations, electronic data transfers, telecopy and telex facilities, etc.) are increasingly acknowledged as essential to contemporary international and even domestic business operations.

### Social Infrastructure

Social infrastructure can be defined as the physical facilities required to support the provision and distribution of social services to the community. It is important to note that social infrastructure utilizes and is heavily dependent on the various forms of economic infrastructure that were described above, and in a sense represents an extension of basic economic infrastructure. Over the long run, social infrastructure is as important as economic infrastructure to the economy and society as a whole.

In most communities, essential social services typically fall into one of four categories, as indicated below. The

delivery of services in each category in turn is dependent on physical infrastructure.

**HEALTH:** The provision of public health services requires a set of facilities, ranging from relatively expensive hospitals to simple neighborhood clinics, while are oriented primarily toward curative medicine. Additional infrastructure related toward preventative medicine can involve sanitation, solid waste disposal, swamp drainage, or other projects aimed at minimizing or eliminating endemic diseases.

**EDUCATION:** The wellbeing of any society over the long run depends heavily on the availability and quality of its educational system. The necessary infrastructural underpinnings for meeting this requirement include primary and secondary schools for the majority of the population, and universities and technical training institutions to provide advanced education for advanced skills.

**HOUSING:** In most market-oriented economies, the responsibility for financing and maintaining housing normally falls on individuals and families. The principal exception is made for poorer groups in the population, for which low income housing is sometimes provided by governments. Additional housing infrastructure can also take the form of site preparation for new developments, in which road systems and utilities hookups are furnished as public services.

**PUBLIC SAFETY:** Public safety services include fire and police protection, and must be supported by fire houses, police stations, prisons, and other corrections facilities. In addition to actual buildings, the expensive equipment utilized by fire and police personnel is often regarded as a legitimate form of infrastructure.

## Productive Sector Support Infrastructure

Adequate economic and social infrastructure serves as a foundation for societal activities. To these a third layer can be added -- infrastructure which is directly related to the production, income and employment generating operations of productive sectors in the economy. In actual function, most of this infrastructure does not constitute new forms of facilities, but rather extensions or enhancements of standard economic infrastructure that are targeted toward increasing the output or efficiency of existing productive activities, or toward creating new ventures. Examples of these development-related facilities are indicated below, in the same categories presented under economic infrastructure.

### TRANSPORTATION

- Feeder road systems can extend the utility of trunk roads and open up new areas to agricultural production, manufacturing, and tourism.
- Improved seaport facilities (e.g., containerization, refrigeration, warehousing, multi-use wharfing, etc.) can permit greater efficiencies and economies of scale.
- Airport expansions or improvements can allow for greater flexibility in aircraft landing and cargo transport, and for greater passenger safety and comfort.
- A wide range of transportation systems (e.g., special rail sidings, tramways, short-haul road linkages, etc.) can be introduced to expand or inaugurate new production sites.

### WATER AND SEWERAGE

- Large or small scale irrigation systems are often necessary to improve crop yields or open fertile but arid land to cultivation.

- Additional and perhaps augmented water hookups are required for industrial estates and other production facilities.
- Many manufacturing processes create a need for special waste water treatment plants.
- Effective sewerage systems are often necessary in specific locations to meet the more stringent environmental standards required by the tourism industry.

#### **POWER**

- Manufacturing facilities of all types, but especially those utilizing sophisticated electronic equipment, depend on reliable electricity service, which in turn may necessitate backup generation systems and other anti-surge controls.
- Some production processes require above normal access to electrical power and/or derivative power systems.
- Special electricity generation sets are often needed in remote areas to support agricultural processes.
- The provision of reliable power is essential to the maintenance of tourist comfort and satisfaction.

#### **COMMUNICATIONS**

- Export manufacturers, traders and travel service companies depend heavily on full access to international communications.
- Advanced communications capabilities can create new income-generating opportunities such as data entry operations.

These extensions of economic infrastructure may be put into place in reaction to existing, pent-up demand, or as a part of a

"pro-active" strategy aimed at developing new activities. It is at this point in the infrastructure "chain" (moving from general to specific services) that the distinction between public and private responsibility becomes blurred. That is, infrastructure which directly supports specific productive enterprises can be provided by the public sector, in order to nurture the economic benefits derived from the enterprises' activities, or can be left the responsibility of individual entrepreneurs. In fact, as part of approval packages, private developers are sometimes obliged to furnish infrastructure for the benefit of others as well as themselves. Therefore, the issue of enterprise support infrastructure must be settled on the basis of a development strategy that clearly addresses the issues of the appropriate roles for the public and private sectors.

A final category of enterprise support infrastructure goes beyond standard economic infrastructure, and pushes the public versus private provision argument even further. This category encompasses actual sites and facilities in which productive activities take place, as well as direct support services.

#### **SITES AND FACILITIES**

- Central marketplaces are often valuable to allow individual farmers sell their produce.
- Storage facilities and/or refrigeration units at airports and seaports can reduce spoilage and enhance the quality of fresh fruit, vegetable and horticultural exports.
- Well-located agricultural extension facilities (fertilizer production and distribution, seed storage, equipment rental, etc.) increase agricultural productivity and reduce costs.
- The construction or enhancement of tourist attractions (beaches, parks, natural attractions, mineral springs, cultural centers, etc.) assist local tourism industries.

- The erection or purchase of hotel complexes is sometimes undertaken by government entities in support of tourism-generated income and employment.
- The provision of industrial parks and individual factory shells is often deemed necessary to attract entrepreneurs in "enclave" manufacturing or export processing.
- Shared maintenance facilities can reduce user costs and achieve economies of scale.

The development of actual production facilities is often considered a capital cost associated with business ventures, and as such is deemed the responsibility of entrepreneurs who will use and derive profits from the sites. However, these costs are sometimes underwritten or subsidized in countries or regions confronted by a dearth of the private capital or management expertise which is necessary for the construction of this form of infrastructure. In cases where the public sector becomes involved, as a part of a strategy to accelerate the path and benefits of development, governments may or may not seek to recoup all or part of public investment outlays through a variety of options, such as rents, user fees, or repayment arrangements.

Completing the universe of enterprise support infrastructure, several types of social infrastructure can be developed to achieve enhanced and mutual benefits to both the public and individual business ventures. Some of these ancillary services are provided by businesses to benefit employees and their families, and some by governments to benefit businesses.

For example, employee housing is sometimes furnished by large-scale firms at remote production sites or large industrial parks. Similarly, health and child care facilities at or near plant locations increase worker attendance rates. In the area of education, governments and/or firms can underwrite facilities needed for production, technical and management training that is

more directly relevant to business operations than are standard school curricula.

### Infrastructure "Absorptive Capacity"

From a purely economic standpoint, infrastructure is a basic resource that must be designed, financed, put into place and maintained over time. It is a critical "input" to productive processes, and given associated costs it should be approached as a relatively scarce resource.

A nation's ability to build and maintain infrastructure is dependent upon a number of variables which collectively represent "absorptive capacity." One can logically trace these capacity variables through the process of infrastructure implementation and use.

1. The first factor relates to degrees of competence in identifying, planning, and evaluating alternative infrastructure investments, focusing on aggregate priorities, relative utilities, and long term viability.
2. Project management capabilities are of critical importance to meet the need of efficient administration of complex infrastructure undertakings.
3. Financial capacity refers to a nation's ability to underwrite infrastructure projects from current or future resources, and to maintain the facilities over time.

4. Implementation capacity pertains to a nation's access to those specific inputs (e.g., labor force at appropriate skill levels, technology, equipment, contractors, etc.) which are necessary for the physical construction of infrastructure desired.
5. Utilization capacity refers to the centrally important question of need -- the nation's capacity to use (and where appropriate pay for) facilities in sufficient volumes to warrant the costs incurred.
6. Maintenance capacity involves the nation's ability to preserve and if possible upgrade the physical integrity and usefulness of infrastructure over time.

In the aggregate, this sequential group of "absorptive capacity" requirements indicates that a formidable array of financial and managerial resources are needed to provide adequate support for infrastructure development. A major deficiency in any given category could lead to serious problems and potential waste of resources. As a consequence, objective assessments of the availability (in terms of both quality and quantity) of each of these capacity requirements should be an initial, integral part of any prospective infrastructure strategy. The most elegant technical solution to an infrastructure problem or scarcity will fall short of its objective, or fail outright, if the executing agency cannot function effectively.

### APPENDIX 3: CURRENT INFRASTRUCTURE STRATEGIES AND PROJECTS

External donors provide loans, grants and technical assistance for infrastructure projects in the OECS countries. Donor strategies evolve in tandem with the process by which infrastructure projects in the region are identified and approved.

Infrastructure project ideas originate either in the private sector or in government bureaucracies. Some project ideas come from individual members of the business community or from organizations representing business interests, such as local chambers of commerce. Others result from plans prepared by host country ministries or public works departments.

Host country governments normally undertake the first evaluation of proposals. At this early stage, "proposals" are little more than ideas, and do not contain much quantitative data on either costs or benefits. Thus, the initial analysis of proposals is not rigorous. Those ideas that appear to offer significant economic, social and/or political benefits are moved forward, while less attractive projects are dropped.

In the second stage, host country officials take desired infrastructure project ideas to the various donors, to see which projects might solicit interest. The local government officials attempt to determine which aid agency is most likely to take the proposed project under its auspices on the most attractive terms. In essence, the OECS countries "shop around" their initial "wish lists."

Those projects that generate serious interest among the possible funding agencies are bundled together in the Private Sector Investment Program -- the PSIP. The PSIP is a list of capital investment projects that the government would like to see

implemented. PSIPs are prepared every 18 months, and are presented at the meetings of the Caribbean Group for Cooperation in Economic Development (CGCED). The World Bank and the Caribbean Development Bank provide technical assistance in the preparation of the documents, and include PSIP information in formal mission reports.

The total capital investment required by each country's PSIP is approximately equal to the amount of funds that the aid agencies are collectively planning to spend in each country. As a result, the PSIPs are reasonable rather than grandiose programs. Each PSIP lies somewhere between a "wish list" of capital investment projects and an integrated strategy of public investment. A PSIP is not just a "wish list," because it has been narrowed down by means of an initial, informal review process with donors. On the other hand, the PSIP is not a strategic document that has been prepared with a vision of infrastructure requirements needed to reach given sector targets. It is essentially an ad hoc, reactive document, and not a strategic, proactive plan.

PSIPs are formally presented at the periodic meetings of the CGCED. At that time, the prospective projects have in many cases already been adopted by one or more donor agencies, and announcements are made as to who is funding what. Thus, the existence of the CGCED and the PSIPs exercise does not greatly increase donor coordination or collaboration: Donors continue to follow their own internally-generated strategies and priorities. Probably the greatest benefits of the PSIPs exercise are: 1) the simple aggregation of projects in a reasonably coherent fashion; 2) the institutional strengthening that occurs as the host governments learn to prepare the documents; and 3) the common analysis that is made available to all donors, so that they make their decisions based on a common set of facts and assumptions.

In this context of multiple donors and limited project opportunities, each donor works to select those projects that meet their internal goals and criteria.

The historical pattern of project identification, review, and approval shows little clear evidence of decisionmaking based on rational analysis and prioritization of competing proposals. On the contrary, the screening/selection process appears to be an ad hoc operation with governments and donors interacting on several informal and formal levels, sorting out project ideas within the framework of available funds and donor strategies. It might be argued that this "ecumenical" approach was the most feasible given that all facets of infrastructure -- social as well as economic -- were, and generally still are, demonstrably deficient and unable to meet the demand. Today, however, in light of the general consensus on the highest priority objective -- strengthening the private sector in export-oriented productive activities -- and the looming threat of finding shrinkages, inefficient allocation of scarce resources must be avoided. More rigorous project screening and selection is an operational imperative.

The following discussion outlines -- to the limited extent possible -- the strategies and infrastructure project portfolios of the major donor agencies: USAID, the Caribbean Development Bank (CDB), the Canadian International Development Agency (CIDA), and the British Development Division (BDD).

**Regional Development Office/Caribbean, U.S. Agency for International Development:** RDO/C has developed a set of mutually supportive goals and objectives for the Eastern Caribbean countries, and is funding program clusters as means to the ends. RDO/C currently pursues four major goals in the region: Short-term economic stabilization, sustained economic growth, shared benefits of growth, and stronger democratic institutions.

Incorporated into these goals are 14 objectives. The objective of interest to this analysis, "to expand and improve infrastructure," is placed under the goal of "basic structural reforms leading to rapid and sustained economic growth".

Improved infrastructure will not only lay the foundation for sustained economic growth, but will also play a role in efforts to achieve the other major goals RDO/C has for the region. In particular, rapid responses to host government requests for infrastructure projects are often very useful in strengthening democratic institutions in the country, in that they assist the host country in meeting the needs of its citizens.

The goal of RDO/C's infrastructure interventions is to help create the infrastructure necessary to stimulate private investment and productive activity, create jobs, and generate exports and foreign exchange, thereby accelerating the development of private productive enterprises in the Eastern Caribbean. This goal is presented in a number of RDO/C documents, expressed in various terms, but essentially with the same meaning. For example, the Annual Action Plan for Fiscal Year 1988-1989 contains the statement,

"RDO/C infrastructure development will facilitate private sector investment and production. Interventions, from road construction to electric power generation, improve the climate for business investment and contribute to maintenance systems which do not strain government revenues."

Thus, the goal of infrastructure interventions is clearly spelled out, and has generated a great deal of consensus both within RDO/C and the host country governments.

RDO/C's flagship infrastructure project is the Infrastructure Expansion and Maintenance Systems Project, IEMS. Under this project, RDO/C finds and funds infrastructure projects

and technical assistance. Most project ideas are presented to RDO/C by the host government officials before the projects are listed in the PSIP. RDO/C makes a preliminary determination whether the project is congruent with its overall goals and with its portfolio in each of the countries. The criteria used in making the determinations, as outlined in the IEMS Project Paper, are:

1. The activity must support the goals of the Action Plan and the IEMS Project.
2. The activity must contribute to the implementation of the host country's development strategy.
3. The host country must be committed to, and participate in, the activity.
4. The economic justification and analyses for all activities must demonstrate an adequate economic rate of return.
5. Activities which present the opportunity for linkage to host government policy reform should be encouraged.

If the proposed project passes this first "cut", a more formal, quantitative analysis is conducted jointly by RDO/C personnel and Louis Berger staff (the Engineering and Technical Services core contractor).

RDO/C's innovative approach to "programming, developing and managing a multi-country infrastructure activity" was praised in the approval cable for the IEMS project. Under IEMS, small-scale activities under \$1 million in life-of-project funding can be

initiated more quickly than in the past. The usual project documentation was also simplified for large subprojects under IEMS. The mechanisms devised by RDO/C retain the high-quality analysis required prior to project approval, but facilitate project approval and implementation so as to be responsive to country requests.

Until some years ago, USAID supported Eastern Caribbean development largely through the Caribbean Development Bank. Anxious to make a larger presence known in the region, RDO/C began funding projects on a bilateral basis. Initially, RDO/C focussed on road rehabilitation and improvement. This "niche" was chosen because of the large economic and social benefits that the road projects generated and became CIDA, which had been playing an important role in roads development, began funding airport projects.

The following table illustrating the current RDO/C portfolio of infrastructure projects shows that AID projects are fairly evenly divided between OECS countries and between types of infrastructure.

AID FUNDING TARGETS  
1982-1988

	Sector (No. of Projects)		Country (No. of Projects)
Roads	6	Antigua and Barbuda	2
Industrial Parks	4	Dominica	2
Power	4	Grenada	7
Water	4	St. Kitts	2
Tourism	1	St. Lucia	3
Ports	<u>3</u>	St. Vincent	<u>4</u>
Total	22		20

- NOTES: (1) Tabulation does not include Basic Needs Trust Fund under which 154 small scale subprojects were approved in nine countries -- OECS group plus Anguila, Belize, and Montserrat.
- (2) Two lists do not add up to same total because of overlapping projects, add-ons, etc.

Roads have been favored; six of the twenty-two infrastructure projects undertaken from 1982 to 1988 were roads. Looking at the distribution by country, it is clear that Grenada has been a high-priority recipient, especially since the 1983 intervention.

In a macro sense, the distribution of projects by sector and country is clearly consistent with and a reflection of the overall RDO/C strategy as it has evolved over time. Every project can be linked with the prime objective of fostering private sector investment in export-oriented productive activities generally and in the three highest priority productive sectors, specifically -- tourism, manufacturing, and agriculture.

**Caribbean Development Bank:** The CDB is a major actor both in funding and in coordinating infrastructure projects in the OECS countries. It undertakes these activities in pursuit of its purpose, as outlined in its charter, to contribute to the economic development, cooperation and integration of member countries, especially those which are less developed.

The CDB authorizes approximately \$60 million per year in the OECS countries, about half of it on infrastructure projects. The institution is in the process of preparing an infrastructure strategy statement. Although the statement was originally scheduled for completion in early 1987, it has not been finished, and it is unclear when the final statement will be available. However, CDB personnel foresee no radical departures from present priorities. During 1986, the CDB allocated 33 percent of its budget, an abnormally low percentage, to infrastructure. Of total infrastructure funding, two-thirds was channeled to industrial parks and support for light manufacturing, and one-third was directed for water projects. It is currently considering taking on an additional field, sewerage.

The CDB provides a valuable service not only to the host countries but to the donors by assisting the World Bank to prepare country Economic Memoranda, commonly known as "grey covers." The two development finance institutions provide technical assistance to the host governments in selecting and setting priorities for Public Sector Infrastructure Programs. In the course of preparing the documents, a common analytical framework, set of assumptions, and data are generated that are useful to both host countries and the donor community.

It would be inaccurate, however, to refer to the CDB as a "coordinator" or "clearinghouse" for projects. Coordination and division of project responsibilities are accomplished informally

among the donors. By the time the PSIP is presented at the CGCED meetings, the projects contained in the document have already been informally divided among the donors. The universal opinion among the donors is that the current informal coordination framework is acceptable and indeed preferable to any system that would require time, generate excessive paperwork, and interfere with their ability to follow internal criteria and strategies.

One important CDB infrastructure project is the Basic Needs Trust Fund (BNTF). Since its inception in 1984, the Basic Needs Trust Fund has proved to be an important source of social and economic infrastructure. As of September 30, 1987, the BNTF had financed 154 subprojects in nine countries, for a total of \$12.4 million. The funds have been targeted for the provision of basic social services, such as schools, health clinics, water systems and rural roads. In addition to providing a means to finance infrastructure projects requested by the host country governments, the fund has served to support the local democratic institutions in a concrete, visible way. Also, the Maintenance Systems Component of the BNTF is attempting to improve the maintenance capabilities of the OECS country governments, which are seriously deficient throughout the region.

There is unanimity of opinion that the BNTF has had strong positive development impacts and should be recapitalized. In order to maximize the benefits of the project, two changes could be made in the way the BNTF is implemented. First, additional feasibility analyses should be conducted prior to approving projects under the Trust Fund. This measure would improve the quality of the projects being funded and assure that the Fund is not a source of ready financing for any projects a government may desire, but a source of ready financing for appropriate projects. In addition, the role of the private sector in selecting projects to be financed through the Fund should be strengthened. These

two changes will increase the impact of the BNTF in supporting private-sector, export-led growth.

**Canadian International Development Agency:** CIDA is a relatively large donor, spending \$27 million annually in the OECS countries. Three out of every four dollars that CIDA spends in any given year are for infrastructure. Initially interested in funding roads and ports, the Canadians turned their attention in the early 1980s to financing airport construction.

CIDA officials point to two major constraints on their infrastructure strategy, constraints which face all donors. First, the small size of the islands, coupled with the "lumpiness" of infrastructure development, means that costs are high and economies of scale are not available. Second, a limited number of funding opportunities exist. The small size and relatively unsophisticated nature of the host country planning and public works departments, and the low budgets for maintenance, limit the "absorptive capacity" of the host countries. Their ability to propose, implement, and maintain infrastructure projects is generally very limited.

**British Development Division (BDD):** British development assistance stems from independence settlements granted to each island at independence. Each country's settlement is worth 10 million pounds (\$17 million), half in grant funds and half in concessionary loans. Since the BDD spends the funds at a measured pace, the settlement agreements will last for a number of years. When the funds in the settlement are all allocated, as has occurred in Dominica, the BDD has made it clear that additional funds, as necessary, will be made available.

BDD infrastructure projects run the gamut from an agricultural services building on St. Kitts to telecommunications equipment at the airport in Antigua to renovating a prison in

Grenada. The BDD purports to favor road projects, although a perusal of its project portfolio does not indicate a preponderance of roads. The BDD has funded a number of projects in the Windward Islands to improve banana production. The bananas are then sold to the United Kingdom on special terms that are favorable to the countries.

**United Nations Development Programme:** While UNDP funds cannot be spent on physical infrastructure, they can be used to complement capital spending with manpower training. The UNDP spends some \$2.5 million each year in the OECS countries, the bulk of it on training programs. The UNDP is eager to coordinate with other donors and fund training components of infrastructure projects.