EVALUATION OF USAID JAMAICA'S ENVIRONMENTAL PROGRAM

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PROLOGUE

The Present

Strategic Objective of USAID/Jamaica's environmental program is to improve "the quality of key natural resources in selected areas that are both environmentally and economically significant."

The Future

Strategic Objective should be broadened to improve "the quality of life by protecting natural systems in the terrestrial and marine environment that provide the basis for sustainable economic development and social progress."

The Direction

Is being provided by current programs aimed at strengthening governance, environmental awareness, community advocacy, public/private partnerships, and integrated urban and environmental planning and management.

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EXECUTIVE SUMMARY

A. OVERVIEW

Jamaica's economy is heavily dependent on tourism, the leading generator of foreign exchange earnings and revenue. The linkage between a thriving tourism sector and the quality of the natural environment is universally acknowledged. Given the competitiveness of tourism in the Caribbean region, this sector is exceptionally vulnerable to any conditions that threaten to curtail customary tourist activities such as swimming, snorkeling and related water-contact recreation.

Jamaica's tourism industry is concentrated in a narrow band along the north and northwest coasts. This combination of economic, environmental, and geographic factors underlies the importance that is attached to improving coastal water quality in a number of key north and northwest coast tourism locations. From the standpoint of both public health and ecosystem viability the principal threats to coastal water quality stem from the presence of unacceptably high levels of microorganisms, organic matter, and nutrients.

Coastal water quality is impacted by point and nonpoint sources of pollution from land-based activities. Accordingly, USAID, jointly with the Government of Jamaica, has established a three-tiered approach to improving coastal water quality by working at the community level, the enterprise level, and the watershed:

- *The Coastal Water Improvement Program (CWIP) is focusing on policies and practices for improving coastal water quality through support for community-based environmental management projects in key north coast tourism locations.*

- *Environmental Audits for Sustainable Tourism (EAST) has concentrated on improving environmental management in individual hotels and industrial establishments in coastal tourism locations.*

- *Ridge-to-Reef Watershed (R2RW) will be concentrating on improving agricultural and land utilization practices in the upper watersheds of two north coast tourism areas.*

Both CWIP and EAST began in 1997, and will end at the same time, in December 2002. The recently initiated Ridge to Reef Watershed project, still in its mobilization phase, will extend for five years, through mid-year 2005.

A four-person team was assembled by USAID/Jamaica to review the activities being carried out under these programs. This review was conducted, intermittently, between October 23 and December 9, 2000. The evaluation team has concentrated its attention on CWIP and EAST since these programs have focused on coastal water quality and resource conservation issues, and have been underway for several years. It has also considered the work being done by other donor organizations, principally CIDA and, to a lesser extent, the European Union (EU).

B. APPROACH

Three years is a very short time period for assessing the direct impacts of diverse environmental activities on coastal water quality and marine ecosystems. What can be evaluated, however, is the progress that has been made in initiating activities that, over time, point toward achieving significant and measurable results. In the case of CWIP, a parallel approach has been followed at the local and national levels for improving environmental management through:

- *Establishing local partnerships and providing support for community-based environmental initiatives, and*

- *Facilitating national policy and planning pertaining to environmental management systems (EMS), ocean and coastal resources and, strategic planning for improved water quality management.*

The methods employed by CWIP and EAST to mobilize support for sustainable environmental activities are new to Jamaican society. The team was particularly interested in the extent to which such activities have affected institutional relationships within civil society.

This current evaluation was not designed as an in-depth critique of either CWIP or EAST, both of which have met or exceeded expectations. Nor did it seek to undertake a technical analysis of specific program activities. Time constraints precluded more than an overview of an unusually complex series of activities and organizational relationships that have been evolving over the past several years.

Rather, the evaluation was designed to be forward looking, providing a springboard for recommending midcourse corrections for the CWIP and EAST programs in their remaining two years of project activity.

Looking beyond the next two years, the team was also charged with preparing recommendations to guide USAID/Jamaica in the design of the SO2 program for

the intermediate term, 2003-2005, as well as for suggesting a longer-term perspective for the next strategy round, the period 2005-2009.

In conducting this work, the team reviewed pertinent reports, undertook site visits that afforded an opportunity to interview a cross-section of stakeholders, attended two workshops and, in the final week of team collaboration, presented its findings and recommendations at an extended briefing session that was attended by USAID staff, representatives of key GOJ agencies, and all SO2 program contractors. Many of the comments and suggestions made during that meeting have been incorporated in this document.

Principal findings and conclusions are summarized below, followed by a synopsis of the major recommendations.

C. SUMMARY OF FINDINGS AND CONCLUSIONS

1. Coordination with the Ministry of Land and the Environment

Many of USAID's SO2 program activities fall within the policy purview of the Ministry of Land and the Environment. At the same time, AIDs principal "partner" in conducting the CWIP and R2RW programs is NEPA, a statutory body created through the consolidation of NRCA and Town Planning. There is an obvious need to clarify the institutional relationships and management arrangements between the Ministry, USAID and NEPA in order to implement AID's SO2 program portfolio in the most policy effective manner.

2. Strengthening GOJ Agency Capacity

Capacity building has been an area of SO2 program emphasis at the local level. Going forward, USAID could usefully assist central government agencies in improving their capacity to address key issues. This is particularly true of two agencies, PIOJ and NEPA.

PIOJ's effectiveness is constrained by inadequate technical capacity, particularly with respect to sectoral expertise. A more effectively functioning PIOJ could be of immeasurable assistance to donors, and to recipient GOJ agencies, in coordinating their programs to achieve maximum results.

NEPA is going through a process of consolidating NRCA and Town Planning and is in need of establishing internal mechanisms for integrating environmental and urban growth policies. This is a tall order under the best of circumstances. Given budgetary constraints, personnel shortfalls, and regulatory complexities, the task can be daunting. Broad support will be needed. In the interim, USAID could be of considerable assistance to NEPA in developing mechanisms for integrating environmental and

development policies and programs by drawing on the expertise of its current SO2 contractors.

3. Program Accomplishments

In general, the accomplishments of the two principal USAID/SO2 programs, CWIP and EAST have been outstanding. The results of field visits and interviews leave little doubt that the programs have generated wide stakeholder support. Community NGOs and CBOs have been energized to voluntarily undertake a wide array of environmental projects.

The work has also elicited high praise from GOJ agencies and PSOs that have been involved in the respective programs. The expertise and effectiveness of contractor personnel was repeatedly cited by stakeholder respondents as key to the success of the various program components including CWIP's community-level initiatives, the coastal water monitoring and sampling, the EMS initiatives, the wastewater training, and EAST's environmental audit program.

4. Institution-Building

Significant institutional breakthroughs have been made in establishing public participation models at the local level, as exemplified in the formation of the Advisory and Monitoring Committees in Negril and Ocho Rios. The emphasis on implementing program components through establishing partnerships and stressing organizational capacity-building at the local level has succeeded in broadening program reach, enabling a sense of local "ownership", thereby increasing the prospects for long-term sustainability.

5. Success of the "Bottom-Up" Approach

CWIP's activity in the EMS and wastewater components, which began at the community level, has led to policy initiatives that are being considered for adoption at the highest levels of government. Similarly, EAST's environmental auditing program, begun at the individual enterprise level, is now expanding to sectoral involvement and participation by GOJ agencies. These are examples of how a "bottom up" approach to addressing local environmental issues can contribute to the formulation and adoption of national environmental policy.

6. Building on Program Accomplishments

There are numerous opportunities for building on the accomplishments that have been made to date, as for example:

- *Strengthening the demand-driven community initiative program by impaneling experts to conduct "threat analyses", thereby providing local stakeholders with a broadened perspective in deciding on which projects to undertake.*

- *Elevating local NGO's to partnership status by accelerating and possibly simplifying the certification process.*

- *Assisting existing partners to evolve to a higher order of participation based on their core capabilities and potentialities.*

Taking the latter example, the Discovery Bay Marine Laboratory (DBML) now operates in the same capacity in Ocho Rios as NEPT does in Negril. DBML could be repositioned to play a more prominent role in coastal water quality sampling and analysis, and marine resources management, relinquishing some of its current community-level work. Similarly, another NGO could be groomed to assume the project oversight functions now exercised by DBML.

7. SO2 Performance Monitoring and Evaluation

The reason for planing, monitoring, and evaluating is to be able to effectively manage resources, to measure progress, and to demonstrate that the projects in the SO2 program portfolio are achieving planned results. USAID requires planning and achieving of results to be tracked and reported. Inputs and outputs are also tracked but, without a measurement of effectiveness, there is insufficient data to determine whether the targeted results have been achieved.

In order to achieve desired results, and to ensure sustainability of those results, appropriate planning is required at the SO2 level. Such planning calls for specifying the "cause-results relationships" of the "inputs and outputs" that are projected to lead to the "planned accomplishments". Measures or criteria are needed in order to assess the quality and effectiveness of programmatic actions and the acceptability of systems that are put in place.

SO2 is at a juncture in implementation of its activities. The SO2 team needs to review its performance monitoring plan to determine whether it is adequate to ensure that scarce resources are being used most effectively to achieve sustainability of the planned results. The attached report (see Attachment F) on performance monitoring provides a number of recommendations that will strengthen the performance monitoring and management of SO2.

8. Geographic Focus and Absorptive Capacity of NGOs/CBOs

The geographic focus of program activities during the next two years will shift dramatically to Portland. In addition to CWIP, EAST and R2RW will be working in the Port Antonio/Portland area, as will ENACT the Green Fund, and the EU. CWIP has only a 12-month window to commit its grant funds to community-level initiatives in Portland. Whether there is the capacity among the NGOs and CBOs to put these funds to effective use in so short a time is open to question. As an option, all or a portion of CWIP's grant funds earmarked for Portland might be used to sustain on-going projects in Negril and Ocho Rios

D. RECOMMENDATION'S FOR USAID'S ENVIRONMENTAL PORTFOLIO

1. SO2 PROGRAM RECOMMENDATIONS

1.1 Environmental Protection and Biodiversity Protection

In designing the SO2 portfolio, consideration should be given to the need for biodiversity protection in relatively pristine and in sparsely developed natural areas subject to emerging development pressures.

1.2 Gender

Gender issues should be considered in the design and implementation of all programs in the SO2 portfolio. It is understood that "gender" pertains to both men and women. This is important to stress, since within the context of Jamaican society, gender is generally taken as pertaining exclusively to issues affecting women. USAID should consider gender training for SO2 partners. Contractors for SO2 should ultimately involve local partners who have expertise in gender considerations.

1.3 Program Coordination in the SO2 Portfolio

Because of their interrelationships, the three programs in the SO2 portfolio should be managed as components of a single integrated program. This will maximize available financial and personnel resources, eliminate areas of overlap, and assist USAID's SO2 team in assessing the extent to which the intermediate results of the entire portfolio contribute to the SO2 strategic objective.

2. NEAR TERM PROGRAM RECOMMENDATIONS: 2000 - 2002

2.2 Emphasize Sustainability in Developing Annual Work Plans

The criterion of sustainability should be applied to every activity in CWIP's and EAST's program design for the next two years. Program activities in all components must ensure that there is an institutional and financial basis for the continuation of the activities that have been initiated.

2.3 Extend the Timeframe and Expand the Geographical overage for the CWIP's Wastewater Component

Community organizations in Negril and Ocho Rios, as well as the National Water Commission, have strongly endorsed an extension of the wastewater program component. NWC wants program coverage to be expanded to include Montego Bay and Portland. Given the success of the work accomplished in Negril and Ocho Rios, this component of CWIP should be continued through the life of the project.

2.4 Review the Water Quality Monitoring Program

Review and possibly redesign the water quality sampling protocols based on experience gained over the course of the past two years. Consolidate the program for analyzing coastal water quality samples at the Discovery Bay Marine Laboratory. Provide the DBML with the capabilities for conducting both chemical and biological analyses. Assist DBML in developing a "business plan" to implement these measures by investigating potential sources of funding and revenue generation.

2.5 EMS Implementation

CWIP's work has facilitated the formulation of EMS policy by NEPA. Once these policies are promulgated, CWIP should assist NEPA in their implementation. In the interim, CWIP's contribution to the EMS work over the next year is best served by successfully completing those community-level grants that it has initiated. It is recommended that EAST pursue the array of EMS activities spelled out in its Phase III program design.

2.6 Ocean and Coastal Resource Management Policy

In mid-year 2000, CWIP provided funds for the Council on Ocean and Coastal Policies to prepare a comprehensive policy document

on coastal and ocean resources. Many of the policies adopted by the Council fall within the jurisdiction of NEPA. While NEPA needs to assert firm leadership and direction in implementing these policies, CWIP (through CR5) is in a position to provide assistance to the units within NEPA that are operationally responsible for the biodiversity and protected area components of the marine and coastal environment. Work on these components is now underway in NEPT and CWIP should be prepared to assist in the effort.

2.7 Skills Transfer in Community Organization and Intervention

A process should be instituted for transferring both the skills and the lessons learned from CWIP to NEPA staff. CWIP's experience in working at the community level and in building partnerships between local groups and central government entities could be invaluable to NEPA staff in sensitizing them to local concerns, and in providing training in organizational development.

3. INTERMEDIIATE TERM PROGRAM RECOMMENDATIONS: 2003-05 -- BRIDGING THE TWO STRATEGY PERIODS

3.1 Develop an Upper Watershed Program for the Negril and Ocho Rios Watersheds

A major effort at watershed management is needed for the North and South Negril rivers in Negril, and for the Dunns, White, and Turtle rivers in Ocho Rios/St. Ann. Water quality in these rivers should be evaluated for their relative contribution to coastal water quality degradation. Sources should be identified and targeted interventions designed.

A comprehensive program addressing pollution sources in the upper watersheds of these rivers would significantly contribute to the protection of coastal water quality in both Negril and Ocho Rios. Test results show that high coliform levels, attributed to riverine transport of pollutants, have seriously impacted near-shore coastal water quality, a situation that is particularly acute at the mouth of the Dunns River.

3.2 Develop an Environmental Awareness and Advocacy Program for Management of Coastal Resources

Providing pertinent, accurate, and timely environmental information to the public is potentially empowering. The objective of this

program would be to apply modern information technology to advance citizen advocacy, and public awareness.

A start has been made in the water quality monitoring program to relay analysis results to the public in a "user friendly" format. As a result, the Negril Chamber of Commerce is contemplating putting coastal water quality information on the Internet. Water quality data could be posted. So could information pertaining to Blue Flag certification, ISO compliance, and Green Globe certification.

DBML or some other respected, non-partisan entity, such as UWI's Centre for Marine Science, could act as an environmental information clearinghouse in managing such a program.

3.3 Fisheries Management / Marine Protection Program

The depletion of shellfish and reef fish stocks has long been identified as a severe problem in Jamaica. Stock depletion is part of the general problem of habitat destruction and species depredation. This was recently confirmed by the findings of the Atlantic and Gulf Rapid Reef Assessment (AGRA).

Fishermen cooperatives and associations from Negril to Port Antonio should be involved in developing programs for fisheries protection. There is an opportunity to "partner" fishermen's organizations with Discovery Bay Marine Laboratory, NEPA and the Fisheries Division of the Ministry of Agriculture in developing appropriate strategies and programs.

4. LONG TERM PROGRAM RECOMMENDATIONS: 2005-09 -- NEXT CYCLE OF SO2

4.1 Biodiversity Protection in Urban Development Planning

With the consolidation of NRCA and Town Planning a new chapter in Jamaica's development history has opened. Urban development and environmental protection are joined in a single administrative entity. If this consolidation is to succeed, the policies guiding urban growth and environmental protection must be integrated.

Building upon its collective experience with DEMO, CWIP, EAST, and R2RW, USAID is exceptionally well positioned to assist NEPA in integrating environmental objectives into development plans and development orders.

As with the CWIP model, a two-tiered approach should be devised. At the central government level USAID's environmental program should focus on assisting NEPA to develop urban growth strategies and development guidelines that are compatible with the protection of coastal and marine ecosystems.

At the local or area-wide level, USAID's program focus should be oriented toward mobilizing community involvement in developing local environmental agendas, devising community self-help programs, designating protected natural areas, ensuring public access to the coast, generating eco-friendly business opportunities, identifying flood-prone, seismic and other high hazard areas, and facilitating public education and outreach.

4.2 Protected Area Management Planning

The protection of biodiversity is an objective of both USAID and the Government of Jamaica. Potential priority areas for the preparation of protected area management plans include Portland Bight, Black River, Cockpit Country and, Pedro Bank and the offshore cays. While none of these areas fit the criterion of tourism revenue generators, nor are they hot spots of polluted coastal waters, they are important to the future of Jamaica, and must be protected from inappropriate development and the misuse of natural resources.

BACKGROUND

1.0 OBJECTIVES OF THE EVALUATION EFFORT

As set forth in the Scope of Work, the aim of this assessment is to review the work being conducted under USAID/Jamaica's Environmental Strategic Objective (SO2) Framework to determine whether the activities are adequate to meet the Strategic Objective*: "…improved quality of key natural resources in selected areas that are both environmentally and economically significant"*.

Meeting this objective is tied to progress made in achieving three Intermediate Results:

- Increased adoption of environmentally sound practices
- Adoption of policies for improved environmental management; and
- Improved effectiveness of wastewater management

Achieving the Intermediate Results is based on the success of three environmental projects: The Coastal Water Improvement Project (CWIP), the Environmental Assessment for Sustainable Tourism (EAST), and the Ridge-To-Reef Watershed (R2RW) project. (These projects are summarized in Attachment A, which was reproduced from the Scope of Work provided to the evaluation team.)

Since R2RW is still in its mobilization stage, the principal focus of the evaluation team was on activities carried out under CWIP and EAST. The team sought to assess the strengths and weaknesses of the program design and program activities as well as the lessons learned in their implementation. The team also examined the program being conducted by CIDA/ENACT in the Portland area. While unable to interview other international donors, the team was aware of the activities of IDB, EU, UNDP/CAP, and UNDP.

The evaluation team was charged with recommending program directions for the remaining two years in the project life of CWIP and EAST, though December 2002.

The team was also charged with recommending activities that would extend beyond the project life of CWIP and EAST, to the end of the current strategy period, September 2004, during which time AID's SO2 budget would approximate $2 million annually. Equally imperative was the charge to formulate a longer-term perspective, taking the Mission's environmental program into the new strategy period, 2005-2009.

In conducting the evaluation, the team has been particularly cognizant of the need for integration among all of the projects, as well as the desirability of linking the activities undertaken during one time period to those that are projected for succeeding time periods.

2.0 TASK SYNOPSIS

The evaluation team was charged with a series of tasks that are summarized below. (Attachment B lists detailed tasks contained in the Scope of Work.)

- Through interviews and document review analyze the goals and objectives of the Environmental Strategic Objective Framework and other relevant materials pertaining to the SO2 program.

- Review the major activities of the SO2 environmental program as they are being implemented by the Coastal Water Quality Improvement Project (CWIP), Environmental Audits for Sustainable Tourism (EAST) Phase III and, the Ridge to Reef Watershed (R2RW) Project.

- Assess the relevance of the program's activities to the Strategic Objective Framework within the context of environmental issues in Jamaica and the priorities of the GOJ.

- Review the present Monitoring and Evaluation indicators used by projects and their appropriateness to the R4.

- Assess how Program Activities impact Jamaica's Civil Society in terms of levels of capacity, sustainability and participation, especially for Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs).

- Recommend potential new activities for the Environmental SO2 Team to consider as follow-on activities to CWIP in 2003 that respond to environmental issues in Jamaica and are consistent with the priorities of the GOJ.

- Recommend improvements or modifications to the Strategic Objective Framework or the method of implementation to take the environmental portfolio into the new strategy period (2005-2009).

3.0 TEAM APPROACH AND METHODOLOGY

3.1 Team Composition and Responsibilities

A four- person team conducted this evaluation as follows:

- Team Leader, Ralph Field: Responsible for coordinating team activities and preparing the draft and final reports based on the input of the team members.

- Biological/Natural Resource Management Specialist, Laura Cornwell: Responsible for the review of the environmental program activities with respect to their biological and natural resources management considerations and policy initiatives.

- Monitoring and Evaluation Specialist, Albert Merkel: Responsible for analyzing and assessing the strategic direction and indicators for the Environmental Portfolio, and for making recommendations on indicators and program activities that meet the goals and objectives of USAID in Jamaica and Washington.

- Institutional Specialist, Winston Anderson: Responsible for reviewing the management and institutional relationships of the SO2 program and for assessing its impact on NGOs and local communities and for addressing the USAID management and financial requirements for proposed new or modified program activities.

3.2 Conduct of the Evaluation

3.21 Document Review: A list of pertinent documents that were reviewed by the evaluation team appears in Attachment C.

3.22 Field Work: The evaluation team conducted field visits to the target areas, Negril and Ocho Rios, between November 1-7. This afforded the opportunity to meet with a cross section of stakeholders. Unfortunately, with the exception of one project in Ocho Rios, time did not permit site visits to inspect the various community-level projects or to meet with local citizen participants.

3.23 Workshops: On November 8, USAID organized a program review workshop in Kingston attended by representatives of GOJ agencies, international donors, and SO2 program stakeholders. Two of the team members also attended a one-day (Nov. 11) Ridge-to-Reef workshop in Portland that provided an overview of that program.

3.3 Report Preparation

This report was prepared in two stages between October 23 and December 9.

The first stage extended from October 23 to November 17, 2000, and involved five days of fieldwork during which three members of the team (team leader, biological/natural resource management specialist, and institutional specialist) held extensive interviews with stakeholders in Negril and Ocho Rios. The evaluation specialist joined the team in Kingston after the fieldwork was completed, but did attend an R2RW workshop in Portland. The second stage occurred between December 4 - 9, during which time the team reassembled in Kingston to review and provide input to a draft report prepared by the team leader.

The team leader prepared the final document after vetting of the draft report by team members, USAID staff, and others designated by USAID/Jamaica.

Because of the complexity of the assignment, the diversity of expertise represented on the team, and the disparate schedule of individual team members, it was decided, with USAID/Jamaica concurrence, to include individual contributions from the biological/natural resource management specialist, and the evaluation specialist as attachments (E and F) to this document.

FINDINGS AND CONCLUSIONS

4.0 SO2 LEVEL FINDINGS

4.1 Biodiversity / Ecosystem Conservation

Biodiversity/Ecosystem Conservation is a minor component of the current USAID/Jamaica portfolio and is not only a priority of both the US and Jamaican governments, it is an important component to the overall objective of improving quality of key natural resources. Because biodiversity/ ecosystem conservation is an important component of a comprehensive strategy for improving quality of natural resources, its inclusion would greatly compliment the current suite of SO2 activities. Under the current SO2 Strategic Objective, a particularly compelling case can be made for more work in marine protected areas

4.2 Gender Considerations

Gender refers to the ways in which culture defines the rights and responsibilities of men and women and how these interact. Currently, gender considerations are slated for inclusion in the R2RW component of USAID/Jamaica's SO2 portfolio but are lacking in both CWIP and EAST. Consideration of gender is a mandate of USAID and a priority of the Government of Jamaica

The *Jamaica National Environmental Action Plan* for 1999-2002 states that "The Government will develop a Gender Equity Mechanism for analysis and assessment of all projects including those addressing environmental issues." (Action 1.23) (NRCA, 1999). Gender analysis can help to effectively and efficiently target resource benefits and activities according to economic, political, and cultural realities and helps to anticipate impacts that projects may have on the people they are intended to serve.

Without a more thorough analysis, it is not possible to determine how significant the effect might be on program effectiveness and efficiency, were gender included.

4.3 Support for Strengthening GOJ Agency Capacity

Capacity building has been an area of emphasis at the local level. Going forward, USAID could usefully assist central government agencies in improving their capacity to address key issues. For example:

- PIOJ's effectiveness is constrained by inadequate technical capacity, particularly with respect to sectoral expertise. Its effectiveness in donor coordination, and program planning of other GOJ agencies, could be improved by the provision of appropriate technical assistance to enable it to drive the (donor coordination) process. A properly functioning PIOJ could be of immeasurable assistance to donors in coordinating their program agendas to advance the policies and program objectives of recipient GOJ agencies.

- NEPA is going through a process of consolidating NRCA (with its natural resource and environmental mandate) and Town Planning (with its urban settlement and project review responsibilities). NEPA needs to develop internal mechanisms for integrating environmental and urban growth policies. This is an exceedingly difficult and complex task. If NEPA is to emerge as a pillar of the government's program for achieving long-term, sustainable development, it will need substantial organizational strengthening. Both CWIP and EAST are working on programs that bridge environment and development. Additionally, they have developed techniques for applying EMS at both the community and sectoral levels. The experience of EAST and CWIP could be of considerable assistance to NEPA in developing mechanisms for integrating environmental and development policies and programs.

5.0 PROGRAM ACTIVITIES

Items 5.1 - 5.5 below focus primarily, but not exclusively, on activities covered under the CWIP project in Negril and Ocho Rios. Item 5.3 includes the work of both EAST and CWIP. The remaining items in this section consist of team findings that are germane to operational and related aspects of current SO2 programs.

5.1 Community – Based Initiatives

Overall

With a budget of $1.25 million for community-based initiatives, this is one of CWIP's principal activities. Twenty-two community-based projects have been funded to date, with a duration of between three months to two years. The grants have a two-pronged purpose: (1) To carry out specific activities that relate to the overall objective of improving coastal water quality, and; (2) to build organizational capacity leading to USAID financial control and accounting certification; in turn, increasing the potential eligibility of NGOs and CBOs in accessing funds from other donors. This latter purpose is key to assuring the sustainability of local organizations in undertaking environmental programs

The program of community-based initiatives has been most widely applied in Negril. Seven of these grants are being administered through the Negril Area Environmental Protection Trust (NEPT); four are being managed under the aegis of the Negril Chamber of Commerce. Nine grants have been made in Ocho Rios. The Discovery Bay Marine Laboratory (DBML) administers five grants, one jointly with Friends of the Sea. Four community-based groups are participating in a solid waste management program with oversight being provided through the DBML. (This was the one community-based project that the team had an opportunity to visit.) No grant commitments have been made in Portland since activities are not scheduled to commence until early in 2001.

The grant program is "demand driven" with the activity focus being determined by the community. The only condition is that the activity bears some relationship to the coastal water quality criterion. In some instances,

that relationship appears somewhat tenuous. Nevertheless, the program is actively managed, has generated considerable support, and appears to have mobilized local energies.

Relative to sustainability, the prospects seem good, particularly for the solid waste projects. In other instances, environmental education and community animation, for example, considerably more support needs to be provided before any "results" can be assured. Whether the "trainees" go out and effectively "teach" and "animate" probably depends on some degree of continuity in both active monitoring and funding. Program sustainability needs to be addressed by CWIP and EAST in preparing annual work plans for 2001.

Negril

Although time precluded visits to view community projects, discussions with coordinators gave the impression of well-managed projects, with considerable enthusiasm being generated locally, and with some economic benefits to participants.

In general, the community-based projects fell into the following categories: solid waste management and recycling; organic farming and re-vegetation, and; awareness and education. Discussions with representatives of NEPT and the Chamber of Commerce indicated solid support for the grant program, and high regard for the manner in which the program is being implemented. There was also the acknowledgement that CWIP assistance would be diminishing and that the projects would have to be self-sustaining if they were to survive.

Ocho Rios

CWIP's community-based activities in Ocho Rios began about a year ago and, in a relatively brief period, nine environmental grant activities have been initiated covering solid waste, education, and community animation projects. CWIP identified two immediate strategic partners in Ocho Rios: Discovery Bay Marine Laboratory (DBML) and the St. Ann Chamber of Commerce (SACOC). DBML and SACOC have achieved USAID certification and both are administering local grants under the CWIP program. Two additional organizations were identified as capable of achieving certification and strategic partner role – but with some strengthening and capacity building: St. Ann Environment Protection Association (STAEPA) and Friends of the Sea (FOTS).

The team had an opportunity for a very brief meeting and area drive-through with the Pimento Walk/Parry Town Project Steering Committee. It served to reinforce the impression of strong local "buy-in". There was evident pride in the work being done through this four-community solid waste collection project.

During the course of the local interviews (in both Negril and Ocho Rios) some complaints were voiced over the "excessive" and "time-consuming" paperwork that was required from grant recipients. This appears to cut both ways as it was also acknowledged that CWIP's procedures have led to tighter management control and more stringent accountability in handling finances.

Portland

About $200,000 in grant funding is expected to be available from CWIP for community-based projects in Portland. The startup schedule for work in Portland is February 2001. However, based on contractual requirements, CWIP will have only about ten months, through (Dec.15, 2001) to program for grant funding in Portland. R2RW has allocated approximately $400,000 for community-based initiatives in the two targeted watersheds. Assuming a 50/50 split, $200,000 would be available for Portland.

5.2 Operation and Maintenance of Municipal Wastewater Systems

Overall

This program has generated the broadest support both at the local and central government levels. Discussions with both operational and central management personnel of the National Water Commission revealed unanimity in their desire that the program be continued and expanded.

There is little doubt that the program has resulted in major breakthroughs in both policy and operations. The training and equipment-supply program, funded through CWIP, has assisted in improving the operational efficiency of the local sewerage systems. At the policy level, the development of a strategy for public-private partnerships, and of a cost structure for establishing connections to the local collection systems represent major advances, with potential ramifications for the privatization of infrastructure going well beyond the current program.

Policy, under CWIP's wastewater component, has follower two parallel, and potentially complementary approaches. On the one hand CWIP has encouraged the GOJ, Ministry of Water and Housing and the National Water Commission to consider public-private partnership arrangements to leverage capital and, theoretically, to enhance service quality. This has led to the new National Water Policy (1998) embracing commercialization through the use of public-private partnerships.

Simultaneously, CWIP has been supporting the formation of public participation models at the local level. These are the advisory and monitoring committees (AMC) formed in Negril and Ocho Rios. These models, using memorandum of understandings (MOU), attempt to prompt dialogue between relevant public and civil society stakeholders to assure effective operation (good operation and maintenance resulting in quality effluent discharge) as well as maximum wastewater system utilization (i.e. maximized connections and flow).

Negril

Considerable progress in wastewater management has occurred over the past two years. However, major problems remain, particularly with regard to sewerage connections and flow volumes, as well as with the quality of the sewerage plant effluent. While most of the properties along Norman Manley Blvd. are connected, only 12 percent of the properties in Negril are connected

to the local collection system. As a result, present flow volumes represent only 27 percent of the Negril treatment plant's design capacity. According to knowledgeable respondents, many of the properties in the West End continue to rely on cesspools or even to dispose of raw sewage into the ocean. Fortunately, westerly currents carry pollutants away from the major beach-hotel complex. However, coral reefs and other marine habitat are being impacted. Because of littoral drift and the location of offshore sampling stations, the analyses of coastal water quality may not reflect a totally reliable picture of coastal water quality in the Negril-Green Island area.

While progress is being made on point-source disposal, a persistent problem continues to be non-point source pollution from biological and chemical agents entering coastal waters from the North and South Negril rivers. CWIP is attempting to address some of these problems through the funding of demonstration projects for potential replication as, for example, organic agriculture projects, local solid waste and sanitation projects, and in-stream water quality monitoring and sampling. However, the scale and duration of these efforts is unequal to the magnitude of the pollution problems associated with agricultural activities and settlement patterns in the upper watersheds.

Ocho Rios

Time precluded interviews with National Water Commission (NWC) personnel in Ocho Rios. However discussions with personnel at DBML, and with NGO representatives confirmed that the problems identified in Negril also apply to Ocho Rios. These include the paucity of sewerage connections, and the seriousness of nonpoint source pollution. River flows throughout the Parish carry high pollutant loads, which contaminate coastal waters. Water sampling analyses conducted by the Discovery Bay Marine Laboratory over the past year have documented significant water quality concerns attributed to flow from the Turtle, Dunns, and White rivers.

Both urban and agricultural runoff is a major contributing factor to the pollution of coastal waters in Ocho Rios. It is reported that storm drains become inoperative during heavy rains. The need for improvements in urban infrastructure was stressed in interviews with local NGOs.There is a strong conviction that the Environmental Advisory Group is key to improving conditions. Ocho Rios is an area that is far more complex, economically and politically, than is Negril. A major challenge in "environmental diplomacy" faces the CWIP program if it is to establish the same kind of partnership arrangement with development interests in Ocho Rios as was done so successfully in Negril.

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Portland

No activities have been undertaken by CWIP in Portland. However, in discussions with representatives of the National Water Commission, they stressed the importance of having CWIP work with the community in preparation for major improvements in wastewater management that are being programmed for Portland.

5.3 Environmental Management Systems (EMS) and Practices

Overall

From the outset of the program, CWIP's approach to EMS has been to work at the community level, with leadership being exercised by a local partner such as the Chamber of Commerce. Simultaneously, CWIP has been working closely with NRCA's Pollution Control Division in developing a national EMS strategy. This strategy, spelled out in a Green Paper, prepared by CWIP staff, for submission to NRCA, is currently under consideration by Cabinet for promulgation as a White Paper. Once adopted, the EMS policy will be implemented by NEPA. CWIP's success in working at both the community and the national policy level attests to the capability of its staff in building bridges between civil society and central government.

EAST has been particularly active in this component, but at the enterprise, rather than at the community level. The focus of EAST activities has been on working with individual hotel establishments in conducting environmental audits and, as an inducement, supplying them with a limited amount of equipment, primarily for water and energy conservation. EAST has also made initial inroads in working with manufacturing plants, no small achievement.

By pursuing a very focused set of activities, working at both the individual enterprise level and through the Jamaica Hotel and Tourism Association (JHTA) and the Jamaica Manufacturer's Association (JMA), EAST has established a positive record and a well-defined identity. The currently programmed (Phase III) effort is considerably more ambitious than earlier activities. It contemplates expanding out from the focus on the single enterprise and trade association to involvement with the larger community, with a newly added emphasis on generating economic growth through sustainable tourism development. A principal target for this latter effort will be Portland.

Negril

EAST has been very successful in working with a small number of hotels in Negril. The level of enthusiasm is high in the four hotels that have implemented the EAST audit recommendations. Tangible results have been achieved in reducing operating costs and increasing profitability. In addition, EAST has provided training in EMS to the entire staffs of participating hotels, with the resultant diffusion of the "lessons learned" to the dwellings of the hotel employees and, hopefully, to their local communities. As an indication of the support for the work performed by EAST, the environmental managers of the participating hotels have voluntarily organized to conduct training programs so that other hotels may profit from their experiences.

CWIP's EMS activities in the "Greening of Negril" has also elicited high praise from Negril's Chamber of Commerce. This community-directed program, conducted under the aegis of the Chamber, has focused on waste collection, source minimization, and recycling. Whereas the EAST program has been enterprise specific, CWIP's community-based EMS activity has been consistent with it's overall strategy of emphasizing local capacity-building,

public outreach and education, and pilot projects that incorporate best management techniques consistent with local resources.

Ocho Rios.
CWIP's initial efforts in Ocho Rios have centered on community solid waste collection (mentioned above), sustainable agricultural initiatives, environmental education, water quality monitoring, wastewater management initiatives, institutional strengthening, and support for the Advisory Management Committee (AMC). Based on the current programs of CWIP and East there is a fair degree of overlap in projected activities.

Portland
No activities have been initiated. However, as mentioned above, EAST has a fairly ambitious (Phase III) program scheduled for Portland, while the NWC is looking to a strong CWIP wastewater role in the Port Antonio area.

5.4 Coastal Water Quality Monitoring

Overall
The coastal water quality monitoring component represents another significant breakthrough affected through the CWIP program. The coastal water quality monitoring program is based on a partnership arrangement between all of the relevant stakeholders – the community, hoteliers, National Water Commission, NRCA/NEPA, and the Discovery Bay Marine Laboratory. It is a unique model operating as follows:

- Sampling protocols are developed with stakeholder participation
- Hotels in Negril Ocho Rios provide the boats
- Volunteers from the community collect the samples
- Chemical analysis of the samples is done by the Discovery Bay Marine Laboratory (DBML)
- Biological analysis of the samples is done by NEPA (NRCA)
- The National Water Commission (NWC) does both chemical and biological analyses of coastal water samples (to assure inter-laboratory calibration of data) as well as analyses of sewage plant effluent
- Communities are provided with the sampling results, in user friendly formats, and are encouraged to use the data to assess the environmental problems confronting them, and to develop appropriate management responses.

Lessons learned since the inception of the program point to the need for reviewing, and possibly modifying, sampling protocols. Nevertheless, the achievements that have been made far outweigh any deficiencies in the implementation of the sampling program. DBML, NEPA and NWC are aware

of shortcomings and it is anticipated that they will be addressed as the program evolves.

Some additional team findings that may be appropriate for consideration in reviewing coastal water quality sampling and analysis activities are offered below.

- Anomalies: Results from the current bimonthly, water quality sampling protocol have indicated some anomalies, for example, elevated levels of bacteria (Sailor's Hole and Dunns River) and nutrients. The current sampling protocol is designed to set up a baseline for water quality and has not been designed to indicate sources of anomalies, which is appropriate in this initial phase of data collection. Raising awareness amongst program participants and community members, and providing rigorous, scientifically defensible data are goals of the monitoring activity. Once anomalies are identified, community members/NGOs, particularly in Ocho Rios, were not aware of a focused, action plan for follow-up in order to seek a source.

- Standards: The current water quality monitoring protocol is directed toward USEPA standards for fecal coliform that represent a human health standard. Current analyses do not desegregate human and animal sources. Other parameters, such as nutrient levels, are measured with 'levels of concern' being utilized as a standard against which to evaluate the percentage of samples falling within acceptable limits. Elevated levels of nutrients are known to compromise reef health. All indications are that the health of the coastal marine environment off the north coast of Jamaica is severely compromised. Results from a recent survey of live coral cover varied between 0 to 30% with an average of 11.7%. Sixty percent of the reef was covered with fleshy algae. Using nutrient concentrations as proxies for indicators of coral reef health is essential, but there is opportunity here for improvement.

- Sampling Regime: The current sampling regime is appropriate for generalized, baseline data collection. Beyond the baseline period, however, several factors will need to be considered and the protocol redesigned.

- Analysis: The current water quality analysis procedure is cumbersome, over duplicative and potentially compromised through multiple transportation and handling procedures. Discovery Bay Marine Lab (DBML) analyzes samples for nitrates (as total and inorganic nitrogen), phosphates (as total and inorganic phosphorous), total suspended solids, chlorophyll, pH and BOD. NRC analyzes samples for fecal coliform bacteria and NWC analyses sample for BOD, suspended solids and fecal coliform bacteria.

Sustainability of program funding, following the termination of CWIP, stands out as a priority consideration that needs to be addressed over the course of the next two years. A number of options warrant consideration, including approaching the hotel/tourism sector for financial support. Consideration should also be given to cost savings by reducing the number of chemical parameters that are currently being analyzed.

There is a strong economic rationale for continuing the monitoring program in centers of high tourism concentrations. As with other aspects of the Coastal Water Quality Improvement Program, the monitoring program could result in significant economic benefits to the participating communities. Insofar as

coastal water quality monitoring is a condition for "Blue Flag" certification, complying communities have a competitive advantage in a highly competitive industry. This goes far in explaining the strong support for the program from the hoteliers and Chamber of Commerce in Negril, as well as from the Ministry of Tourism and Sport, and NEPA.

Negril
NEPT provides oversight for the coastal water quality monitoring program in Negril. As noted above, the hotels provide the boats, and community volunteers do the sampling under the guidance of DBML. Sampling stations are located several hundred feet offshore, and in the North and South Negril rivers near their confluence with the sea. Sampling is done bimonthly, and sampling results are reported back to the community. Plans are now being discussed for putting the sampling data on the Internet. It is obvious that the tourism sector in Negril attaches significant economic value to this program, particularly as it relates to Blue Flag certification.

Water quality information has resulted in local environmental initiatives to address identified problems. These include the removal of informal settlements along the South Negril River, improved sanitation facilities at the Norman Manley Sea Park, improved solid waste management, and some stream bank revegetation.

Ocho Rios
DBML provides oversight for the coastal water quality monitoring program in Ocho Rios. By-and-large it functions much the same as in Negril. However, the pollution problem in Ocho Rios is both more serious and more complex than in Negril, and does not appear to have as strong support from the tourism/hotel sector as is the case in Negril.

Portland
No monitoring program of coastal water quality is operative in Portland.

5.5 Support and Coordination for Coastal Zone Management Activities

Whereas CWIP has assumed a proactive role in the other program components, it has tended to take a responsive stance in the coordination of coastal zone management activities. The exception to this is in its work with the NWC, and in development of the EMS strategy where it did take the initiative. When called upon, it has provided funding and staff support to selective activities as, for example, to the Ministry of Foreign Affairs and Foreign Trade for the preparation of a major policy document on coastal and ocean resources (to be the basis for a Green Paper). Additionally, funding has been provided for a number of technical studies including financial support for the Atlantic and Gulf Rapid Reef Assessment which surveyed coral reef health and fishery stocks along the north coast of Jamaica.

5.6 Information Base for Community-Based Decision Making

Currently, the design of program activities, particularly for CWIP and R2RW, is largely based on community interest. That is, general program objectives are

brought to community stakeholder meetings and members indicate priorities for interventions. This bottom-up, participatory approach is a priority of USAID and the GOJ, and has been key to the success that SO2 program activities have enjoyed.

On the other hand, programs are not as effective as they could be in terms of integrating environment and natural resources information in a comprehensive way, across the suite of activities. Rather than replacing stakeholder participation, including more robust methodologies and information into the planning and design of program activities can compliment and strengthen the current bottom-up approach.

5.7 Ecosystem Protection in Urban Development Planning

For well over a decade there has been growing acknowledgement that land-based sources of pollution represent the greatest threats to near-shore marine habitat. The indiscriminate filling of wetlands or their use as solid waste dump sites, has destroyed breeding and nursery areas for fish and shellfish. Sustainable development in Jamaica is incompatible with environmentally destructive patterns of development and land utilization that threaten the very resources upon which its tourism economy is dependent.

The rationale for focusing USAID program resources on urban development issues in coastal tourism areas was noted in the original CWIP program design as follows:

> "The concentrated growth of tourism facilities has been accompanied by an equally large concentration of worker settlements within and on the periphery of the principal tourism centers. This influx …is posing a severe strain on the capacity of coastal communities to provide basic services to its citizens and, as a consequence, is threatening the natural resource base on which tourism depends. Key coastal ecosystems are now under varying degrees of stress -- reefs, beaches, estuaries, waters, wetlands and vegetated hillsides are all being negatively affected. A continuation of these trends represents a serious threat to the sustainability of the tourism sector and to the economy of Jamaica."

The recent policy paper on ocean and coastal resources prepared by the Ministry of Foreign Affairs and Foreign Trade (funded by CWIP) notes that

> "…about two thirds of Jamaica's population lives in coastal towns and cities. Inadequate urban infrastructure and high levels of poverty, combined with the concentration of population in coastal locations have contributed to the pollution of coastal waters and the degradation of coastal habitat. Low-lying residential areas in close proximity to the coast are particularly vulnerable to damage from hurricanes and storm surge, as are squatter settlements in river flood plains."

With the consolidation of NRCA and Town Planning, NEPA has the opportunity to integrate environmental objectives into development plans and parish development orders. Building upon USAID's cumulative experience with DEMO,

CWIP, EAST, and R2RW, the SO2 program could assist NEPA in mobilizing community support for the designation of coastal and marine protected areas, provide for public access to the coast, address problems of urban stormwater runoff, and provide guidelines for environmentally sound coastal development.

5.8 Consideration of the Marine Environment in Program Activities

Particularly in Negril, consideration of the marine environment is largely lacking from the current program even though the Negril Environmental Protection Area, the area of interest for CWIP in Negril, contains both terrestrial and marine components. While the Negril Coral Reef Preservation Society (NCRPS) is developing a management plan for the Negril Marine Park with funding from the European Union, management jurisdiction is not assigned to any organization and is not part of the EU's program. NCRPS currently acts in this capacity but does not have authority.

Because of the lack of coordination between CWIP and NCRPS's activities, opportunities are being missed. For example, NCRPS is gathering information on fish catch per unit effort to develop some baseline fisheries data. They are utilizing video transects to examine benthic trends in algal biomass and have a water quality monitoring program for nitrates and phosphates that DBML was unaware of. They have also conducted some work on the North Negril River.

It should be noted that since the team conducted its interviews, a memorandum of understanding has been signed by Negril area Environmental Protection Trust (NEPT) and NCRPS which clearly defines the roles and responsibilities with respect to management authority for the Negril Environmental Protection Area. The broad division of responsibility for the marine environment lies with NCRPS while NEPT is charged with an overall coordination role as well as primary responsibility for the terrestrial environment. This is a very encouraging development.

5.9 Fisheries

A fisheries component is lacking in current SO2 program activities, particularly in Ocho Rios, where fisherman and fisheries cooperatives are not engaged in the stakeholder process.

The depletion of shellfish and reef fish stocks was recently confirmed by the findings of the Atlantic and Gulf Rapid Reef Assessment (AGRA) which conducted an intensive survey of north coast coral reefs and fish stocks. (CWIP and USAID/Washington contributed funds for this study.) The AGRA study reports, for example, that at 6 transects per site over 52 sites, only 45 individual snapper were recorded. Those that were recorded were half the size of snapper from similar habitat in less disturbed sites. Several fish types, such as angelfish and grouper, were wholly absent.

Stock depletion is part of the general problem of habitat destruction (principally coral reefs, seagrass beds, and coastal wetlands) on the one hand and species depredation on the other. These problems are compounded by the fragmentation of

management responsibility for habitat management within the various divisions of NRCA, and between NRCA and the Fisheries Division of the Ministry of Agriculture.

5.2.0 Upper Watershed Management

There is some indication that the North and especially the South Negril rivers are major sources of biological and chemical contaminants from, for example, agro- and other chemicals, animal waste, soil and other sediments, and are posing a significant threat to the marine environment. Although there are some targeted, community initiated activities in the upper watershed such as organic farming, improved sanitation, planting of vegetation in riparian areas and improved practices on animal farms, a threats analysis has not been conducted.

A comparable situation exists in Ocho Rios with respect to the watershed areas of the White, Turtle, and Dunns rivers. High fecal coliform counts have been detected near the mouth of the Dunns River below the falls. Currently, no firm plans have been made to mitigate the situation. Since the UDC "owns" the falls, there is some institutional complexity in directly addressing the problem.

The Portland Area represents a significant opportunity to develop a comprehensive, integrated watershed management program with lessons learned from CWIP and EAST and integration of the new R2RW. Because there are several other donors in the area, coordination will be key as will sensitivity to capacity of local organizations.

6.0 IMPACT OF PROGRAM ACTIVITIES ON JAMAICA CIVIL SOCIETY

Civil society organizations, in the area of the environment, comprise a wide range of entities at the community or wider societal level (CBOs, NGOs, PSOs) engaged in seeking to improve the coastal and marine environment in a sustainable manner. These organizations have been strengthened to the extent that they have become technically more proficient in dealing with environmental problems, and have won increasing respect from government entities by engaging them in technical dialogue and by developing effective partnership arrangements with such agencies.

Both CWIP and EAST have contributed to this through institutional strengthening of carefully selected strategic partners, providing assistance in financial management, project implementation/administration and accounting. As a result, these organizations have been able to leverage national resources to support local community projects. There is no doubt that the success of these initiatives has been, in large measure, due to the technical support provided by both CWIP and EAST. This has been amply demonstrated in the arrangements leading to the institution of Advisory Monitoring Committees and the Water Quality Monitoring program.

6.1 Wastewater Management/Advisory Monitoring Committees

The evaluation team was advised that, prior to CWIP's intervention in Negril, the relationship between the NWC and the community was non-existent or at best very strained. Both were simply not communicating. Through CWIP's intervention, community organizations were strengthened and gained the respect

of the NWC resulting in the formation of AMCs of specially identified community organizations, in a public–private partnership arrangement designed to allow private sector, as well as community and stakeholder input in the management of national wastewater management systems. The institution of Advisory Monitoring Committees (AMC) formalized through MOUs in Negril and latter in Ocho Rios, constitute a signal achievement of CWIP. This model merits replication both locally and elsewhere.

6.2 Water Quality Monitoring

Water Quality Monitoring: In the area of water quality monitoring, effective public–private participation mechanisms have been formulated involving major stakeholders – NEPT having oversight responsibility, communities, NWC, NRCA/NEPA, hoteliers, fishermen and the Discovery Bay Marine Laboratory. A similar program has been instituted in Ocho Rios though with less success to date. What is very significant in the monitoring program is the allocation of responsibilities to all participating stakeholders in an operation where each stands to benefit. The sustainability of this program will depend to a large extent on an increased public awareness and the extent to which stakeholders see real economic benefits for themselves.

6.3 Inter-Agency Steering Committees

Inter-Agency Steering Committees (ISCs): ISCs and similar arrangements, for CWIP and EAST, whereby a wide range of principal stakeholders come together every six months to ensure alignment of broad program focus and consistency with the Government's overall macro-economic policy directions have proved useful in the past. An important advantage is that it brings together civil society organizations at the local level with national agencies in a participatory process that seeks to ensure that Government's policy prescriptions are at the forefront of decision-making.

6.4 Diversity of Civil Society Organizations

From field visits and discussions, Ocho Rios constitutes the most diverse mix of civil society organizations (large/small hotel owners, absentee ownership, Chamber of Commerce, FOTS, STAEPA, fishermen, DBML, other business interests) of varying sizes, differing interests and varying levels of commitment to environmental management issues. These differences pose difficulties in the extent to which the intended objectives and outcomes from specific project interventions (CWIP, EAST, R2RW) can be realized.

CWIP's activities in this area have been focused on solid waste management activities engaging community based projects, a public education program and water quality testing through the mechanism of the public–private mechanism developed in Negril (AMC). Institutional concerns raised here relate to whether there is not a need for better rationalization of CWIP's methods of intervention which will ensure greater sustainability but also effectiveness. A case in point relates to the use of DBML for not only water testing (for which it is eminently qualified) but also for administering the community grants program to the four communities of the Ocho Rios watershed area. While this is understandable

given the lack of adequate capacity in civil society organizations, capacity building and sustainability are not served by this arrangement in the longer term. CWIP could concentrate on strengthening organizations such as STAEPA and FOTS, over the next two years, to assume management of community projects irrespective of the source of funding. This would also allow DBML to play a more significant role in actual water quality monitoring.

6.5 Absorptive Capacity

As of February 2001, all three projects (CWIP, EAST, R2RW) will be implemented in the Portland area. This will pose considerable problems relating to absorptive capacity. In addition, ENACT has been involved in environmental activities involving a wide number of stakeholders, many of whom will be the same partners drawn on by USAID programs. It is important that the necessary coordinating mechanisms be established across all projects, as well as with the ENACT program, from the outset to avoid projects "tripping" over others and resulting in less than efficient allocation of scarce resources. The implementation of the three projects thus presents both a challenge and an opportunity to draw on experiences and lessons learnt from both Negril and Ocho Rios in addressing a comprehensive program affecting upland, coastal and marine systems and involving a major international natural resource, the Rio Grande, the single most important tourism attraction for the Parish and which is yet to experience a level of pollution comparable to the Dunns River. Additionally, the establishment of an AMC along the lines of the Negril model could assist in engaging /educating environmental and community groups in preparation for greater public – private management of wastewater water disposal systems both now and later when any central treatment facility is established in the Port Antonio area.

6.6 Overall Considerations

The capacity of NEPT, as an umbrella organisation, to address environmental concerns has been considerably improved by institutional strengthening in strategic planning, training at the Board level and administration of community grants. This has also been true of strategic partners in Ocho Rios. The initial EMS grants have been significant in building capacity and assisting hotels to implement environmentally friendly practices for which they have seen the benefits in reduced operating costs. The success of these hotels that have achieved "Green Globe" certification has rekindled the interest of hotels that had fallen out of the program to adopt management practices that are not only environmentally friendly but have the potential to contribute to their profitability.

While civil society organizations have been strengthened, there has been a virtual vacuum of government agencies, with the notable exception of the NWC, at the local level, particularly in Negril. Enforcement of sound environmental practices has therefore been negatively impacted, for instance, by the unavailability of environmental wardens to police the environmental regulations. At the local levels, the Planning Institute of Jamaica (PIOJ), because of capacity constraints, has not been sufficiently active in donor coordination activities on behalf of the Government. What might be desirable is for national level institutions to form important operating linkages with such bodies as the Social Development Commission and Parish Development Committees, within the

framework of local government reform, in achieving better coordination at the local level.

While some level of coordination among donors/lenders takes place at the regularly held meetings organized by this group, this potentially can be an important instrument for achieving real cooperation and collaboration with the government. While admitting to the positive benefits donors can derive from meetings among themselves, there is clearly a need for this process to be driven by the PIOJ exercising its mandate for coordination of Official Development Assistance. USAID's current chairmanship of the donor group, however, provides an excellent opportunity and increased leverage for it to seek to achieve greater collaboration and coordination between its own programs and those of other donors, at least during the present term.

Institutional changes at NRCA/NEPA involving a merger of three organizations (NRCA, the Land Utilisation Commission and the Town Planning Department) present both opportunities and challenges. While this process of reorganization is scheduled for completion by 2001 April 1, any possibility that this deadline is not realized will create additional concerns for implementation of the program of recommendations involving CWIP. Additionally, cooperation with CWIP could involve a different/new set of operating relationships requiring time for familiarization with the program as well as any proposed changes. The Ministry of Land and the Environment, under which NRCA/NEPA falls, is also undergoing changes to make it more policy focused. The Ministry, however, suffers from a serious capacity constraint that will need to be addressed if it is to effectively carry out its mandate in support of NRCA/NEPA. It is also very important for it to focus on providing broad policy direction and not involve itself at the operational level of program implementation. These changes could pose potential difficulties for effective program implementation over the two-year period depending on the success with which such changes are carried out.

The contractors have recorded a very effective and productive relationship with the SO2 office of the USAID/Jamaica Mission in meeting the demands of both USAID's Head Office in Washington as well as the Government of Jamaica. From all indications, the office possesses the necessary capacity in its present staff to ensure effective program execution and has been well guided by its team leader for the bilateral program. It is clear that the unit functions as a team, possessing the necessary managerial and human resources development capacity and has also provided expert guidance to the evaluation consultants.

7.0 CONCLUSIONS

7.1 Absorptive Capacity of Portland's NGOs and CBOs

Current programming calls for a concentration of activities by EAST, CWIP, and R2R in Portland. In addition, Portland is an area of concentration for CIDA and the EU. It is questionable whether there is sufficient institutional and organizational capacity in the Port Antonio area to usefully put these resources to work. With numerous projects engaging a limited number of local stakeholder organizations, the resulting overload could waste limited development resources.

Considering the economic importance of Ocho Rios and Montego Bay and the environmental problems that they pose, a disproportionate allocation of financial and personnel resources is being made to Portland. This is particularly true with respect to the grants program that would be initiated in Portland by CWIP. CWIP could more usefully redeploy some of its resources to Montego Bay and Ocho Rios. These latter two areas are in worse environmental shape than Port Antonio and are economically more important to the tourism sector.

7.2 Consolidating Gains vs. New Starts

In setting up the CWIP program for the next 18 months, a good deal of thought should be given to balancing the benefits of initiating new community level projects vs. consolidating gains in projects now underway. CWIP still has two full years to go, but it only has 12 months to initiate new grants. While there was little time to view, no less evaluate, project results, there was a general impression that current projects may need more time to ensure sustainable results. USAID and the GOJ should evaluate the relative costs and benefits of concentrating on existing projects to insure sustainability vs. the launching of new initiatives.

7.3 Advancing Coastal Policy and Implementation Capabilities

In working with the National Water Commission, CWIP has had the effect of actively driving policy, with excellent results, and with all parties expressing satisfaction. With the exception of the water quality monitoring program, comparable success has not been achieved with NRCA (now NEPA), particularly with its coastal zone management, community education and outreach, and watershed management units. While some coastal policy and marine resource studies have been conducted with CWIP funding, the level of integration between NRCA and CWIP activities lacks the consistency and integration that characterizes the NWC/CWIP relationship.

7.4 Partnerships

CWIP's strongest and most sustainable local partnerships have been established in Negril with NEPT and the Chamber of Commerce. In Ocho Rios, the Discovery Bay Marine Laboratory is playing the same role as NEPT plays in Negril. To give this umbrella NGO role to DBML, while convenient in the short-run, is not sustainable in the long run, since this combination outreach-oversight role is peripheral to the Lab's primary areas of interest and commitment. This is not to imply that the future contribution of DBML is to be reduced. Quite the opposite. Its role should be significantly enhanced, but not in managing demand-driven, community-based grants.

Active consideration should be given to bolstering the roles of Friends of the Sea, STEPA, and/or SACOC as principal partners through which local grants should be funneled. These organizations have a history in Oho Rios that precedes the inception of CWIP, and their membership base is broadly representative of the business community, the marine recreation and fisheries sector, and environmentalists. It is worth noting that Friends of the Sea sees its role as a proponent of, but not manager of, an Ocho Rios marine park, positioning it to develop a broad-based community coalition.

SO2 PROGRAM AND OPERATIONAL RECOMMENDATIONS

8.0 RECOMMENDATIONS FOR USAID'S ENVIRONMENTAL PORTFOLIO

It is assumed that over the course of the next decade, USAID's environmental programming will be consistent with, but evolve beyond, the current strategic objective of "improving the quality of key natural resources in selected areas that are both environmentally and economically significant." This strategy is intended to integrate natural resources management, environmental protection, and sustainable economic development.

In preparing recommendations for each of the three time periods, key considerations included: (1) leveraging the results achieved in one time frame so as to build upon and maximize benefits in successive programming periods; (2) developing programs and projects that empower community-level groups to implement environmentally sound policies and practices on an ongoing basis without direct donor support; (3) emphasizing the relationship between environmental enhancement, economic growth and the quality of life.

In devising the following set of recommendations, the team was cognizant of budgetary limitations and, hence, of the advantages of harmonizing USAID program activities with those being advanced by other donors, particularly CIDA, the EU, and UNEP/RCU. Within this context, three questions were posed in considering program options (1) Are these the right program activities to achieve AID's strategic results; (2) Are there other activities that would provide greater and more sustainable benefits to Jamaican society; (3) How might USAID's strategic objective evolve in a manner that was consistent with past policy, but responsive to new opportunities.

Based on these issues, the following recommendations for USAID's environmental program were prepared.

8.1 Near Term 2000-02: Priority Program Areas

8.1.1 Emphasize Sustainability in Developing Annual Work Plans

The focus of CWIP in the next two years needs to be on sustainability. Program activities in all components must concentrate on ensuring that there is an institutional base for the continuation of the programs, activities and partnerships that have been initiated in the prior three years. Where sustainability cannot be assured, there are four options: (1) Reconfigure the activity to increase the chances for success; (2) where there are serious doubts about sustainability, scale back the project to ensure that any core gains are retained, and wind down the effort as rapidly as possible in order to redeploy the funds to more promising areas, (3) transfer the activity to another program in the SO2 portfolio, (4) seek to incorporate the activity into the program of another donor.

The criterion of sustainability should be applied to every activity that is included in CWIP's program design for the next two years.

8.1.2 Extend the Timeframe and Expand the Geographical Coverage for the CWIP Wastewater Component

This activity stands out as among the most successful of CWIP's program activities. The National Water Commission has referred to the work as invaluable and, at the local level, respondents in both Negril and Ocho Rios lauded the CWIP efforts in this area. The Wastewater Advisory and Monitoring Committees, the training activities for wastewater plant operators, and the provision of supplies and equipment have been central to the success of the Negril and Ocho Rios programs. It is strongly recommended that these programs be extended, and expanded geographically to include Montego Bay and Port Antonio.

Although Port Antonio does not have a central sewerage system, there is a compelling need for establishing a partnership arrangement between NWC and the community with respect to the following:

- Informing and educating citizens about plans for a centralized treatment system; the probable disruptions that will be caused and how best to prepare and cope with a protracted period of construction activity.

- Work with NWC and the Ministry of Health in assessing the public health implications of deficiencies in the present sewerage and water supply systems.

- Coordinating with NWC on the construction of interim systems to replace failed septic systems and pit latrines; and/or, retrofitting component parts of the larger system ensuring that future hookups would be less costly.

- Together with NWC, reviewing the lessons learned in Negril and Ocho Rios with the community AMC to avoid a repetition of the mistakes in Port Antonio.

- Providing training for policy makers in the NWC to more effectively implement newly adopted strategies for connections, as well as assisting in the implementation of private sector participation in managing NWC-owned installations.

NWC presently has a wastewater management unit. This unit should be the focus of CWIP's assistance as a means of consolidating past gains. The following areas have been identified as most critical by NWC: Training for operators; provision of needed equipment, and; technical assistance that would allow the Commission to do instant sampling and analysis in the field.

8.1.3 Sustain and Review the Coastal Water Quality Monitoring and Testing Component

The inception of the water quality monitoring program is one of CWIP's most significant achievements. It has broad support at all levels. It has engendered active partnering between the public and private sectors, and between local and central government entities. Nevertheless, there are opportunities for improving the current program.

Sustainability

Ensuring program sustainability should be a priority over the next two years. Funding is key to placing the program on a secure footing. Joint public/private financial support would seem to be economically feasible and socially equitable. Moving toward the formulation of such a cost sharing arrangement should be a program objective of the several USAID contractors.

A concerted education effort will be needed, particularly in the private sector, to link the benefits of water quality monitoring to tourism and recreational use. Given the nature of the tourism sector and the social/economic profile in Ocho Rios, this will present a greater challenge than was encountered in Negril.

It is generally recognized that with the termination of CWIP, alternative sources of funding must be found. Among various options, several are suggested below.

1. Defray portion of costs by financial support from tourism industry.

   This sector has the most to gain economically from maintaining an acceptable level of coastal water quality. Here is an opportunity for CWIP and EAST to collaborate on developing a strategy that will gain acceptance from the private sector (JHTA and JMA) and from the GOJ, particularly from the Ministry of Tourism. USAID should direct CWIP and EAST to collaborate in this effort.

2. Reduce costs of sampling and analysis

   Concentrate sampling on known hot spots. Test for parameters that relate to specific objectives. The following parameters that are currently being measured should be reviewed to determine their continuing importance to the overall sampling protocol:

   Chlorophyll**:** Levels are not detectable in seawater
   Total suspended solids**:** Not detectable in seawater
   Total phosphorous**:** Not significantly different from inorganic phosphorous
   pH**:** Fairly constant in seawater

3. Earmark beach license fees to coastal water quality programs. Link the fee schedule of beach licenses to maintaining coastal water quality standards

Hotels are charged an annual fee for beach use. If the waste discharge methods used by the hotels degrade coastal water quality, thereby endangering public health and/or threatening marine ecosystems, they should be charged accordingly. This is a variant of the "polluter pays" principle. It is not a simple option, but there are numerous precedents on which such a program could be patterned.

Use of Science

A team consisting of experts from DBML, UWI, CWIP staff, NGO science officers, etc. should be convened to comprehensively examine the suite of information currently available on north coast marine systems, including the water quality monitoring data and recently obtained AGRA study data. This information should be analyzed and recommendations made that are accessible and can be widely distributed to stakeholders. A targeted set of bioindicators should also be considered for both the aquatic and marine environment.

Establish a Single Center for Conducting Water Quality Analyses

The program for analyzing coastal water quality needs to be consolidated. The Discovery Bay Marine Laboratory is the logical choice for assuming this function. It has an international reputation for scientific achievement. Its findings would be regarded as unbiased. It would also provide an excellent training ground for students and younger scientists.

In order to perform this function it will be necessary to provide the DBML with capabilities for microbiological analyses, including testing capability to distinguish between human and animal sources of fecal coliforms. A proposal to move in this direction has been made previously. The proposal should be revisited in light of the growing need for establishing a center of excellence to serve both Jamaica and the larger Caribbean region.

CWIP could provide short-term assistance in assisting the DBML to develop a “business plan” to implement this consolidation by investigating potential sources of funding and revenue generation that would include providing testing services to the private sector. There is evidence of an increasing need for microbial analysis from the private sector. DBML could provide this service while securing additional resources for operations, students and research.

Action Plans

When water quality "anomalies" are identified, an action plan is needed for community members to follow-up, including targeted technical assistance with results interpretation and intervention.

8.1.4 EMS Implementation

Implementation of the EMS policy recommendations, facilitated by CWIP, will significantly strengthen NEPA’s capacity to work with the private sector. This is an area in which NEPA needs a great deal of assistance since it is starting from

scratch. It is also an area in which CWIP has made significant advances and would be in a position to assist in moving NEPA from policy formulation to program implementation once a clear direction emerges. That direction must be provided by NEPA.

In the interim, CWIP's contribution to the EMS area is best served by successfully completing the community-level grants that have been initiated. Although the evaluation team had minimal opportunity to observe the local solid waste management projects being conducted in Negril and Ocho Rios, these activities elicited strong support from the grantees in both communities.

Accordingly, it is recommended that CWIP's EMS community-level activities should continue for another year, and then be terminated in the final year of the project.

JHTA and JMA are the principal organizations through which EMS techniques can be most effectively disseminated. In working with these organizations, EAST not only reaches owners and managers, but directly provides training to staff and employees. This has a ripple effect as the lessons learned are transferred to the homes and communities where the workers live.

It is recommended that EAST pursue its EMS activities in support of obtaining ISO 14000 certification in the manufacturing sector and Green Globe certification in the tourism sector. It should be noted that, as a condition for Green Globe certification, the hotel must sponsor a community initiative that has a direct environmental benefit, thereby leveraging the impact of the EMS program.

Hotel managers in the Negril area, with whom the team spoke, emphasized the desirability of having EAST provide technical assistance in support of their activities in "carrying the gospel" to hotels, originally targeted, that had fallen out of the program. Measures to facilitate this process should be pursued.

EAST should strengthen its relationship with the JMA by continuing its work with manufacturing entities, using targeted plants to demonstrate the benefits of EMS to the manufacturing sector. The proposal to set up an environmental fund is a move in the right direction as it will contribute to the sustainability of EMS activities in both the tourism and manufacturing sectors.

The environmental audit program should be continued but with a changed emphasis. The audit program should have a two-pronged approach: (1) Conducting scaled-down, less costly audits, and (2) providing training on auditing techniques to Jamaican consultants and management firms to assure long-term sustainability through local technical capacity building.

8.1.5 Ecosystem Conservation Elements in R2RW

In the R2RW, USAID/Jamaica has an interesting opportunity to examine the different roles that protected areas might play in integrated watershed management. While the Blue and John Crow Mountain National Park is at the

headwaters of the Rio Grande watershed, Montego Bay Marine Park is the receiving waters for the Great River Watershed – the two regions of focus for R2RW. Through the *Parks in Peril* program, the Blue and John Crow Mountain National Park (BJCMNP) is currently the biodiversity/ ecosystem conservation component of USAID/Jamaica's SO2 portfolio. Continuing efforts in BJCMNP would complement currently planned activities for R2RW in Portland. Similarly, work with the Montego Bay Marine Park would complement upland R2RW activities in the Great River watershed and would fill the gap of marine protected area work.

8.1.6 Ocean and Coastal Resource Management Policy

In 1998, the Government established the Council on Ocean and Coastal Zone Management, within the Ministry of Foreign Affairs and Foreign Trade. CWIP provided funds for the Council to prepare a comprehensive policy document on coastal and ocean resources. While the policy impetus must come from government, CWIP should be prepared to assist in the transition from the formulation of broad policy to the design and implementation of specific program initiatives.

Many of the policies adopted by the Council on Ocean and Coastal Policies fall within the jurisdiction of NEPA. While NEPA needs to assert firm leadership and direction in implementing these policies, CWIP (through CR5) is in a position to provide assistance to the units within NEPA that are operationally responsible for the biodiversity and protected area components of the marine and coastal environment.

CWIP should also retain some flexibility to fund special studies that are germane to coastal resources management The recently completed study, funded through CWIP, linking beach sand accretion in Negril to calcification of algae on sea grasses is an example of such technical and scientific support, as is the funding provided by CWIP to the Atlantic and Gulf Rapid Reef Assessment.

8.1.7 Use of Threats Analysis in Programming and Project Design

The "bottom-up" approach in determining community-level project initiatives could be buttressed by providing participants with a scientific basis for arriving at program decisions. While the community should make the final decision, the information available to them in making choices could be significantly enhanced by conducting "threat analyses" in the targeted communities. These analyses could be conducted by panels of experts recruited from a variety of agencies and institutions. Illustrative examples of how such techniques might be applied to current SO2 programs appear in Attachment D.

8.1.8 Skills Transfer in Community Organization and Intervention

A process needs to be established for transferring both the skills and the lessons learned from CWIP to NEPA staff. CWIP's experience in working at the community level and in building partnerships between local groups and central government entities could be invaluable to NEPA staff in sensitizing them to local

concerns, and in providing training in organizational development. Collaboration in this effort between CWIP, NEPA, the Social Development Commission and the Social Work Department of UWI is recommended.

8.1.9 Public Sector Coordination and Capacity Enhancement

USAID's SO2 team and its contractors are implementing programs that are unusually complex from an institutional standpoint. This complexity is compounded by the evolving nature of agency relationships within the Government of Jamaica. USAID and its contractors need to maintain close liaison with the directors and senior personnel of the pertinent GOJ ministries and agencies, yet it is not always clear where and to what extent coordination is needed.

In order to effectively implement USAID's SO2 program portfolio, particular attention needs to be given to clarifying the evolving set of relationships between USAID's SO2 team and its contractors, on the one hand, and the Ministry of Land and the Environment and NEPA, on the other. NEPA, a statutory body attached to the Ministry, is USAID's principal partner in conducting the CWIP and R2RW programs. NEPA itself is in process of welding together two large and complex planning and regulatory agencies, NRCA and Town Planning. Add to this, the need to consider the role of PIOJ in its review of donor programs, and the scenario is further complicated. A number of these agencies could benefit from efforts by USAID to provide management training through seminars, consultations, and exchanges.

With respect to NRCA/NEPA, USAID may need to broaden support to the host organization in the next two years, subject to the organizational structures that may be put in place in that organization, if sustainability of its programs is to be achieved. The same applies to the Ministry to which NEPA is attached. While no discussions have been held with either body to determine the possible forms of such assistance, it is important for USAID to keep this option open.

8.2.0 Develop a Gender Strategy

As soon as is feasible, the role that gender plays in all of USAID/Jamaica's SO2 activities needs to be determined in order to identify strategic interventions for a more efficient and effective program. USAID should consider gender training for SO2 partners. Contractors for SO2 should ultimately involve local partners who have expertise in gender considerations. USAID/WIDTECH and USAID/LAC/RSD could assist with this planning and development process.

8.2 Intermediate Term 2003-05: Bridging the Two SO2 Cycles

8.2.1 Develop Program for Upper Negril and Ocho Rios Watersheds

A major effort at watershed management is needed for the North and South Negril rivers. Water quality in both rivers should be evaluated for relative contribution to coastal water quality degradation. Sources should be identified and targeted interventions designed. While a great deal of work has been done in

Negril, a comprehensive program addressing pollution sources in the upper watershed would significantly contribute to the protection of coastal water quality.

In order to address the high fecal coliform levels at Dunns River Falls, and given CWIP's prior success in establishing public/private partnership arrangements, a similar effort should be undertaken to partner the Ocho Rios Environmental Advisory Group (EAG) with the UDC.

8.2.2 Develop an Environment Awareness and Advocacy Program for Coastal Resources Management

This program would represent a transition between the work accomplished by CWIP and EAST, and the initiation of a program for the protection of biodiversity and the enhancement of coastal water quality by ratcheting up communication and information sharing capabilities of NGOs and CBOs, private sector groups, and research institutions.

The essence of the program would be the posting and sharing of information pertaining to the environment. The Negril Chamber of Commerce has been contemplating putting coastal water quality information on the Internet. What is being proposed incorporates and extends that concept. Water quality data would be posted. So would information pertaining to Blue Flag certification, ISO compliance, and Green Globe certification. DBML or some other respected, non-partisan entity, such as UWI's Centre for Marine Science, could act as a clearinghouse.

The purpose would be to apply information technology to advance citizen advocacy, and public awareness. It would be a powerful inducement to maintain environmental standards and to publicize particular achievements of communities, commercial establishments and organizations.

8.2.3 Develop a Fisheries Management / Marine Protection ~~Program~~ Strategy

Fisherman organizations for the entire north coast could be partnered with DBML, NEPA and the Fisheries Division to develop a comprehensive strategy for fisheries, including shellfish, protection. Environmental and economic considerations should be given to aquaculture for both food and ornamental fishes in order to relieve the pressure on wild stocks. Particular attention should be given to management measures for the protection of conch, an endangered species under CITES.

The groundwork needed to launch such a comprehensive strategy and program should begin well in advance of 2003. Among other considerations, institutional roles need to be addressed early in the process. Nominally, the Fisheries Division would play a lead role. The Fisheries Division has monitoring and management authority but is understaffed and is primarily concerned with licensing and other operational activities. CITES is overseen by the Wildlife Division of NRCA/NEPA, while the Coastal Zone Management Division is responsible for coastal and marine habitat. Personnel connected with DBML have the most extensive experience in the subject areas, and could bring considerable expertise to

such a project. It is suggested that DBML take the initiative in establishing a program design for presentation and discussion with potential partners, including the USAID/SO2 division.

8.3 Long Term 2005-2009: Future Directions for Next Cycle of SO2

8.3.1 Integrating Biodiversity and Ecosystem Protection in Urban Development Planning

The greatest threat to marine flora and fauna in Jamaica's major tourism centers comes from environmentally destructive patterns of development and land utilization, deficiencies in urban infrastructure, and the disregard for natural processes in the exploitation of coastal resources.

Degraded coastal water quality and the destruction of coastal and marine habitat stems from multiple sources. These sources need to be identified and mitigation measures devised. This requires the inception of a planning process that is dependent on reliable information, sound technical judgement, broad stakeholder participation, public investment, and the political will to implement plan recommendation.

The consolidation of NRCA and Town Planning provides a unique opportunity to integrate environmental and biodiversity protection into development orders and plans for parish development. Building upon the collective experience with DEMO, CWIP, EAST, and R2RW, USAID is exceptionally well positioned to assist NEPA in mobilizing community involvement in designating protected areas, providing for public access to the coast, and planning for environmentally sound development.

Development orders will have been prepared, or will be in process of preparation for many of the areas in which CWIP and R2RW will have been active. Working with local NGOs, CBOs and private sector interest groups to deal with issues affecting the design of the physical environment, that at the same time conserves and protects coastal and marine resources is consistent with USAID's programmatic history. It is also consistent with USAID's interest in strengthening the institutional capacity of GOJ agencies to adopt environmentally sound policies and practices.

At the central government level USAID's environmental program should focus on assisting NEPA to develop urban plans and growth strategies that are compatible with the protection of coastal and marine ecosystems.

At the local or area-wide level, USAID's program focus should be oriented toward mobilizing community involvement in identifying local environmental problems, devising community self-help programs, designating protected areas, ensuring public access to the coast, stimulating eco-friendly business opportunities, and public education and outreach.

By the year 2005, all parish and area-wide development plans or development orders should contain environmental components, with appropriate management

guidelines, regulatory provisions, and monitoring programs. The time is past when the urban environment (where the majority of people live and work) and natural systems should be considered in isolation. NEPA has an opportunity and an obligation to bridge that divide. And donor organizations have a vital supporting role to play.

8.3.2 Biodiversity / Ecosystem Protection

Jamaica has unusually high levels of both floral and faunal endemism and has been ranked fifth among islands of the world in terms of endemic species. Vascular plants, alone, include 923 that are found no where else in the world. These are found principally in remote and less developed areas of the island. Potential areas for biodiversity/ecosystem protection would include Black River and Cockpit Country. While neither of these two areas fit the criterion of high tourism revenue generators, nor are they hot spots of pollution, they are longtime candidates for the promulgation of protected area management plans. (This is especially true of Black River for which an initial plan was developed by NRCA under the DEMO Project.)

USAID/Jamaica should consider the Black River Lower Morass as a priority for biodiversity/ecosystem conservation work. Reasons for its inclusion are compelling. This site is the largest freshwater wetland ecosystem in Jamaica and has an area of approximately 5,700 hectares. It is a complex of shallow brackish lagoons, limestone islands, tidal marsh mudflats and mangroves near the coast, and extensive freshwater marshes with peat formations. The wetland has been designated by Jamaica for inclusion in Ramsar's (intergovernmental Convention on Wetlands) list of wetlands of global importance.

Cockpit karst is another top priority for biodiversity/ecosystem conservation that should be considered by USAID/Jamaica for inclusion in its SO2 portfolio. Several factors contribute to this recommendation. Cockpit Country, the karst (porous limestone) and conical hills and valleys in central Jamaica, is an island-within-an-island of specially adapted biodiversity and contains very high levels of endemism (Windsor Research Centre). The region is largely uninhabited and as such, is one of the last remaining refuges for many of Jamaica's globally unique species. In recognition of its global importance, the area has been nominated as an UNESCO World Heritage Site.

9.0 PROGRAM COORDINATION

There is scope for improved coordination of programs within USAID's SO2 portfolio as well as among the bilateral and multilateral donor organizations. This is true with respect to subject area focus as well as areas of geographical concentration. As a starter, the programs being planned for the Port Antonio/Portland area should be reassessed. Initial impressions are that too many donors are programming too many activities in too short a time.

This is an appropriate time for performance planning in light of the considerable changes in the activities of the SO. The new R2R Project is starting. The other projects are in process of revising their activities. In the next two years many changes in field activities

are contemplated or recommended. The resources available to the SO are limited as is the time allowed for accomplishing the planned results. Findings in this report indicate that there is a need to better coordinate action among the partners implementing the program. There is opportunity to better inform the stakeholders of the accomplishments and goals of the SO.

The following series of actions are recommended:

1. Complete a comprehensive portfolio review as described in ADS 203.3.3.

2. Develop updated cause-effect pathways for results in SO-2.

3. Harmonize inputs from all partners leading toward results

4. Identify benchmarks (targets) that monitor achievement identified in the causal pathways.

5. Develop SO results packages, using the core concepts of teamwork and participation, that clearly lays out the casual linkages for achieving results. Identify indicators of results at the output level, and quantify activities and inputs provided. All administrative environmental[1] requirements should be included. Required reports as well as systems of assessing and learning should be established as well.

6. Using the results packages, developed in 5. above, and the SO indicators, develop a Performance Monitoring Plan (PMP) for the SO following the guidelines in ADS 203.

7. Modify the SO budget to reflect funding for ADS[2] performance monitoring, to include cost of collecting and analyzing data, special studies, and evaluations.

8. Include the PMP in the Strategic Objective Agreement for SO-2.

9. Outline reporting requirements that support the new monitoring plan and other requirements. Insure that reports provide analysis of progress as well as inputs and outputs and are clearly tied to the PMP.

Additional information on planning, monitoring and evaluation for improved management of this SO can be found in the attached report (see Attachment F) on performance monitoring.

9.1 SO2 Contractor Coordination

Based on brief discussions with persons directing the three major projects in the SO2 portfolio, the need for coordinating program activities is acknowledged. The various chiefs-of-party are scheduled to meet in the near future to address this matter. But COPs need guidance from the client since they are understandingly

[1] ADS 204 provide information on the SO Team's environmental monitoring requirements and the Initial Environmental Evaluation.

[2] See ADS 203.3.2.1

reluctant (and may be unable contractually) to make program changes without firm direction from or approval by the USAID SO2 unit.

9.2 Donor Coordination

Currently, the key donor agencies for Port Antonio are USAID, the EU and CIDA. CIDA's ENACT and Green Fund, and AID's EAST, CWIP and R2RW could, or could not, turn out to be mutually reinforcing. Discussion of coordination at this start-up phase would be useful. There are good intentions all around, and no lack of willingness to discuss the issues. Someone simply has to take the initiative to get the issues on the table. Ideally, NEPA, and particularly PIOJ, should be involved in this process.

The Donor Coordinating Group should be expanded to include multilateral agencies, particularly UNEP and, possibly, UNDP. The Regional Coordinating Unit (RCU) of UNEP's Caribbean Action Plan (CAP) is headquartered in Kingston. The United States is signatory to the Cartagena Convention and is a major contributor to the UNEP/CAP. (The US delegation at CAP meetings regularly includes representatives of NOAA, EPA, and FWS.) The program focus of the CAP stresses biodiversity protection and enhancement of coastal water quality. It would seem appropriate and informative to include UNEP in meetings of the Donor Coordinating Group.

10.0 FINANCIAL CONSEQUENCES OF PROGRAM MODIFICATIONS

The following information was compiled from a variety of reporting documents provided to the evaluation team by the USAID SO2 staff, but should be regarded as preliminary. The figures need to be verified by the CWIP COP.

10.1 Reducing CWIP Community Grant Funds for Portland

CWIP has approximately $200,000 available for community grants in Portland through the period, December 15, 2001. This is the last date for grant approval in order to comply with contract requirements for orderly closeout of grant activities.

This amount is in addition to $200,000 in grant funds available through R2RW for the 5-year period. (The R2RW grant budget is approximately $400,000 for the two targeted watersheds over for the Life of the Project.)

10.2 Reallocating CWIP's EMS Program Funds to the Wastewater Component

It is clear that both NWC and community organizations strongly endorse an extension of the wastewater component for continued training and support in Negril, Ocho Rios, Montego Bay, and for new wastewater activities in Port Antonio. CWIP's current budget for this activity is close to exhaustion.

Elsewhere in this report it was recommended that EAST assume the bulk of EMS activity at the enterprise and local levels.

If CWIP were to terminate EMS activities in project years 4 and 5, it is estimated that approximately $230,000 would be available for reallocation.

At the moment, the evaluation team does not have sufficient information about the status of CWIP's community-based EMS activities to assess the timing or magnitude of any possible reallocation of funds; whether current programs can be phased out without serious disruption; whether all of the funds should be reallocated; or whether a reserve should be retained for CWIP later participation with NEPA in the implementation of EMS strategy once the relevant policies have been adopted. If, as recommended (in 8.1.4), CWIP's community-based EMS activities were to continue for one more year, and then terminated, approximately $115,000 would be available for reallocation to the wastewater or some other program component.

11.0 RELEVANCE OF SO MONITORING INDICATORS

As reported in "R4 Results Review", March 15, 2000, the key SO results indicator is "Improved coastal water quality in terms of percentage of samples meeting U.S. EPA standard for fecal coliform". The Review goes on to state that "Fecal coliform measures have implications for human health and coral reef ecosystem maintenance."

Coliform measures are not significant indicators of coral reef health in the absence of other parameters, particularly nutrients. These reef-related parameters are being analyzed and, it is understood, are now included in the results indicator. Two observations: (1) Current EPA standards for recreational bathing distinguish between animal and human coliform levels; it is the latter that pose the greatest threat to public health since they are associated with viral and bacterial presence; (2) the Negril sewage treatment plant was never designed to remove nutrients from the effluent which is discharged into the South Negril River.

The finding that "The water quality of the Negril coastal zone is of acceptable quality" may or may not be meaningful from the standpoint of either public health or of coral reef protection and regeneration. The "Results Review" itself raises doubts about the relationship between the SO objective and the stated indicator. Quoting from the document:

> "Overall 69% of samples met the (EPA) standard for fecal coliform This reflects an improvement over the 62% baseline and 65% target. The bad news is that the North and South Negril Rivers have very high nutrient and coliform rates attributable to agricultural run-off, nutrient-rich effluent from the sewage treatment plant and informal settlements in the watershed and along the rivers. The effects are not yet manifest in coastal water quality, but the potential is lurking. *(Meaning unclear.)* We are developing programs for improved agricultural and sanitation practices."

The reference to the development of improved agricultural and sanitation practices may refer to the R2RW project that targets the Great River Watershed in Montego Bay and the Rio Grande Watershed in Portland. As far as is known, program activities in the upper watersheds of the North or South Negril rivers are limited to the four community-based pilot projects – two composting, organic farming, bee keeping, and. Local

sanitation projects. Realistically, these don't address the problem of high coliform and nutrient loads in the North and South Negril rivers.

If the Negril sewage plant does not treat nutrients, and no activities have been programmed to affect agricultural practices in the upper watershed, then the causal link between CWIP activities and reduced level of nutrients and coliforms and coastal waters is tenuous.

The integrated program activities that are being carried out by CWIP in Negril are designed to improve coastal water quality. An excellent start has been made, and if sustained, in time they will. But the process is complex, time consuming, and expensive. The result indicators should reflect that understanding.

A more inclusive result indicator, based on a weighted rating system that incorporates both qualitative and quantitative measures is called for.

An example is illustrated below:

A Result

During the past (sampling sequence) the regional wastewater management system in Negril has improved in operational efficiency and community support by a factor of (1-10).

This factor is based on values accorded to the following indicators listed below.

B. Indicators (to be given weights based on relative importance)

- *Percent increase in the volume of treated effluent;*
- *Number of hours given to training of sewage plant operators;*
- *Reduction of reported O and M problems;*
- *Community meetings and other evidence of stakeholder participation in waste management decision-making;*
- *Number of new connections to the sewerage collection system;*
- *Percentage of coastal water samples meeting NEPA and/or Ministry of Health standards for water-based recreation (and marine habitat protection).*

C. Causal Activities

The result (in A above) is directly attributable to the following integrated program activities conducted by CWIP:

(1) Implementing a wastewater training program and providing needed supplies and equipment;

(2) *Launching a community-based coastal water sampling program;*

(3) *Establishing a broadly representative Wastewater Advisory Monitoring Committee;*

(4) *Increasing the institutional capacity for biological and chemical analysis of ocean water samples*.

These causal activities need to be discussed in both quantitative and qualitative terms in order to convey a sense of what is going on. Using matrices and tables to replace straightforward narrative explanation masks the reality of what is being accomplished and what more needs to be done.

Achieving the SO2 objective of improving coastal water quality is inherently complex, costly, and long-term. It requires broad stakeholder participation, and heavy investment in economic and social infrastructure, as well as changes in societal values and consciousness. It is a mistake to try and simplify what is generally recognized as a difficult problem requiring long-term commitments.

In tracking the SO2 program, it is advisable to stick to the facts, and not try and leapfrog in claiming results that cannot be substantiated. The SO2 program, as currently conceived and being implemented, has accomplished a great deal in a short time. Its long-term contribution will be in instituting a process that is sustainable and can be replicated to other areas of Jamaica.

Further comments on the relationship between SO2 objectives and results indicators are provided by the work of the Evaluation Specialist. These appear in item 12.0 below, and in Attachment A.

12.0 CHANGES TO THE STRATEGIC OBJECTIVE FRAMEWORK

Effective monitoring and evaluation (M&E) systems support several important management requirements. These include:

- Account for planned, contracted, and important inputs provided to customers and partners.
- Monitor planned actions.
- Assess effectiveness of inputs.
- Analyze progress toward achievement of results.
- Detect unexpected results or problems.
- Provide information for identifying and planning future activities.
- Furnish decision-makers feedback on achievement and effectiveness of inputs and outputs and progress toward achievement of results.

The existing M&E systems of SO-2 are substantially employed for accounting of contracted and important inputs with few provisions for evaluating the effectiveness of these inputs or evaluating progress toward identified levels in causal pathways. ADS 203[3] provides considerable information and guidance on the development and use of causal pathways[4] in M&E systems used for management of Strategic Objectives. It is clear that the expected consequences of quality M&E systems would improved management and knowledge of achievement of the planned results.

The SO-2 team is a point where modification of its M&E system can be initiated without disruption in the implementation of activities. At this time, new starts and modification of ongoing activities are being initiated. Analysis of the ongoing activities are being done to indicate future directions for the SO. The analysis being conducted can be organized for defining causal pathways that should become the basis for M&E including data collection and analysis for improved reporting of the effectiveness and progress of the SO supported activity's inputs and outputs.

The Findings and Recommendations for the M&E system were developed using guidance found in the USAID ADS 200 Series[5]. As these are internal operating orders for USAID, the Findings and Recommendations are directed to the SO Team but address the needs of stakeholders, partners and customers as well. Knowledge of USAID operating procedures and policies is required to fully recognize the value of the information provided. The SO Team should work with its partners in developing understanding of the requirements of a M&E system that measures inputs and effectiveness and achievement of results while following guidelines in the ADS.

Recommendations are detailed in the attached report, *Performance Monitoring under USAID/Jamaica Strategic Objective 2*. Included in the recommendations are steps that will lead to a comprehensive, more effective M&E system for the SO Team as well as establishing data collection methods, targets and benchmarks for assessing progress and achievements.

It is clear that this is an opportune time for refining the management system used in the SO. Principal findings in the Monitoring and Evaluation Report focused on the mechanisms that could be improved. These are summarized below.

1. There is opportunity for the SO Team to optimize achievement of results by updating and harmonizing activities included in SO-2 Results Packages

2. The present reporting requirements of this SO focus on assessment of impact or progress analyzing the effectiveness of the measures of input/output completion. The measures used are mainly quantitative. There are few qualitative measures of

[3] Automated Directive System (ADS) is the internal operating system used by USAID. It is available to anyone at the USAID website on the Internet.
[4] Causal pathways represent a series of interrelated actions (inputs, outputs, or partial results) that are expected to produce achievement of sustainable results targeted by the SO. Included are targets, benchmarks and other measures for analysis of progress and achievement. Causal pathways form the foundation for effective management using M&E as a principal tool.
[5] ADS 200 Series provides planning and achieving guidelines including M&E requirements and procedures.

progress reported. There are few reportable targets to measure effectiveness of inputs and outputs.

3. Achievement of the Goal of SO-2 could be improved if *outputs accomplished* and *results achieved* were better communicated to important decision-makers and other donors.

4. The strategic objective and the intermediate results are appropriate and represent measures in achieving as defined in the ADS. The SO and IR indicators are quantitative and measure specific achievements. There is scope to add an indicator at the IR level that qualitatively measures effectiveness and acceptance of the changes supported by the SO. An Indicator of long-term results could measure results of improved quality of natural resources at the goal level of the SO.

5. The Strategic Objective Framework identifies a number of outputs that directly contribute to achievement of the IRs. These appear to be reasonable targets. Causal pathways leading to these outputs have not been updated to include the new activities in R2RW or to coordinate and integrate all of the activities funded by SO-2. This leads to sub-optimal management of the SO

6. There are a number of important outputs and measures of success that are discussed in SO documents but are not tracked or reported in the monitoring and evaluation systems used in SO-2.

For additional discussion on these findings and the recommendations associated with them see Attachment F.

ATTACHMENT A

Summary of Current SO2 Programs

The Coastal Water Quality Improvement Project (CWIP)

A five-year bilateral initiative with the Government of Jamaica (GOJ) funded at a level of US$9 million. CWIP, which started in December 1997, promotes sound environmental practices through an integrated coastal resources management approach by working with all sectors of society from community to government. The target sites for this project are Negril, Ocho Rios and Port Antonio and the strategic partners in the GOJ are the National Water Commission and the National Environment and Planning Agency (NEPA).

The Environmental Audits for Sustainable Tourism (EAST) Project

The EAST project is geared at improving the environmental practices of Jamaica's vital tourism and manufacturing industries, and strengthening their ability to meet international standards. The aim is to improve their competitiveness and contribution to Jamaica's economic development and environmental management. The project has been a success and is in its third renewed phase of implementation. The third phase is funded at a cost of US$1.5 million, for a period of 30 months and began in June 2000. EAST works closely with the Jamaica Hotel and Tourist Association (JHTA) and the Jamaica Manufacturers Association (JMA). The target locations are Negril, Ocho Rios, Montego Bay and Portland.

The Ridge to Reef Watershed (R2RW) Project

The R2RW Project, which started in August 2000, will focus heavily on mitigating upland watershed management problems. It is a five-year bilateral initiative with the Government of Jamaica (GOJ) funded at a level of US$6 million. The centerpiece of this assistance will involve the establishment of environmental management programs in selected geographical areas earmarked on the bases of value of resources, severity of threats, local and national support, and institutional capabilities. The Great River and Rio Grande Watersheds have been identified as target sites and the R2RW Team will be working closely with the NEPA Watershed Unit, and the Ministry of Agriculture.

ATTACHMENT B

Evaluation Team Task Descriptions

As set forth in the Scope of Work the Evaluation Team was required to undertake the following specific tasks:

Task 1. Interview Environment Office and USAID personnel as required.

Review background and historical information on the environmental program and program activities.
Analyze the goals and objectives of the Environmental Strategic Objective Framework.

Task 2. Review program reports and other results for the environment office and Strategic Objective 2 of the USAID Jamaica program, including:

Strategic Objective Agreement of USAID Jamaica signed 1998 as amended
Environmental Components of the Results Review and Resource Request (R4) for USAID/Jamaica's Bilateral Program
USAID/Jamaica's Bilateral Assistance Strategy.

Task 3. Review the major activities of the environmental program as detailed below:

Task 3.1 Coastal Water Quality Improvement Project (CWIP)

- *Review technical reports and work plans for CWIP for information on the design and operational activities of the project and the five contract results and assess their continuing relevance to the project and the Strategic Objective Framework.*
- *Interview key personnel at CWIP and their strategic partners the National Environment and Planning Agency (NEPA) and the National Water Commission (NWC) and other key selected partners for feedback on the role and impact of the project.*
- *Assess the work of the project on the basis of the Statement of Work, USAID's Environmental Strategic Objective Framework and the indicators identified.*
- *Assess the relevance and applicability of indicators for the project.*
- *Identify lessons learned and recommendations for enhancement of the project activities.*
- *Propose a practical means of fulfilling the request by the Government of Jamaica to extend the timeframe for CWIP Contract Result 2 (the wastewater component) which is scheduled to expire on January 31, 2001. This would entail reworking the Life of Project Plan and Statement of Work to provide for funding for the Pollution Prevention Specialist and activities of this component.*
- *Identify and propose priority program areas for concentration in the remaining two years in the life of the project.*
- *Assess issues of program sustainability.*

Task 3.2 Environmental Audits for Sustainable Tourism (EAST) Phase III

- *Review the Statement of Work and Work Plan and comment on their relevance and practicability.*
- *Interview key personnel at EAST and the Jamaica Hotel and Tourist Association (JHTA) and other key selected partners for feedback on the role and impact of the project.*

- *Assess the work of the project on the basis of the Scope of Work, USAID's Environmental Strategic Objective Framework and the indicators identified*

Task 3.3 Ridge to Reef Watershed (R2RW) Project

- *Review the Statement of Work and Draft Work Plan and comment on their relevance and practicability.*
- *Interview key personnel at R2RW and their strategic partner – the National Environment and Planning Agency (NEPA) and other key selected partners for feedback on the potential role of the project.*
- *Assess the relevance of the work proposed for the project on the basis of the Statement of Work, USAID's Environmental Strategic Objective Framework and the indicators identified.*
- *Propose sustainability strategies to assure institutionalization of programs.*

Task 4. The team will use the information gathered above to assess:

- *The impact of the SO2 Program Activities and lessons learned from these exercises to inform the design, consolidation and modifications, if any, of the Strategic Objective Framework and Activities.*
- *The financial and management resources required to adequately implement the activities under the Strategic Objective Framework as per modifications suggested by the consultant.*
- *The relevance of the program's activities to the Strategic Objective Framework within the context of environmental issues in Jamaica and the priorities of the GOJ with due consideration of USAID's comparative advantage.*
- *The relevance of the program's activities to the Strategic Objective Framework within the context of environmental issues in Jamaica and the priorities of the GOJ with due consideration of USAID's comparative advantage. Also review the present Monitoring and Evaluation indicators used by projects and their appropriateness to the R4.*
- *The relevance and appropriateness of indicators in the Strategic Objective Framework. This should include a review of the indicators currently used to reflect the work of the program in the Results Review and Resource Request (R4) to determine if they are the most appropriate in review of the SO2 program.*
- *The impact of Program Activities on Jamaica's Civil Society in terms of levels of capacity, sustainability and participation, especially for Non-Governmental Organizations (NGOs) and Community Based Organizations (CBOs).*

Task 5. Based on the findings of the evaluation team, recommend improvements or modifications to the Strategic Objective Framework or the method of implementation to take the environmental portfolio into the new strategy period (2005-2009).

This should include recommendations of potential new activities for the Environmental SO2 Team to consider replacing the CWIP in 2003 within the context of environmental issues in Jamaica and the priorities of the GOJ.

ATTACHMENT C

Documents Reviewed

All team members were provided with key background reports that included the following:

USAID

- Strategic Objective Agreement of USAID Jamaica signed 1998 as amended (two amendments).
- Environmental Components of the Results Review and Resource Request (R4) for USAID/Jamaica's Bilateral Program.
- USAID's Bilateral Assistance Strategy.

CWIP

- Lessons Learned from the East Project, Dec. 1998.
- Life of Project Plan, April 1998.
- First Annual Work Plan, April, 1998.
- Second Annual Work Plan, Jan. 1999.
- Semi Annual Report, Feb. 1999.
- CWIP/EAST Consultative Seminar, July 1999.
- Semi Annual Report, Aug. 1999.
- Semi Annual Report, Aug. 2000.

EAST

- Statement of Work (n.d).
- Project Report, Nov. 1998.
- Phase II Institutional Plan, March 1999.
- Phase II Final Project Report, April 1999.
- Phase III Work Plan, Sept. 2000.

R2RW

- Statement of Work (n.d.).

ATTACHMENT D

Environment and Natural Resources Information

In order to strengthen the current program, SO2 program activities should incorporate more environment and natural resources information and approaches. Below are recommendations for how to include this information within the current program approach of both CWIP and R2RW.

R2RW

At the earliest stages of program design, a threats analysis should be conducted. To accomplish this, the "key natural resources … that are both environmentally and economically significant" should first be identified for each program site. Targeted resources should then undergo a 'Rapid Environmental Assessment' (similar to the White River Rapid Assessment conducted recently under CWIP) to determine the most significant threats affecting resource quality. Sources of threats then need to be identified. The above work could be could be conducted by UWI faculty, NGOs, SO2 program staff, DBML staff, etc.

Target resources, threats and threat sources should be clearly relayed to community members/stakeholders so that activity priorities are made with fully informed participants. Interventions should be targeted toward abating sources of threats. Discussions should include an assessment of which threats are possible to abate locally and which require, for example, national policy intervention. Stakeholders may choose not to address all of the most significant threats. Should this be the case, however, the significance of the threat, the threat source, and the reasons for deciding not to intervene should be acknowledged in program design documentation.

At the same time the initial community animation is taking place, a team of experts (a 'technical advisory team') should be convened to help 1) guide the overall process and 2) answer any technical questions the community/stakeholders may have. Again, this team could be made up of UWI faculty, NGOs, SO2 program staff, DBML staff, etc. and could be the same team convened for the threats analysis, above. The tradeoffs between various approaches, including expected results and costs, should be clearly relayed to stakeholders. This technical advisory team should be available to analyze any environment/natural resource data for communities.

Finally, sampling protocols for baseline data, both temporal and spatial considerations, should be conducted using a rigorous, scientific method. Communities should be brought in to the process once the baseline has been established, to determine future priorities for follow-up work.

CWIP

In CWIP programs, threats analyses should be conducted to ensure that current interventions are targeted toward sources. A team of experts is needed to assist communities in interpreting the water quality monitoring data and helping with the design of follow-up action plans (see suggestion in the Water Quality Monitoring section). As with the White River Rapid Assessment, results should be presented to stakeholders to incorporate into their decision making process.

ATTACHMENT E

USAID/Jamaica Environmental Portfolio Evaluation: Findings and Recommendations

Natural Resources Management Specialist

I. Overall SO2 Observations/Recommendations

Biodiversity/Ecosystem Conservation

Findings

Jamaica has unusually high levels of both floral and faunal endemism and has been ranked fifth among islands of the world in terms of endemic species. Vascular plants, alone, include 923 that are found no where else in the world. Jamaica also has the highest rate of deforestation in the hemisphere. With greater than 10,000 ha of forest lost each year, less than 6% of Jamaica's forests are undisturbed with the remainder considered 'badly disturbed' (NRCA, 1999).

Biodiversity/Ecosystem Conservation is a minor component of the current USAID/Jamaica portfolio and is not only a priority of both the US and Jamaican governments, it is an important component to the overall objective of improving quality of key natural resources. Because biodiversity/ecosystem conservation is an important component of a comprehensive strategy for improving quality of natural resources, its inclusion would greatly compliment the current suite of SO2 activities.

Under the current SO2 Strategic Objective, a particularly compelling case can be made for more work in marine protected areas. 'No take' and 'low use' zones have been shown to be a critical component of an overall coastal marine management strategy, acting as core refugia for reproductive individuals.

Recommendation(s)

In current project areas, USAID/Jamaica should consider supporting the Negril Area Environmental Protection Trust's (NEPT) efforts in the Royal Palm Reserve. Besides that this area represents a unique ecosystem, proper management, restoration and protection of the morass could have tremendous water quality, quantity and flow regulation benefits. The water management benefits of wetlands, particularly those downstream from steep slopes and agriculture, have been well documented and include flow regulation, sediment trapping, and nutrient uptake, among others. Additional benefits include sustainability of the tourism sector, alleviation of tourism pressure on the coastal marine system through provision of alternatives, environmental education opportunities and NGO self-sufficiency. Because this system has been degraded, for example through water flow channelization, research is needed to determine benefits as well as costs of restoration.

In the R2RW, USAID/Jamaica has an interesting opportunity to examine the different roles that protected areas might play in integrated watershed management and should capitalize on opportunity. While the Blue and John Crow Mountain National Park is at the headwaters of

the Rio Grande watershed, Montego Bay Marine Park is the receiving waters for the Great River Watershed – the two regions of focus for R2RW. Through the *Parks in Peril* program, the Blue and John Crow Mountain National Park (BJCMNP) is currently the biodiversity/ecosystem conservation component of USAID/Jamaica's SO2 portfolio. Continuing efforts in BJCMNP would complement currently planned activities for R2RW in Portland. Similarly, work with the Montego Bay Marine Park would complement upland R2RW activities in the Great River watershed and would fill the gap of marine protected area work.

Outside of current project areas, the "Black River Lower Morass" should be considered by USAID/Jamaica as a priority for biodiversity/ecosystem conservation work. Reasons for its inclusion are compelling. The wetland has been designated by Jamaica for inclusion in Ramsar's (the intergovernmental Convention on Wetlands) list of wetlands of global importance. This site is the largest freshwater wetland ecosystem in Jamaica and has an area of approximately 5,700 hectares. The Black River Lowe Morass is a complex of shallow brackish lagoons, limestone islands, tidal marshes mudflats and mangroves near the coast, and extensive freshwater marshes with peat formations (Ramsar, 11/97). It also has the highest concentration of both freshwater and marine fishes in Jamaica (TNC, pers. comm.)

Cockpit karst is another top priority for biodiversity/ecosystem conservation that should be considered by USAID/Jamaica for inclusion in its SO2 portfolio. Several factors point to this recommendation. Cockpit Country, the karst (porous limestone) and conical hills and valleys in central Jamaica, is an island-within-an-island of specially-adapted biodiversity and contains very high levels of endemism (Windsor Research Centre). The region is largely uninhabited and as such, is one of the last remaining refuges for many of Jamaica's globally unique species. In recognition of its global importance, the area has been nominated as a UNESCO World Heritage Site.

Gender Considerations

Findings

Gender refers to the ways in which culture defines the rights and responsibilities of men and women and how these interact. Currently, gender considerations are slated for inclusion in the R2RW component of USAID/Jamaica's SO2 portfolio but are lacking in both CWIP and EAST. Consideration of Gender is a mandate of USAID and a priority of the Government of Jamaica. Under USAID's 'Managing for Results' requirements,

> " Strategic plans must reflect attention to gender concerns. Unlike other technical analyses described in this section, gender is not a separate topic to be analyzed and reported on in isolation. Instead USAID's gender mainstreaming approach requires that appropriate gender analysis be applied to the range of technical issues that are considered in the development of a given Strategic Plan." (ADS 201.3.4.11)

Similarly, the *Jamaica National Environmental Action Plan* for 1999-2002 states that "The Government will develop a Gender Equity Mechanism for analysis and assessment of all projects including those addressing environmental issues." (Action 1.23) (NRCA, 1999). Gender analysis can help to effectively and efficiently target resource benefits and activities according to economic, political, and cultural realities and helps to anticipate impacts that projects may have on the people they are intended to serve.

Without a more thorough analysis, it is not possible to determine how significant the effect might be on program effectiveness and efficiency, were gender included.

Recommendation(s)

As soon as is feasible, the role that gender plays in all of USAID/Jamaica's SO2 activities needs to be determined in order to identify strategic interventions for a more efficient and effective program. USAID should consider gender training for SO2 partners. Contractors for SO2 should ultimately involve local partners who have expertise in gender considerations.

USAID/WIDTECH and USAID/LAC/RSD could assist with this planning and development process.

II. SO2 Programmatic Observations/Recommendations

Incorporating Environment and Natural Resources Information

Findings

Currently, the design of program activities, particularly for CWIP and R2RW, is largely based on community interest. That is, general program parameters are brought to community stakeholder meetings and members indicate priorities for interventions. This bottom-up, participatory approach is a priority of USAID and the GOJ, and has been key to the successes that SO2 program activities have enjoyed. Programs have also supported some very interesting and policy/management related scientific studies, for example beach erosion and the Atlantic and Gulf Rapid Reef Assessment (AGRA) under CWIP's CR5. On the other hand, programs are not as effective as they could be in terms of integrating environment and natural resources information in a comprehensive way, across the suite of activities. Rather than replacing stakeholder participation, including more robust methodologies and information into the planning and design of program activities can compliment and strengthen the current bottom-up approach.

Recommendation(s)

In order to strengthen the current program, SO2 program activities should incorporate more environment and natural resources information and approaches. Below are recommendations for how to include this information within the current program approach of both CWIP and R2RW.

1) R2RW

At the earliest stages of program design, a threats analysis should be conducted. To accomplish this, the "key natural resources … that are both environmentally and economically significant" should first be identified for each program site. Targeted resources should then undergo a 'Rapid Environmental Assessment' (similar to the White River Rapid Assessment conducted recently under CWIP) to determine the most significant threats affecting resource quality. Sources of threats then need to be identified. The above work could be could be conducted by UWI faculty, NGOs, SO2 program staff, DBML staff, etc.

Target resources, threats and threat sources should be clearly relayed to community members/stakeholders so that activity priorities are made with fully informed participants. Interventions should be targeted toward abating sources of threats. Discussions should include an assessment of which threats are possible to abate locally and which require, for example, national policy intervention. Stakeholders may choose not to address all of the most significant threats. Should this be the case, however, the significance of the threat, the threat source, and the reasons for deciding not to intervene should be acknowledged in program design documentation.

At the same time the initial community animation is taking place, a team of experts (a 'technical advisory team') should be convened to help 1) guide the overall process and 2) answer any technical questions the community/stakeholders may have. Again, this team could be made up of UWI faculty, NGOs, SO2 program staff, DBML staff, etc. and could be the same team convened for the threats analysis, above. The trade offs between various approaches, including expected results and costs, should be clearly relayed to stakeholders. This technical advisory team should be available to analyze any environment/natural resource data for communities.

Finally, sampling protocols for baseline data, both temporal and spatial considerations, should be conducted using a rigorous, scientific method. Communities should be brought in to the process once the baseline has been established, to determine future priorities for follow-up work.

CWIP

In CWIP programs, threats analyses should be conducted to ensure that current interventions are targeted toward sources. A team of experts is needed to assist communities in interpreting the water quality monitoring data and helping with the design of follow-up action plans (see suggestion in the Water Quality Monitoring section). As with the White River Rapid Assessment, results should be presented to stakeholders to incorporate into their decision making process.

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Water Quality Monitoring

a) Funding

Findings

Sustainability of funding for the Water Quality Monitoring Program is in question.

Recommendation(s)

Ensuring program sustainability by securing funding should be a priority over the next couple of years. The tourist sector represents an opportunity, here, though a concerted education effort is needed, particularly in Ocho Rios, to link the benefits of water quality and water quality monitoring to tourism and recreational use.

Another avenue of funding to explore in greater detail is the return of a portion of the beach fee revenues.

b) Anomalies

Findings

The current bimonthly, water quality sampling protocol has indicated some anomalies, for example, elevated levels of bacteria (Sailor's Hole and Dunn River) and nutrients. The current sampling protocol is designed to set up a baseline for water quality and has not been designed to indicate sources of anomalies, which is appropriate in this initial phase of data collection. Raising awareness amongst program participants and community members, and providing rigorous, scientifically defensible data are goals of the monitoring activity. Once anomalies are identified, community members/NGOs, particularly in Ocho Rios, where not aware of a focused, action plan for follow-up in order to **seek** a source.

Recommendation(s)

When water quality 'anomalies' are identified, an action plan is needed for community members to follow-up, including targeted technical assistance with results interpretation and intervention.

c) Standards

Findings

The current water quality monitoring protocol is directed toward EPA standards for fecal coliform that represent a human health standard. Current analyses do not disaggregate human and animal sources. Other parameters, such as nutrient levels, are measured with 'levels of concern' being utilized as a standard against which to evaluate the percentage of samples falling within acceptable limits. Elevated levels of nutrients are known to compromise reef health. All indications are that the health of the coastal marine environment off the north coast of Jamaica is severely compromised. Results from a recent survey of live coral cover varied between 0 to 30% with an average of 11.7%. Sixty percent of the reef was covered with fleshy algae. Using nutrient concentrations as proxies for indicators of coral reef health is essential, but there is opportunity here for improvement.

Recommendation(s)

Modify the analytical protocol to distinguish between fecal coliforms from human and animal sources.

As suggested above (Use of Science), a team consisting of experts from DBML, UWI, CWIP staff, NGO science officers, etc. should be convened to comprehensively examine the suite of information currently available on north coast marine systems, including the water quality monitoring data and recently obtained AGRA study data. This information should be analyzed and recommendations made that are accessible and can be widely distributed to stakeholders. A targeted set of bioindicators should also be considered for both the aquatic and marine environment.

d) Modification of Sampling Regime

Findings

The current sampling regime is appropriate for generalized, baseline data collection. Beyond the baseline period, however, several factors will need to be considered and the protocol redesigned.

Recommendations

After the first 12 months of baseline collection, several factors need to be taken into account for future design of a water quality sampling protocol targeted toward community interests and needs.

2) More intensive and focused sampling should be directed i) toward areas where anomalies were detected in the baseline studies; ii) during the peak of the rainy season; iii) during the peak of the dry season; iv) during the peak of tourist season.
1) A water quality monitoring plan should be developed with the assistance of technical experts, that clearly states the program's objectives and expected results.

3) In places of high bacteria counts, sampling should be conducted 5 times per month rather than on a bimonthly basis.

4) In addition to parameter concentration, flow volume should be collected for river systems so relative contribution to coastal waters can be determined.

5) The following parameters should be reviewed to determine their importance to the overall sampling protocol:

Chlorophyll: in seawater, levels are not detectable
Total suspended solids: in seawater, not detectable
Total phosphorous: not significantly different from inorganic phosphorous
Ph: in seawater, fairly constant (8.2)

6) To ensure that sampling protocols are being properly followed, when a community enters into a contract with a Lab for sample analysis, field work should be included. This could take the form of a 'train the trainer.'

e) Analysis

Finding

The current water quality analysis procedure is cumbersome, over duplicative and potentially compromised through multiple transportation and handling procedures. Discovery Bay Marine Lab (DBML) analyzes samples for nitrates (as total and inorganic nitrogen), phosphates (as total and inorganic phosphorous), total suspended solids, chlorophyll, Ph and BOD. NRC analyzes samples for fecal coliform bacteria and NWC analyses sample for BOD, suspended solids and fecal coliform bacteria.

Recommendation

The program for analyzing water quality samples needs to be consolidated. The Discovery Bay Marine Lab is well positioned to take on this responsibility for a number of reasons. DBML is a renowned tropical marine research facility. Community members felt that DBML brought integrity, credibility and objectivity to the water quality sampling process. Increasing DBML's capacity to analyze fecal coliform bacteria would increase their ability to conduct microbiological analysis, in general. This not only gives the lab great ability to conduct potentially policy and management relevant research, it also provides greater opportunities for Jamaican students. Finally, there is evidence of an increasing need for microbial analysis from the private sector.

DBML could provide this service to the private sector while securing additional resources for operations, students and research.

The current CWIP program is providing funds to NRCA for improving their microbiological laboratory. This capacity will improve the quality of inter-laboratory calibration.

Consideration of the Marine Environment

A. Findings

Particularly in Negril, consideration of the marine environment is largely lacking from the current program even though the Negril Environmental Protection Area, the area of interest for CWIP in Negril, contains both terrestrial and marine components. While the Negril Coral Reef Preservation Society (NCRPS) is developing a management plan for the Negril Marine Park with funding from the European Union, management jurisdiction is not assigned to any organization and is not part of the EU's program. NCRPS currently acts in this capacity but does not have authority. Because of the lack of coordination between CWIP and NCRPS's activities, opportunities are being missed. For example, NCRPS is gathering information on fish catch per unit effort to develop some baseline fisheries data. They are utilizing video transects to examine benthic trends in algal biomass and have a water quality monitoring program for nitrates and phosphates that DBML was unaware of. They have also conducted some work on the North Negril River.

It should be noted that since the team conducted its interviews, a memorandum of understanding has been signed by Negril area Environmental Protection Trust (NEPT) and NCRPS which clearly defines the roles and responsibilities with respect to management authority for the Negril Environmental Protection Area. The broad division of responsibility for the marine environment lies with NCRPS while NEPT is charged with an overall coordination role as well as primary responsibility for the terrestrial environment. This is a very encouraging development.

Recommendations

In Negril, stronger consideration is needed for the marine environment, particularly the Negril Marine Park. This could be accomplished through better coordination with the Negril Coral Reef Preservation Society.

Fisheries

Findings

A fisheries component is lacking in the current program and particularly in Ocho Rios, fisherman and fisheries cooperatives are not engaged in the stakeholder process. Recent data from the north coast of Jamaica, for example those collected in the AGRA study, indicate that fish stocks are severely depleted and threatened. For example, at 6 transects per site over 52 sites, only 45 individual snapper were recorded. Those that were recorded were half the size of snapper from similar habitat in less disturbed sites. Several fish types, such as angelfish and grouper, were wholly absent.

Recommendations

Fisheries need to be included into the current program activities. Fishermen cooperatives and associations from Negril and Ocho Rios should be included in current stakeholder activities. Fisherman organizations for the entire north coast could be partnered with DBML, NEPA and the Fisheries Division to develop a comprehensive strategy for fisheries protection. Environmental and economic considerations should be given to aquaculture for both food and ornamental fishes in order to take the pressure off of wild stocks.

This work should include some capacity building and organizational strategies for cooperatives. Incentive programs such as the current model of mesh exchange in Discovery Bay should be pursued. Targeted research programs should also be developed in order to facilitate key policy and management issues.

Upper Watershed Management

Finding

There is some indication that the North and especially the South Negril rivers are major sources of biological and chemical contaminants and are posing a significant threat to the marine environment. Although there are some community activities in the upper watershed, for example organic farming, these are pilot projects only. The upper watershed had not been evaluated for its relative contribution of agro- and other chemicals, animal waste, soil and other sediments, etc. to coastal waters.

The Portland Area represents a significant opportunity to develop a comprehensive, integrated watershed management program with lessons learned from CWIP and EAST and integration of the new R2RW. Because there are several other donors in the area, coordination will be key as will sensitivity to capacity of local organizations.

Recommendation

Water quality in the North and South Negril rivers should be evaluated for their relative contribution to coastal water quality degradation. Sources should be identified and targeted interventions designed.

Product of Natural Resource Specialist

ATTACHMENT F

Performance Monitoring under USAID/Jamaica Strategic Objective 2

Improving Key Natural Resources

November 18, 2000

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Executive Summary

The report is the deliverable resulting from a study of the monitoring and evaluation system used in SO-2. It is a part of an effort of a four-person team. The team report will include findings and other material from this report.

This report includes Findings, Recommendations, and expected results achieved if the recommendations are followed. There are observations included that reflect my feelings on subjects that I did not have sufficient time or information to confirm. The report is directed to the SO Team. As such, some knowledge of USAID operating procedures and policies is required to fully appreciate the information provided.

There is discussion of the required elements of a monitoring and evaluation system as well as guidance of the management use of such a system.

Findings

1. *There is opportunity for the SO Team to optimize achievement of results by updating and harmonizing activities included in the SO Results Packages*

2. *The primary reporting requirements in this SO focuses on assessment of impact or progress analyzing the effectiveness of the measures of input/output completion. The measures now used are mainly quantitative. There are few qualitative measures of progress reported. There are few reportable targets to measure effectiveness of inputs and outputs.*

3. *Achievement of the Goal of SO-2 could be improved if outputs accomplished and results achieved were better communicated to important decision-makers and other donors.*

4. *The strategic objective and the intermediate results are appropriate and represent measures in achieving as defined in the ADS. The SO and IR indicators are quantitative and measure specific achievements. There is scope to add an indicator at the IR level that qualitatively measures effectiveness and acceptance of the changes supported by the SO. An Indicator of long-term results could measure results of improved quality of natural resources at the goal level of the SO.*

5. *The Strategic Objective Framework identifies a number of outputs that directly contribute to achievement of the IRs. These appear to be reasonable targets. Causal pathways leading to these outputs have not been updated to include the new activities in R2RW or to coordinate and integrate all of the activities funded by SO-2. This leads to sub-optimal management of the SO*

6. *There are a number of important outputs and measures of success that are discussed in SO documents but are not tracked or reported in the monitoring and evaluation systems used in SO-2.*

Observations are:

- *There is insufficient coordination and collaboration among the USAID TA Teams at the working level. Better coordination by the SO Team could lead to better utilization of resources and a more rational approach to achieving. This would also result in less process workload imposed on the non-USAID partners. This could result in fewer meetings, fewer training sessions, and better understanding of the work at the local level. The SO should be managed as a program not as distinct projects.*

- *Special studies as described in ADS 203 should be used, as needed, to verify and quantify achievement of results and learned. This would allow the SO Team greater freedom of selecting what would be assessed than a formal action such as an evaluation that is encumbered with a defined process and dictated objectives.*

- *Performance monitoring requirements should be planned and budgeted at all levels of the SO. Each contract should have a line item budget for this cost. The SOAG should have performance monitoring activities detailed and a budget identified. The objectives supported by this funding should be easy to understand and should be included in all work plans and performance requirements of contractors and other partners where appropriate.*

- *The SO activities seem to address the SO objective to improve the environmental conditions in Jamaica. All the people I met said that they supported and understood the goals and the methods of the SO. The technical expertise provided was praised. Many of the outputs were cited as examples of "good work." As I was not able to visit sites or discuss the activities with many customers, I cannot verify this observation. I expect the rest of the team will address this point.*

1. Introduction

1.1 Primary Responsibilities.

This report supports USAID/Jamaica's analysis of Strategic Objective 2, Improving Key Natural Resources (Ridge to Reef.) The general purpose of this review is to evaluate the present program of activities and to suggest potential areas for future focus of the environmental program. There is also a requirement for discussing the need for formal evaluations and other kinds of special reviews of the program. The four principal tasks required in the review are detailed in Attachment 1, Scope of Work (SOW).

A four-person team conducted the evaluation. The environmental program with emphasis on the monitoring and evaluation plans and the SO 2 Framework including the indicators were reviewed. In addition, the set of activities within the program framework and their interaction relative to achievement of the stated results of the strategic objective were assessed. A principal objective of this review was to identify and assess the process that allows the SO Team to assess and learn from the program performance as well as to be able to track progress toward achievement of results.

1.2 Approach to providing information required by the SOW

In order to gather information and understanding of the program and its activities, USAID SO Team and a number of key partners were interviewed, other donor representatives were interviewed, reports were analyzed, several stakeholder meetings were attended, and a field trip to Port Antonio was accomplished. The Mission Bilateral Assistance Strategy and the SO-2 Framework were reviewed.

The Automated Directive System[6] (ADS) provided both baseline standards and objectives for this review. The ADS was used extensively to provide a rational framework for the analysis of the Strategic Objective's monitoring and evaluation system .

1.3 Overview of Strategic Objective 2

The objective to be achieved is: ***Improved Quality of Key Natural Resources in Selected Areas that are both Economically and Environmentally Significant.***

The intermediate results are:

- *Increased adoption of environmentally sound practices;*
- *Adoption of policies for improved environmental manage; and*
- *Improved effectiveness of wastewater management.*

The objective is being achieved principally through three activities:

- *Environmental Audits for Sustainable Tourism (EAST)*
- *Coastal Water Quality Improvement Project (CWIP)*
- *Ridge to Reef Watershed Activities (R2RW)*

[6] The ADS is the official internal operating standards for USAID. The ADS is readily available to anyone on the Internet at www.usaid.gov

The SO-2 Team routinely assesses and learns from the performance of these activities through a number of mechanisms including routine and special reporting, field visits, formal and informal discussions with stakeholders and partners, interaction with other donors, and special assessments as required.

In addition to the close participatory relations with the SO stakeholders and partners, the SO Team also maintains interactive relations with other donors and GOJ officials. These actions allow for interchange of achievements, coordination of activities, and for obtaining feedback on results. The SO Team holds regular briefings, exchanges reports, and has planning sessions resulting in collaborative efforts to achieve similar results.

2. Performance Monitoring

2.1 ADS Requirements

ADS 200 Series sets standards and provides guidance to managing for results. The core values, Managing for results, Customer Focus, Teamwork and Participation, Empowerment and Accountability, and Valuing Diversity, are discussed in ADS 200. ADS 201, Planning, and ADS 202, Achieving, are important sources when developing and monitoring SO and their results.

ADS 203, Assessing and Learning, provides comprehensive guidance on the responsibilities of the SO Team to assess activities in order to confirm and track results of the SO. Using information learned during performance monitoring, implementation is enhanced— resulting in better management.

To properly monitor results, the SO Team is required to establish and critically assess performance management tools used to collect and analyze data on performance.[7] *These tools help insure that all activities contribute to the results agreed upon in the approved strategy. Other operating units in USAID/Jamaica and in AID/W also have responsibility for supporting the SO Team in this effort. These units provide guidance and direction to the SO Team in meeting the monitoring and reporting requirements.*

Some of the ADS requirements result in formal actions. These include a Performance Monitoring Plan (PMP), periodic portfolio reviews, assessment reports. annual inputs to the Mission R-4 Report, and formal evaluations as required.

[7] See ADS 203.2, dated 08/31/00

2.2 Assessing and Learning[8]

SO Teams and others attempt to anticipate and measure impact on defined objectives, make decisions that improve the chance of ultimate success, and learn from the processes and activities that are managed. This process uses both informal and structured methods of monitoring. The managers ask questions and make personal observations of ongoing activities. There are formal processes to do similar assessments. These usually are manifested in reports, evaluations, work plans, inspections and other such data collection mechanisms.

USAID wants to measure progress in achieving results not to just measure inputs and outputs. Measuring progress is difficult. The process of assessing and learning uses a variety of tools to gather information about what is happening and why. These are discussed in ASD 203.3.3.4.

2.3 Evaluations

Evaluations are structured, analytical studies of activities or Strategic Objectives taken in order to answer specific questions on program management. There is a full discussion of USAID's policy with guidance on how to develop and conduct an evaluation in ADS 203.3.4 through 203.3.4.7.

The process of evaluation should be integrated into the performance monitoring of the SO. More discussion of this will follow in the findings and recommendation sections of this report.

2.4 Causal Pathway[9]

Causal pathways of the expected results should be defined during strategic planning and modified as required based on assessment and learning during implementation. The causal linkages between SO actions/activities allow identification of key points for assessment in a monitoring and evaluation system that lead to measuring achievement of results and setting of targets. This process provides a major tool for the management of a SO.

The development of causal pathways allows better monitoring of the process of providing inputs/outputs leading to achievement of intermediate results (IR) and ultimately to the SO. Training people in new methodologies is not sufficient. The better measure is whether these new methodologies are being used and if there is improvement in the condition. This measure will be addressed and identified with a causal pathway analysis.

Exhibit 1 provides an example of the difference between input-output stream and a causal pathway using an illustrative activity.

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[8] See ADS 203.3.2.2 and 203.3.2.3

[9] ADS 203.3.2.3

Exhibit 1 Expected Output **Improved water quality monitoring**	
Input/Output Stream	Causal Pathway
Analyze conditions-detect needs to be addressed to get better water quality monitoring. This normally is a technical review of the existing system water quality testing.	Analyze conditions and contributing factors-determine constraints and needs to be addressed. Fully analyze all contributing factors causing "poor " water quality monitoring. This attempts to detect technical as well as other contributing factors.
Discuss findings of analysis and determine plan of action and inputs required.	Discuss potential input and output actions, support required, organizational buy-in, commitment to change, and analysis of ability to sustain system.
Develop a time-phased plan that indicates when major activities are to be done. Considerable effort is made to complete actions as planned but little effort is made to coordinate the actions.	Develop a time phased, input sequence plan that insures activities and other inputs are scheduled to be completed as required-not too early or too late in the process. Considerable effort is made to insure "jest in time" completion.
Monitor inputs and completion of outputs and report achievement of targets. Claim achievement at end of planed input/output stream and initial use of new system. Monitor water quality analysis to detect problems.	Monitor inputs and completion of outputs and report achievement of targets. Assess the effectiveness and utility of the inputs provided. Assess the ability of the partners to implement the new system. Periodically review the sustainability of the new system. Report key indicators of utilization of the inputs and the required support provided by the customer operating the new system. Answer the question, "Has water quality monitoring improved.

3. Findings and Recommendations

These findings are presented from the most comprehensive to the most specific. In other words, those pertaining to the SO first and those oriented to the activities presented later. Each finding will be supported by discussion and followed by recommendations related to the finding.

The recommendations are directed to the SO-2 Team. As such, understanding of USAID procedures and policies is required.

3.1 General Findings

General Finding 1: There is opportunity for the SO Team to optimize achievement of results by updating and harmonizing activities included in the SO results Packages.

The TA support for the several activities that carry out the field operations were contracted at different times and are in different stages of implementation. The GOJ agencies principally charged in management of land and environment are now in process of reorganization. The SO Team is analyzing future options for modifying activities. The EAST activity has recently moved into its third phase of implementation and some CWIP activities may be extended. The timing is good to update the performance management system used in SO-2. Monitoring and evaluation requirements should be a management system and should be detailed in a PMP. The Mission is analyzing what is required to develop a Performance Monitoring Plan for SO-2 and other SOs. The regional program has just finished their PMP.

Discussions with field staff, representatives of the SO Team, GOJ officials, and other donor representatives, indicate that the causal pathways of the SO are not clear and may not identify causal linkages that lead to achievement of results. This results in difficulty by all partners in assessing and reporting progress toward achievement of results and objectives. The elements of causal pathways are in the plan and reports but they are not clearly associated into proper sequencing that leads actions as well as associating assessment of progress with planned actions.

Reports and other monitoring and evaluation documents may not provide sufficient data to track whether the outputs lead to intermediate results and ultimately to the strategic objective. Most do not use SO generated reports, e.g. contractors reports, R-4reports, R-2 reports, progress reports to the contracting officer, etc., to analyze progress. The principal use of these documents is to report inputs and outputs. There are few requirements to discuss the adequateness of targets or to assess progress toward change or achievement of results. For example, training is well reported but its effect on the target problem is not analyzed. Sample questions could be:

> ***Are the people receiving training using it?***
> ***Did the training result in changes expected?***
> ***Are others using the technology transferred during training?***

USAID Strategic Objective Teams have the most management control over results achievement at the activity level[10]. Inputs and outputs are planned by the SO Team and achieved by their implementing partners who receive USAID funds. As such, targets set during the planning process set priorities for the partners as well as for the evaluators that monitor the progress of the SO and the management by the SO Team.

The CWIP annual plans reflect causal pathways. The background for each output is described including discussion of approaches, inputs, assessing for lessons learned, participation, and priorities to be addressed. A development hypothesis is stated and how analyses are used to test the hypothesis is clear. Assumptions are stated and focus strategies are defined. This work plan contains most of the elements for building

[10] See ADS 203.3.2.3: USAID Control over Results

the causal pathways required for performance monitoring. What is missing is better integration with the other SO supported activities and detailing assessment of the effectiveness of inputs and progress toward the overall results.

Information contained in existing work plans and reports and in the experience of the partners is enough to successfully develop a SO management plan.

Recommendation on General Finding 1

The considerable new activity with the recent extension of EASTas well as the start-up of the R2RW activity and consideration of extension of some elements of CWIP provides reasons and opportunities for harmonizing the several contractor and partner activities and insuring that all players have clearly defined requirements based on causal pathway outlines. The SO Team can realign the inputs and outputs to the partner or partners that can best achieve results that are rationalized and sequenced using causal pathways.

Allocation of scarce resources can be programmed for maximum effectiveness. Based on assessment and learning from activities that have been underway, new activities and extension of on-going activities can be verified and detailed. These actions must include customer /partner perceptions and will entail very close collaboration among all partners.

The following series of actions are recommended:

1. *A comprehensive portfolio review as described in ADS 203.3.3 completed.*
2. *Develop updated casual pathways for results in SO-2.*
3. *Harmonize inputs from all partners leading toward results*
4. *Identify benchmarks (targets) that monitor achievement identified in the causal pathways.*
5. *Develop SO results packages, using the core concepts of teamwork and participation, that clearly lays out the casual linkages for achieving results. Identify indicators of results at the output level, and quantify activities and inputs provided. All administrative environmental[11] requirements should be included. Required reports as well as systems of assessing and learning should be established as well.*
6. *Using the results packages, developed in 5. above, and the SO indicators, develop a Performance Monitoring Plan (PMP) for the SO following the guidelines in ADS 203.*
7. *Modify the SO budget to reflect funding for ADS[12] performance monitoring, to include cost of collecting and analyzing data, special studies, and evaluations.*
8. *Include the PMP in the Strategic Objective Agreement for SO-2.*
9. *Outline reporting requirements that support the new monitoring plan and other requirements. Insure that reports provide analysis of progress as well as inputs and outputs and are clearly tied to the PMP.*

The process of completing the tasks above and developing a management system for the SO is estimated to take two to three weeks to complete. Technical assistance will probably be required to help plan, coach, and guide the process including the writing of the work plan and the other required documents. It is unlikely that USAID employees will be able to completely dedicate their effort for the two weeks that may be required to

[11] ADS 204 provide information on the SO Team's environmental monitoring requirements and the Initial Environmental Evaluation.

[12] See ADS 203.3.2.1

fully undertake this process. In addition the process will be more efficient if a knowledgeable expert in developing causal pathway leads the process, results driven planning approaches. Should TA be provided, the partners, customers, and other stakeholders and the bulk of the SO Team will be actively involved for only four to five working days, four to analyze the causal pathways followed by one day to review the new work plan.

Following the completion of the SO work plan, the different activity managers and contractor chiefs of party should update their work plans and reporting systems to meet the new requirements.

Expected results emulating from this recommendation:

1. *New baseline for measuring results achieved in SO-2.*
2. *Clearly understood causal relationships in outputs.*
3. *New output level targets and analysis requirements to measure progress.*
4. *A SO work plan that harmonizes the inputs and outputs of three major activities funded by the SO.*
5. *A PMP that sets targets and defines how data required for assessing and learning will be collected and reported.*
6. *Better information for making the decision, "Where do we go from here."*

General Finding 2: The primary reporting requirements in this SO focuses on assessment of impact or progress analyzing the effectiveness of the measures of input/output completion. The measures now used are mainly quantitative. There are few qualitative measures of progress reported. There are few reportable targets to measure effectiveness of inputs and outputs.

Reports are the primary tool for regularly assessing progress by most of the stakeholders of the SO. For many, reports are the only feedback received on activities supported. Reports are also principal elements of the public awareness programs.

Preparing, writing and reviewing reports are major work requirements of a SO. Enormous effort and considerable time is expended in this process. Reporting requirements also set priorities of actions. If something requires regular reporting of an input or output element, it becomes a priority, either deliberately or de facto*.*

In discussing the reporting requirements for SO-2, few were satisfied that the goal of reporting progress was met. Most felt that the requirement to report counts of things done were important but that this information did not provide sufficient information on progress in achieving results.

For example, CWIP provides a system for analyzing capability of community-based organizations and quantifying that capacity by assigning a score with a high score appearing to indicate "better" and a low score "worse." In reporting this score, not a lot of analysis is provided as to the significance of groups moving up or down in the scoring. It is also difficult to ascertain if a high score means that this group should be given priority over another that has a lower score. It is hard to tell if the score meets the requirements for a new level of assistance of it is a go/no go benchmark where only certain actions can take place until a higher score is reached. These kinds of questions

should be asked when targets are set and should be answered in discussions in reporting documents.

In assessing the quality and usefulness of reports, I often ask the question, "So what?" It was difficult to get answers to that question from reading the reports. Technicians, TA members, or SO Team members could answer the question but few answers were in the reports. For example, when one questions the results of training, few had hard data to show that the training was effective in improving "the way things are done" and no such analysis was in the reports I reviewed

The R-4 and the R-2 Semiannual Reports (SAR) focus on discussion of the results and indicators of the SO. The discussion is principally oriented toward the quantitative targets in the data tables of the Results Framework. The narrative report section of these reports should complement information in the data tables.

A better presentation could be achieved by providing information not contained in the indicators and giving better understanding of the progress toward achieving the results of the SO that have been observed. Highlighting cross cutting issues, instructive success stories, and lessons learned are important elements of a valuable R-4 or R-2 (SAR).[13]

Reporting requirements by the several customers associated with the SO are different. Because the requirements differ, each activity must prepare several reports regularly. Contractors must prepare different periodic reports for the SO Team and the Contracting Officer. The GOJ requires different reporting information. All reports suffer because they report only "audit" counts of activities completed, i.e. training completed, number of people trained, organizations certified, etc. There is little analysis of achieved results or progress toward achievement of goals. There is little to tie these reports to a performance monitoring plan. Even though there are lots of reports, they may not provide sufficient information to make quality management decisions or to assess progress.

Recommendation on General Finding 2

1. *Information reported should be defined in the PMP. It is important to report the "audit" counts of activities and inputs provided through the SO. The targets reporting progress and the results of analyses of the effectiveness of the inputs must also to be reported. All SO reports should be reporting achievement, effectiveness and results. The reporting requirements should be clearly understood by all preparing reports and by all receiving reports.*
2. *USAID should, to the extent possible, harmonize reporting formats and requirements to so that maximum useful management information is sent in a minimum of reports. These reports should also meet all requirements of the ADS and other directives as appropriate.*
3. *The target audience and the use of the report will often dictate its content and format. All report writers should be very aware of the target audience. The SO Team should insure that this is discussed during the process of preparing the report.*

[13] See ADS 203.3.6.1

General Finding 3: Achievement of the Goal of SO-2 could be improved if outputs accomplished and results achieved were better communicated to important decision-makers and other donors.

A number of GOJ officials and representatives of other donors were interviewed. Most only have very general knowledge about the outputs and results that have been accomplished. Several requested additional information and felt that if they knew more, it would be easier to support the activities.

For example, Ms. daCosta, Director General of the Ministry of Land & Environment, requested success stories and short progress reports that she would sent to GOJ Cabinet sub-committees for information and discussion. The CIDA representative gave high praise to an EAST report that quantified economic returns to a hotel as the result of participating in USAID supported activities.

There are number of success stories that have been noted in the SO-2 activities, but they are often verbal stories told at local levels. Success stories and progress assessment enrich the knowledge and understanding of an activity and are generally more interesting than more general technical and descriptive verbiage usually found in activity reports.

The SO Team participates in regular meetings with other donors to discuss development approaches and to exchange useful information. This group is an appropriate target for receiving information on success stories. As USAID's resources are limited, leveraging other donor resources is important. Receiving recognition for achievements could lead to others copying the SOs development methodology.

Recommendation on General Finding 3

As reporting and monitoring begin to focus on achievements and progress to results, success stories will be reported as part of the regular system of monitoring and evaluation. With repackaging, these could become stand-alone short success stores. Some of these stories will be told in newsletters.

Better impact on decision-makers can be made with single story presentations. These presentations foster focused discussions. They are easy to interpret, result in pointed questions, and can be tailored to the particular audience with some confidence. Newsletters have to be targeted to a much wider audience. Newsletters are not as effective when special groups, such as members of Parliament, the Chamber of Commerce, or other donors, are the audience.

Attention to decision makers should be considered an activity objective of the public awareness program.

Expected results emulating from this recommendation:

1. *Three to five "success story" presentations each year.*
2. *Improved knowledge of the activities of the SO among decision-makers.*
3. *Increased support for the SO objective from indirect stakeholders.*
4. *Increased adoption of "best practices."*

3.2 Strategic Objective Findings

Strategic Objective Finding 1: The strategic objective and the intermediate results are appropriate and represent measures in achieving as defined in the ADS. The SO and IR indicators are quantitative and measure specific achievements. There is scope to add an indicator at the IR level that qualitatively measures effectiveness and acceptance of the changes supported by the SO. An Indicator of long-term results could measure results of improved quality of natural resources at the goal level of the SO.

The indicators in the SO reflect the status of the improved quality and support the development hypothesis. There is still some feeling among those interviewed that these indicators do not provide sufficient corroboration of accomplishment of the less quantifiable indicators of the IR results.

It can be argued that "adoption of policies" is not fully measured by quantifying the number of policies put in place. An attempt to assess the effectiveness of these policies is indicated. This can be done through a variety of assessment mechanisms including trend analysis, surveys, and special studies.

Recommendation on Strategic Objective Finding 1

Development of an indicator that measures adoption and capacity by qualitatively measuring achievement could address several IRs. For example an indicator could monitor changes in acceptance of the outputs associated with wastewater management among the people in the target watersheds. Of special concern is the impact on civil society in terms of capacity, sustainability, and participation in following and supporting the changes that improved management and effectiveness imply.

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Improved quality of key natural resources may not be fully realized for a number of years after the output is delivered. ADS 202.3.2.1 discusses the concept of delayed impact. USAID and other partners are engaged in bringing remote sensing into the management and monitoring systems used in natural resource management. Considerable work has been done on Jamaica[14] supported by USAID. Developing a SO indicator with data derived using remote sensing should be investigated.

Expected results emulating from this recommendation:

1. *A performance indicator at the IR level that presents implementation of policies and improved acceptance of wastewater management.*
2. *A performance indicator at the SO level that uses satellite imagery and associated technologies to monitor "over time" changes in environmental quality of key natural resources in select areas. This should be looked upon as a long-term effort that should be continued past the planning period of the present SO.*
3. *A system for collecting and analyzing data to support assessment of the new indicators.*

[14] See "Mapping Land Use and Natural Vegetation for the Islands of Jamaica, Puerto Rico, and Dominica," Sept. 2000. This Nature Conservancy publication is available art USAID/Jamaica.

3.3 Output Level Findings

These findings address all outputs below the IR level. Included are sub-IR outputs, activity outputs and inputs.

Output Level Finding 1: The Strategic Objective Framework identifies a number of outputs that directly contribute to achievement of the IRs. These appear to be reasonable targets. Causal pathways leading to these outputs have not been updated to include the new activities in R2RW or to coordinate and integrate all of the activities funded by SO-2. This leads to sub-optimal management of the SO.

There are elements of causal pathways in SO activity work plans. In most cases they are incomplete and do not address the total problem that can be resolved in the SO. Causal pathways must be developed that will better identify the chain of inputs and outputs essential to achieve the sub-IR level outputs. As part of this exercise, inputs and outputs of the different activities funded through the SO can be coordinated and scheduled. This coordination and scheduling should result in better utilization of resources and in increased effectiveness of the inputs and outputs and more assured achievement of results. The Stakeholders will better understand the implementation process and the relationship of the inputs and outputs provided by the SO.

Targets and assessments will be developed that better measure achievement. Better management and improved decision making should result because better monitoring, assessing and learning about the program are accomplished.

During the R-2 review held on November 15,2000, it was pointed out that in some cases training targets were exceeded. Some discussion was made that indicated the participants at the R-2 wanted to know the significance of this data.
Questions that the SO Team might consider when targets are not met or exceeded:

1) *What is the significance when a target is exceeded or not met? Does this mean that the measure was incorrect? Is the extra training excess to what is required to meet the need identified? If not, was the target incorrect?*
2) *If the demand for training is customer driven and applicable to other non-USAID supported need, will those wanting the training that exceeds targets pay for it?*
3) *Will the non-targeted extra training benefit the goal of the SO?*
4) *How will the non-targeted training be assessed for effectiveness?*

Many of the outputs stated in Activity work plans, are not actually what is being accomplished. In most instances, the activity level outputs are in fact a part of more important activity level output that may not be stated. Often the targeted "outputs" are actually inputs.

In discussions with the field staff, it is clear that they also understand that they are often targeting and accomplishing something different. In most cases they feel powerless to change the statement of output because they feel it is unalterable or that changing it is not worth the effort. I heard the statement, "We all have to lie a little to get the work done," in several forms during my interviews. This never means that they aren't doing something, but that they are doing more relevant work as well but that they are not required to report it.

One example of an imperfectly stated output from the EAST Activity work plan is: Develop and implement a pilot plan for Port Antonio/Portland as a model for a sustainable tourism destination program.[15] In discussing this activity with the Chief of Party (COP) it became clear that this was an intensive effort to bring together all the players that were required to participate in developing a plan. In addition, considerable local participation was included. Local grass root groups were assisted and became empowered to guide the process.

The output as stated does not adequately capture this very important and extensive effort.

I suggest that a better statement of this objective could be: Local community of Port Antonio/Portland produces a comprehensive development plan that has been developed with full participation from donors, government officials, and the people of the community and that this plan has been presented to the appropriate agencies that have the authority and resources required to implement the plan.

Illustrative improved targets may be:

- *Analysis completed of potential interventions and plan of action developed.*
- *Seek public input on potential interventions using procedures.*
- *Engage other donors, government officials, NGO/PVO community.*
- *Develop a first draft of potential development plan.*
- *Present draft plan to public and other decision makers in public forums.*
- *Measure amount of support received from non-USAID sources.*
- *Identify USAID supported and partner supported resources required to complete the plan.*

In the CWIP activity support to community-based initiatives is identified as an output. Actually, this is an input or series of inputs not an output. CWIP personnel perceived the target output was actually to develop community-based organizations by improving their capacity to manage environmental projects and to achieve targeted results by their work. CWIP's perceived output is to assess the community-based group's actual management of their activity. This output is being done but is not reported or tracked and is not a key action in the work plan or the SO/IR framework. An associated observation finds that the project framework[16] indicates the CWIP grants program only supports community-based initiatives when in fact it provides support to most of the activities addressed in the Framework of the CWIP Work Plan.

There is opportunity to assess achievement and effectiveness of the inputs provided. The question of sustainability would be answered by assessing the acceptability of the plan by those that are required to implement it. Documenting the successful process used would provide valuable lessons learned. If the objective better reflected what was to be accomplished, better targets measuring progress could be set and inputs would be better defined.

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[15] EAST Statement of Work, Section 3.1. 6

[16] See CWIP Third Annual Work Plan, January 31,2000

Recommendation on Output Level Finding 1

Following the procedure in General Finding 1, evaluate the outputs below the IR level. If they do not accurately describe the actions being undertaken or are not the output sought, rewrite them. Use full participation of stakeholders in this process.

Expected results emulating from this recommendation:

1. *Causal pathways defined for outputs.*
2. *Statement of Outputs better reflect the expected results*
3. *Performance targets include measures of achievement and effectiveness.*
4. *Responsibilities of partners better identified.*

Output Level Finding 2: There are a number of important outputs and measures of success that are discussed in SO documents but are not tracked or reported in the monitoring and evaluation systems used in SO-2.

Activity work plans discuss economic gains resulting from adoption of new method or implementing "best practices." There are important processes that affect the SO, such as passage of policies. The process requires considerable effort over extended periods of time. USAID's IEE requirements often require actions or studies that must be completed before other work is permitted to proceed.

Economic returns resulting from EAST supported "greening" hotel operations have resulted in considerable cost/benefit savings at the collaborating hotels. The economic returns have been analyzed through the EAST project[17]. The results are not reported to the SO above the first level output reports and have not been included in R-4 reports. This information was quoted by CIDA during the Evaluation Team interview with their representative. It was obvious that he considered the EAST activity to be both environmentally sound and economically beneficial. CWIP has similar success stories and economic data on hand.

During the SAR review for SO-2 held on November 15, 2000, questions on progress of approving new policies was discussed. It was obvious that few present knew of the status of several important policy actions even though all agreed that having these policies was key to the success of the SO.

The IEE mandates specific actions to be completed at specific points in this SO. There is no indication of these mandatory requirements in the work plans of the SO or the contractors.

Recommendation on Output Level Finding 2

Using the process of causal pathway development, identify important processes and results that need to be reported and tracked. These should be included in the PMP and in the work plans of stakeholders, especially those that have direct control or interest in the specific outcome.

[17] See EAST prepared "From Audit to EMS, A Jamaican Case Study"

Expected results emulating from this recommendation:

1. *All SO funded work plans and the PMP schedule, track, and report on progress and results of priority actives and outputs that are identified in the SO documents.*
2. *Improved ability to assess and learn from SO supported activities and improved decision making at all levels and with all stakeholders.*
3. *Superior targets, benchmarks, and milestones supported with quality data.*

4. Observations

These observations are additional information that was received and observed but that I cannot fully qualify but that I believe is important for the SO Team to consider.

- *There is insufficient coordination and collaboration among the USAID TA Teams at the working level. Better coordination by the SO Team could lead to better utilization of resources and a more rational approach to achieving. This would also result in less process workload imposed on the non-USAID partners. This could result in fewer meetings, fewer training sessions, and better understanding of the work at the local level. The SO should be managed as a program not as distinct projects.*

- *Special studies as described in ADS 203 should be used, as needed, to verify and quantify achievement of results and learned. This would allow the SO Team greater freedom of selecting what would be assessed than a formal*
- *action such as an evaluation that is encumbered with a defined process and dictated objectives.*

- *Performance monitoring requirements should be planned and budgeted at all levels of the SO. Each contract should have a line item budget for this cost. The SOAG should have performance monitoring activities detailed and a budget identified. The objectives supported by this funding should be easy to understand and should be included in all work plans and performance requirements of contractors and other partners where appropriate.*

- *The SO activities seem to address the SO objective to improve the environmental conditions in Jamaica. All the people I met said that they supported and understood the goals and the methods of the SO. The technical expertise provided was praised. Many of the outputs were cited as examples of "good work." As I was not able to visit sites or discuss the activities with many customers, I cannot verify this observation. I expect the rest of the team will address this point.*