Coastal region and small island papers 9

WISE COASTAL PRACTICES

Towards sustainable small-island living

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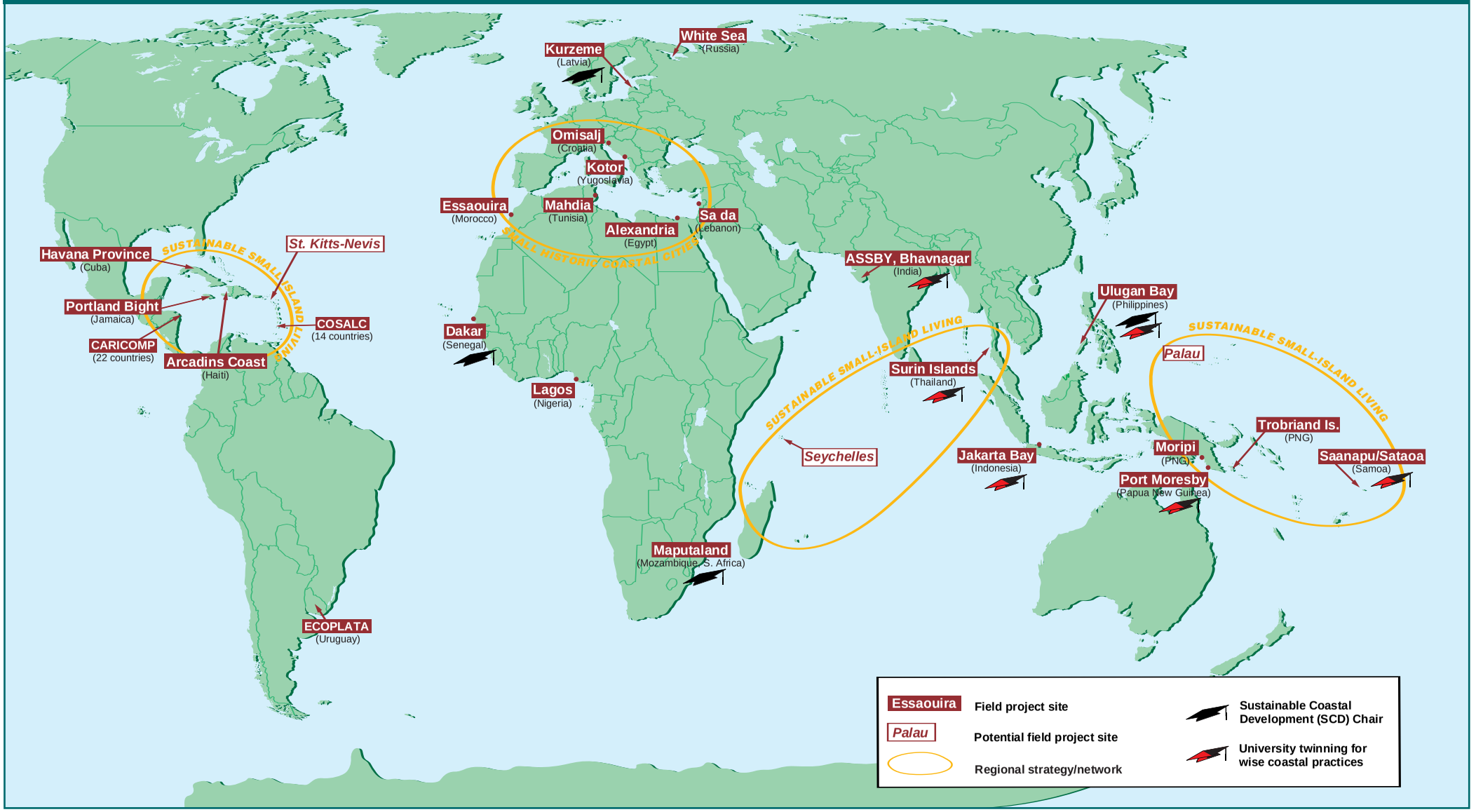
Map showing islands represented at the workshop and sites of CSI activities



Coastal region and small island papers 9

WISE COASTAL PRACTICES

Towards sustainable small-island living

Results of a workshop on
'Wise coastal practices for sustainable human development in small island developing states'
Apia, Samoa, 3-8 December 2000

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Foreword

Towards the end of the 1980s, as the world's nations began preparations for the 'Earth Summit' held in Rio de Janeiro in 1992 (United Nations Conference on Environment and Development), the concerns of small islands began to emerge as a collective voice, demanding to be heard and not engulfed by the problems of larger, more populous countries. The Alliance of Small Island States (AOSIS) was established and in 1994 an historic conference, the UN Global Conference on Sustainable Development of Small Island Developing States, was held in Barbados with participation from small island states across the world. During this United Nations conference, a programme of action was prepared. Fully aware of their rich but increasingly fragile heritage, the islands demonstrated to the world that their concerns are of global significance, and that their agenda will ultimately be the world's agenda.

As a result of these concerns, the United Nations Educational, Scientific and Cultural Organization (UNESCO) established an intersectoral and interdisciplinary platform for 'Environment and Development in Coastal Regions and in Small Islands' (CSI). The CSI platform is seeking to achieve concrete action on the ground through its three interacting modalities: field projects, university chairs/ twinning arrangement and an internet-based discussion forum. Ultimately, the goal is to develop and implement wise practices for sustainable human development, in order to effect changes in attitudes and reduce conflicts over coastal resources and values.

It is against this background that representatives of CSI's small-island activities, as well as persons from other initiatives in the Caribbean, Indian Ocean and Pacific regions, met in Samoa in December 2000. The meeting was unique in that participants from diverse geographical and cultural backgrounds, working in government service, non-governmental organizations, academia or aid agencies, came together to advance a small-island agenda built on wise coastal practices. The similarities were more evident than the differences, pointing to the continual and ever-pressing need for small islands to work together.

This publication details the presentations, discussions and outcomes of the meeting, highlighting the need for (i) interlinking activities within and across small-island regions; and (ii) procedures for project assessment, in order to distil and implement 'wise coastal practices for sustainable human development'.

Ideas and results from the meeting will continue to be discussed and implemented over the years to come. Already a proposal (Small Islands' Voice 2004) has been prepared to ensure that the voice of civil society in small islands is heard and taken into account such that it becomes an effective catalyst for on-the-ground activities; and furthermore, that

islanders, often in remote and small communities, are able to play a greater and more meaningful role in the environment-development debate at the local and national levels, as well as within the international and intergovernmental arena.

The well-being and very survival of some small islands and their inhabitants lies in the recognition of global interdependence and that, as human beings, we all have ethical responsibilities to the global community. Indeed, ours is a shared destiny.

Dirk G. Troost, Chief CSI
Hans D. Thulstrup, UNESCO Apia
Gillian Cambers, Meeting Co-organizer

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List of acronyms

ANU	Australian National University
AOSIS	Alliance of Small Island States
ASP	Associated Schools Project, UNESCO
AusAID	Australian Agency for International Development
CACC	Conservation Area Coordinating Committee, Samoa
CARICOMP	Caribbean Coastal Marine Productivity program
C-CAM	Caribbean Coastal Area Management Foundation, Jamaica
CITMA	Ministry of Science, Technology and Environment, Cuba
CORALINA	Corporation for the Sustainable Development of the Archipelago of San Andrés, Old Providence and Santa Catalina, Colombia
COSALC	Coast and Beach Stability in the Caribbean project (re-titled in 2000 as Managing Beach Resources and Planning for Coastline Change, Caribbean islands)
CS-ESP	College of Science – Environmental Science Program, Philippines
CSI	Environment and Development in Coastal Regions and in Small Islands (UNESCO intersectoral platform)
CUSRI	Chulalongkorn University Social Research Institute, Thailand
DMC	Data Management Centre, Jamaica
DPPF	Physical Planning Directorate of Havana Province
EEZ	Exclusive Economic Zone
EIA	Environmental impact assessment
ELAC	Environmental Legal Assistance Center
EMPS	Environmental Management Plan for Seychelles
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FoProBiM	Fondation pour la Protection de la Biodiversité Marine, Haiti
GCRMN	Global Coral Reef Monitoring Network
GEF	Global Environment Facility
GIS	Geographical information system
GUIC	Growing up in Cities, UNESCO
IDB	Inter-American Development Bank

ICM	Integrated coastal management
ICZM	Integrated coastal zone management
IOC	Intergovernmental Oceanographic Commission, UNESCO
IRRM	Integrated Reef Resources Management Programme, Maldives
ISO	International Organization for Standardization
IUCN	World Conservation Union
JICA	Japanese International Cooperation Agency
MAB	Man and the Biosphere Programme, UNESCO
MAREPAC	Marine Resources Pacific Consortium
MOST	Management of Social Transformations Programme, UNESCO
MPA	Marine protected area
NARI	National Agricultural Research Institute, PNG
NEAP	National Environmental Action Plan
NGO	Non-governmental organization
NRCA	Natural Resources Conservation Authority, Jamaica
NZODA	New Zealand Overseas Development Agency
ORCALC	UNESCO Regional Office for Culture in Latin America and the Caribbean
PBFMC	Portland Bight Fisheries Management Council, Jamaica
PBPA	Portland Bight Protected Area, Jamaica
PCG	Philippine Coast Guard
PNG	Papua New Guinea
PNGIPA	Papua New Guinea Institute of Public Administration
ReefBase	Global Information System on Coral Reefs
RSPAS	Research School of Pacific and Asian Studies, ANU
SEACAM	Secretariat for Eastern African Coastal Area Management
SIDS	Small Island Developing States
SPREP	South Pacific Regional Environment Programme
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNITWIN	University twinning network
UPNG	University of Papua New Guinea
WHC	World Heritage Centre, UNESCO
WiCoP	Wise Coastal Practices for Sustainable Human Development forum
WIOMSA	Western Indian Ocean Marine Scientists Association
WST	Western Samoan Tala (WST 1 = US$ 0.33, December 2000 rate)

Executive summary

As the world's small islands grapple with the search for ways to balance economic development and environmental protection, an intersectoral and interdisciplinary platform for 'Environment and Development in Coastal Regions and in Small Islands' (CSI) has been established by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to assist in that process.

Through three main modalities: pilot projects, university chairs/twinning networks and a global internet-based discussion forum on 'Wise coastal practices for sustainable human development' (WiCoP forum), the CSI platform seeks to develop wise practices, guidelines and principles which will provide for the prevention and resolution of conflicts over resources and values in small islands and coastal regions. In the long term, it is envisaged that ethical codes of practice, tailored for specific wise practices, will be prepared which will provide a policy framework for equitable resource sharing.

Pilot projects have been established around the globe to advance on-the-ground action in the realm of the priority problem areas identified by the Small Island Developing States (SIDS) in Barbados in 1994, and prioritized at a Special Session of the United Nations General Assembly in New York in 1999, and specifically to develop, test and apply wise practices. These wise practices are then reviewed, analysed and incorporated into innovative teaching programmes by the university chairs/twinning networks at a local and regional level, and discussed, critiqued and transferred by the WiCoP forum at a global level.

This report describes the results of a workshop held in Samoa in 2000, with participants from the Caribbean, Indian Ocean and Pacific regions, designed to focus on ways to advance action on the priority problem areas identified by SIDS; to advance and interlink the small-island pilot project and university chair/twinning network activities; to discuss project evaluation; to explore the potential for new CSI activities in the Indian and Pacific Oceans; to interact with other non-CSI small-island programmes and projects in the Pacific; and to provide for formal and informal professional interaction and exchange.

The workshop was productive in that all the goals were achieved and substantial progress was made in relation to project/university chair evaluation and interlinking of projects. Participants recommended that the 16 characteristics, which define wise practices and which had been developed within the WiCoP forum, be used as a framework for project evaluation. (These characteristics include factors such as long-term benefit, sustainability, transferability, consensus building, and others). Interlinking projects by carrying out evaluations, by exchanging groups of stakeholders, and by transferring methods

and wise practices was also endorsed by the participants and was seen as a way to enhance wise practices for small island living.

Exchanges with non-CSI projects in Samoa and the wider Pacific region were also very beneficial, and it is planned to continue to maximize these benefits through the WiCoP forum.

1 Introduction

Background

'The world's small island developing states are front-line zones where, in concentrated form, many of the main problems of environment and development are unfolding'.
(United Nations Secretary-General,
Mr Kofi Annan, New York, September 1999)

Small-island nations, like all countries, are seeking equitable balances between economic development and environmental protection. However, because of the islands' size and isolation, which seriously limit their options, and their vulnerability to natural disasters and global economic events, the problems they confront are particularly challenging and often call for special solutions.

The global conference on the 'Sustainable Development of Small Island Developing States', held in Barbados in 1994, adopted a broad programme of action. In 1999, a Special Session of the United Nations General Assembly was held to assess progress and boost support for the islands (Barbados + 5). During this meeting, six problem areas were identified as being in need of priority attention for the next five years:

(a) Climate change – adapting to climate change and rising sea levels, which could submerge some low-lying island nations;
(b) Natural and environmental disasters and climate variability – improving preparedness for and recovery from natural and environmental disasters;
(c) Freshwater resources – preventing worsening shortages of freshwater as demand grows;
(d) Coastal and marine resources – protecting coastal ecosystems and coral reefs from pollution and over-fishing;
(e) Energy – developing solar and renewable energy to lessen dependence on expensive imported oil; and
(f) Tourism – managing tourism growth to protect the environment and cultural integrity.

Among the global initiatives seeking to assist small islands towards achieving sustainable development is the intersectoral and interdisciplinary platform for 'Environment and Development in Coastal Regions and in Small Islands' (CSI), established by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1996. The CSI initiative works to achieve environmentally sound, socially equitable, culturally respectful and economically viable development in coastal regions and in small islands. Through three main modalities: pilot projects, university chairs/twinning networks and a global internet-based discussion forum (WiCoP forum), the CSI platform seeks to develop 'wise practices for sustainable human development' which will provide for the prevention and resolution of conflicts over resources and values in small islands and coastal regions. In the long term, it is envisaged that ethical codes of practice, tailored for specific wise practices, will be prepared which will provide a policy framework for equitable resource sharing.

The three modalities interact so that wise practices can be: formulated, tested and implemented on the ground at a local level through the pilot projects; reviewed, analysed and incorporated into teaching programmes by the university chairs/twinning networks at a local and regional level; critiqued, amplified and transferred by the WiCoP forum at a global level. (*UNESCO Sources*, February 2001, includes a series of viewpoints on ways in which the WiCoP forum provides for the sharing of experiences and the linking of knowledge with programmes of action). Through this process, 'oceans of data, seas of information, and rivers of knowledge' can be channelled into 'drops of wisdom' or 'wise practices for sustainable coastal and small-island living'.

The pilot projects are especially important in the process of developing wise practices, since they are the very foundation, the building blocks, on which the CSI initiative is based. While it is recognized that each pilot project is an individual series of activities with unique characteristics, much more can be achieved from interaction and interlinkage among the projects so as to provide a more comprehensive picture and approach to wise practices. Furthermore, there is much to be learnt from other non-CSI initiatives, and to this end a special effort is being made through the WiCoP forum, the CSI website, and other means to link up with complementary initiatives.

Workshop objectives

Against this background, a workshop was held in Samoa, 4–8 December 2000, entitled 'Wise Coastal Practices for Sustainable Human Development in Small Island Developing States'. The goal of the workshop was to bring together leaders of small-island pilot projects and representatives of small-island university chairs/twinning networks from around the world, to advance specific objectives and to interact with representatives of other small-island initiatives in the Pacific and Indian Oceans. The specific objectives of the workshop were to:

(a) Focus on small-island issues and specifically ways to further advance the problem areas in need of priority attention identified in the Barbados Programme of Action;
(b) Bring together persons working 'on-the-ground' on small-island issues in the Caribbean, Pacific and Indian Ocean regions;
(c) Advance and interlink the small-island pilot project and university chair/twinning network activities;
(d) Discuss and test project evaluation procedures;
(e) Explore opportunities for new CSI initiatives in the Indian Ocean and Pacific Ocean.
(f) Interact with representatives of other small-island initiatives based in the Pacific region, and present the CSI platform to that audience; and
(g) Provide for formal and informal professional interaction among persons with different backgrounds from different regions.

Samoa was selected as a venue for the meeting for the following reasons:

(a) The essential administrative and technical support provided by the UNESCO Samoa Regional Office was available;
(b) The presence of an active, although very new, pilot project in Samoa; and
(c) The representation in Samoa of many other agencies and projects, thus offering an excellent opportunity to interact with these other initiatives and to present the CSI platform activities to them.

Workshop programme

The workshop programme is shown in Annex 1. Presentations and discussions during the first two days focused on the CSI approach, small-island pilot projects, university chairs/twinning network, and ongoing activities in the Indian Ocean. A field trip to the Saanapu-Sataoa Conservation Area, the site of the Samoan CSI pilot

project, on the south coast of Upolu Island was conducted on the third workshop day. This was followed by a one-day open session with representatives of Samoa-based national and regional projects and programmes in the field of integrated coastal management. The final day of the workshop focused on project/university chair evaluation procedures and the CSI contribution to the UNESCO Medium-Term Strategy (2002–2007).

Workshop participants

Annex 2 contains a list of workshop participants, divided into two sections: those present for the entire workshop and those who attended only the open day session. All the CSI pilot projects and university chair/twinning networks based in small islands were represented with one exception – the Surin Islands project in the Andaman Sea, Thailand. However, several persons at the workshop were knowledgeable about, or familiar with that project, so it was considered in the discussions. In addition, representatives from Mauritius and the Seychelles attended, providing an Indian Ocean perspective. (A representative from the Maldives was also invited, but was unable to attend). See inside the front cover for the location of the islands represented at the workshop.

Annex 3 contains a list of all the CSI pilot projects and university chair activities, with those based in small islands highlighted.

2 *Synthesis*

OF THE WORKSHOP RESULTS

This section presents a synthesis of the major outcomes of the workshop. It is based on the presentations and discussions that are presented in Section 3 and their corresponding annexes. CSI's work being a continuous and integrated process, it should be noted that the actual workshop is only a first step; the follow-up work is likely to continue for several years. The major results from this workshop relate in particular to:

- Procedures for project assessment/evaluation;
- Interlinking project activities; and
- CSI contribution to the UNESCO Medium-Term Strategy (2002–2007).

Procedures for project assessment/evaluation

Project assessment, as an essential project activity, was discussed on several occasions during the workshop. The goal of such assessments is to advance project activities.

During an earlier workshop in Paris in 1998 entitled 'Towards Wise Coastal Development Practice' (UNESCO-CSI 2000), wise practices were defined as 'actions, tools, principles or decisions that contribute significantly to the achievement of environmentally sound, socially equitable, culturally appropriate and economically sound development in coastal areas'. In order to attempt a clarification of this very general definition, a list of characteristics was proposed to further define wise practices; these were subsequently modified during electronic discussions and the WiCoP forum. These characteristics provide a framework for evaluation, and are as follows:

- Long-term benefit
- Capacity building and institutional strengthening
- Sustainability
- Transferability
- Interdisciplinary and intersectoral
- Participatory process
- Consensus building
- Effective and efficient communication process
- Culturally respectful
- Gender and/or sensitivity issues
- Strengthening local identities
- National legal policy
- Regional dimension
- Human rights
- Documentation
- Evaluation

Definitions for these 16 wise practice characteristics, as well as additions, suggested improvements and modifications proposed by the workshop participants, are included in Annex 4. The characteristics include goal-oriented criteria, such as long-term benefit; means-oriented criteria, such as documentation; and value-based criteria, such as gender and sensitivity issues. However, not all the characteristics fall easily into a particular category, and further refinement may be necessary.

During the last day of the workshop, these characteristics were used as the basis for a trial evaluation of two pilot projects: 'Managing

beach resources and planning for coastline change, Caribbean islands' and 'Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa'. The results were discussed in detail. Following this, other small-island pilot projects and chairs were evaluated using the same characteristics, and while there was insufficient time to fully discuss these further evaluations, they have been retained as starting points for future, more detailed project assessments.

The workshop participants endorsed the concept of regular project assessment/evaluation and recommended that the wise practice characteristics, with some modifications, constitute the framework for assessment. Project activities to date could be assessed against the characteristics on a scale of 1–10, with 1 representing minimal compliance and 10 being full compliance, using verifiable indicators wherever possible. Furthermore, it was recommended that project assessments/evaluations should be conducted as a combined activity between project personnel and outside evaluators, and should be conducted on a regular basis, possibly every two years.

However, in order for project assessment to be successful, certain conditions must be in place and specific constraints recognized, as outlined hereafter:

(a) There needs to be full co-operation between the pilot project personnel and the outside evaluators.
(b) Assessments must always be undertaken in the spirit of advancing a project/chair activity, not in the sense of rating the activity.
(c) Certain cultural and individual traits need to be recognized, e.g. admission of possible negative project experiences may be difficult, if not impossible, in some cultures, and ways around such constraints must be sought.
(d) Full project documentation must be made available, in advance, to the people involved in the assessment.
(e) The assessments themselves must be fully documented.

Such project assessments may also provide an opportunity for inter-project exchange, as will be discussed below.

Interlinking project activities

As the project and university chair activities were presented and discussed during the workshop, the commonalities between specific local activities in different parts of the world became apparent to the participants. For instance, during a discussion following a presentation on a 'Water supply infrastructure project in Samoa' on the open day, the issue of beach sand mining was debated with examples of management approaches and case studies from islands all over the world. The opportunity to interlink the pilot project and university chair/twinning activities, so that combined they provide an overall and more comprehensive picture of wise practices in small islands, was recognized by the participants.

In 1998 fishers from the Portland Bight, Jamaica project visited their counterparts in Haiti, and this visit was followed by the Haitian fishers visiting Portland Bight. This successful exchange benefited fishers in each country by exposing them to different fishing techniques, and providing opportunities for them to learn about their respective environmental problems. During the workshop, the potential for other such exchanges, e.g. between fishers from San Andrés (Colombia) and Portland Bight (Jamaica), was discussed.

Another example of inter-project exchange is at present in progress between the Haitian pilot project and the 'Managing beach resources and planning for coastline change, Caribbean islands' (COSALC) project. Techniques for beach monitoring, developed and successfully implemented in the latter project, are in the process of being transferred to the project in Haiti. Future collaboration between the COSALC project and the Portland Bight project was also discussed.

During the workshop, an evening session was conducted to outline the techniques used for beach monitoring in the COSALC project and to demonstrate the analysis protocols and outputs. Manuals and copies of the software were provided to the participants.

Obviously linkages should not be confined to CSI projects/chair activities. The workshop of representatives from the 'Samoan coastal fisheries extension project', funded by the Australian Agency for International Development (AusAID), was of benefit to all participants. Several contributions about the activities of this project have also been posted on the WiCoP forum and have prompted considerable debate. (See Annex 6.18.)

The open day session, where representatives of other agencies had the opportunity to present their activities in the small-island environment and development field, was very successful and presented an opportunity for useful interaction and information-sharing. Similar inter-agency meetings, held in the individual islands in the different regions, would provide further opportunities for co-operation.

An issue of particular interest to most small islands, tourism, has also been intensely debated on the WiCoP forum. The pilot project in Ulugan Bay, the Philippines, focuses particularly on sustainable tourism, and it provides many potential wise practices for ecotourism, which are of particular interest to other projects working or planning to work in this area, e.g. the projects in Samoa and Portland Bight, Jamaica.

Beach monitoring in progress in Haiti 1999, collaboration between two different pilot projects

Haitian and Jamaican fishers examining a fish trap during an exchange visit in Jamaica, 1998

The proposed UNITWIN network, which will include six universities in Asia and the Pacific, will facilitate collaborative research and training and will support the pilot projects in the area. This network is in the process of being established. Many small islands do not have a university campus; however, in the case of the University of the South Pacific and the University of the West Indies, extension centres exist in many of the Pacific and Caribbean islands. The potential exists in the future to involve these universities and their small-island networks.

The workshop participants endorsed the concept of initiating and strengthening inter-project/activity exchanges as a means to interlink and advance the various activities. CSI confirmed that they were willing to consider funding such exchanges subject, of course, to budget limitations. It was further recommended that in any such exchange, the activities must benefit both projects. These inter-project exchanges could be combined with project assessments.

CSI contribution to the UNESCO Medium-Term Strategy (2002–2007)

The modalities and goals of the CSI platform were extensively discussed and debated during the workshop and especially during the final session (see Section 3). The major recommendations issuing from the debate covered the three modalities of pilot projects, university chairs/twinning networks and the WiCoP forum, and included the possible need for a fourth modality 'wise practice implementation'. The recommendations are presented below:

(a) Pilot projects should be renamed 'field projects'. The term 'pilot project' indicates that the activity is a precursor of a larger activity when, in fact, several CSI projects are fully-fledged projects in their own right. Other terms such as 'experimentation projects' were also discussed.

(b) Wise practice implementation is an important part of the process and must be recognized as such. At present the point where projects move from pilot to implementation is blurred. While wise practice implementation can be included under the project modality, it may be better to include a distinct fourth modality.

(c) There may be a need to terminate or bring to a close certain pilot projects because of non-productivity.

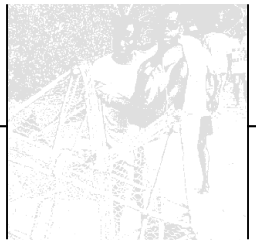
(d) Any new pilot projects should be carefully designed, with clearly defined goals, objectives and time frames, and should cover new content areas and/or fill geographical gaps in the existing network of projects. Personnel and time constraints within CSI in Paris and in the field offices concerned also need to be considered.

(e) Alternative and complementary mechanisms to the university chairs should be explored in order to provide innovative training and support to the pilot projects. While the presentations and discussions relating to the chair at the University of the Philippines and the proposed chair at the University of Papua New Guinea clearly demonstrated the usefulness of these initiatives, they are very time-consuming to establish. The UNITWIN network, with modifications, may be an alternative mechanism, and another suggestion was to establish UNESCO-CSI focal points in the Caribbean, Indian Ocean and Pacific Ocean regions.

(f) The WiCoP forum should be refocused to further advance the on-the-ground activities of the pilot projects and university chairs/twinning networks. This will require the full co-operation of all persons involved in these activities to actively contribute new ideas and initiatives to the forum.

3 *Workshop*

PRESENTATIONS AND DISCUSSIONS



Opening ceremony

Reverend Lotu Uele, in his opening address, compared the relationship between small-island nations, currently experiencing the effects of changing global climate patterns, and larger countries considered responsible for the exacerbation of these climatic shifts – with schoolyard bullying. Land is very precious to small-island societies and is often an emotional issue. In order to continue the fight to safeguard the islands, help is required to train local people to preserve coastal areas, to ensure that the small-island voice is heard and also to draw international attention to the conservation of small-islands' fragile environment. (The full address is included in Annex 5).

Ms Edna Tait, Director of the UNESCO Apia Office, informed the participants that the Apia Office, through its Pacific-wide mandate, serves more than a third of the area of the globe, including the 16 independent states of the Pacific region. All sectors of UNESCO are represented in Apia.

Mr Dirk Troost, Chief CSI, pointed out that this meeting was held at the midway point between the Barbados + 5 meeting (1999) and the start of UNESCO's next Medium-Term Strategy (2002–2007). Thus this meeting presented an opportunity to help shape the world's island agenda as well as to plan for the years ahead. Samoa was proposed as a venue because of the existence of an ongoing pilot project, the excellent support provided by the Director and staff of the UNESCO Apia Office, and in recognition of the work of the Samoan Ambassador to the United Nations, Mr Tuiloma Neroni Slade, in profiling small island developing states (SIDS) and the Alliance of Small Island States (AOSIS) in the United Nations.

Mr Tupae Esera, Secretary-General of the Samoa National Commission for UNESCO, assured those present that the Pacific was pleased to take part in and host global activities such as this meeting, especially in the light of the urgent concerns relating to the environment of small islands, in particular low-lying islands. He stressed the need to encourage governments of the region to listen to these concerns and commit to positive actions. He stressed that the CSI programme has been drawing considerable attention to Samoa through its pilot project, which involves students, the Curriculum Development Unit of the Department of Education, and the National University of Samoa.

Presentations

Wise coastal practices for sustainable human development in small island states: needs and approaches – *Dirk Troost*

Major highlights

The programme of action developed in 1994 at the United Nations Global Conference on the Sustainable Development of Small Island Developing States, hosted by Barbados, was an important milestone, followed by the United Nations Special Session of its General Assembly in New York (Barbados + 5) in 1999 to assess progress. Six priority problem areas were prioritized during the latter meeting: climate change and rising sea levels, natural and environmental disasters and climate variability, freshwater resources, coastal and marine resources, energy, and tourism.

The evolution of CSI involved linking all five UNESCO programme sectors (Culture, Natural and Basic Sciences, Social and Human Sciences, Communication, Education) in a programme of intersectoral action to achieve wise practices.

CSI activities are continually evolving, as pilot projects expand and new chairs and university networks are established. During a CSI planning workshop in 1996, participants emphasized the need to develop ways to reduce conflicts and tension between top-down and bottom-up approaches, local and global levels, sectoral and intersectoral action. The 1998 workshop of pilot project leaders (UNESCO-CSI, 2000) resulted in the initiation of the internet-based 'Wise Coastal Practices for Sustainable Human Development' forum.

The CSI mission statement proposed for the 2002–2007 term is 'Towards sustainable living in small islands and coastal regions'. Through integrated, interdisciplinary and intersectoral approaches, it is proposed to (i) elaborate ethical codes of practices, tailored for specific domains and/or stakeholder groups, which promote equitable resource sharing, and are based on wise practices for sustainable human development; and (ii) support SIDS and other island groupings in determining their own agendas for human security and sustainable development.

Discussion

- *Pilot project nomenclature, evolution and criteria:* Pilot projects, by definition of the word 'pilot', are precursors of (often) larger projects, so the stage at which the CSI projects change from pilot projects to implementation projects is still blurred. There may be a need to develop another name for the pilot projects or two categories of projects. The pilot projects have evolved as part of a platform for cross-sectoral action to elaborate wise practices. Their evolution has been influenced by three main factors: (i) presence of colleagues in a nearby UNESCO office; (ii) a global coverage; and (iii) the needs/activities in a specific member state. Some CSI projects were inherited. However, now the selection of new pilot projects needs to be more structured, and perhaps limited because of personnel and financial constraints.
- *Expanding the geographical sphere of influence of a pilot project*: Ways to expand the influence of a pilot project beyond the local area, as well as the concept of transferability of wise practices were discussed. This was also one of the reasons for inviting participants from the Indian Ocean to this meeting.
- *Need to develop synergy with other projects*: Further and continued interaction is necessary, particularly with other United Nations (UN) and Global Environment Facility (GEF) projects, and the United Nations Environment Programme (UNEP) Regional Seas Programme. The WiCoP

forum is one way to achieve this and already wise and unwise practices from non-CSI projects are included in the forum and on the CSI website.

Developing and advancing wise coastal practices: project assessment and inter-project exchange – *Gillian Cambers*

Major highlights

The three main CSI modalities of pilot projects, university chairs/twinning networks and the WiCoP forum were discussed, and while an entry point can be made through any of the three modalities, tangible action on the ground will start and finish with the pilot projects, hence their critical importance. There are now more than 20 pilot projects, and some date back to the 1980s.

Up until this year (2000) the pilot projects have been working in relative isolation. A pilot project leaders' meeting was held in 1998, a smaller regional meeting was held in Bangkok in July 2000, and this present meeting is the third such meeting. Such meetings are invaluable, yet they are costly.

Pilot project and university chair summaries, which are being posted on the CSI website, are the first step in a process designed to bring the projects together. Thus, the projects and chairs provide a much wider, more comprehensive picture.

One of the ideas advanced at the Bangkok meeting was to conduct regular inter-project assessments and evaluations, not to rate a particular project but to ***advance*** the project activities. Assessments can be conducted by leaders of other pilot projects, utilizing the list of wise practice characteristics and other criteria.

CSI is willing to support exchanges between the pilot projects, perhaps combined with an individual's other travel activities, and such exchanges should be viewed as a learning process for both of the projects involved – to advance the home pilot project as well as the one being visited. Such exchanges could also be combined with assessment activities.

Discussion

- *Evaluation as an external exercise or an 'externally assisted' exercise*: There were different views; some thought that personnel closely associated with one particular project may not be able to provide an objective evaluation of that project, while others thought the evaluation should include outside persons working with the local project people. The value of looking at a project with 'fresh eyes', i.e. from an external perspective, was emphasized.
- *Differing perspectives should be balanced*: Evaluation must take into account the local people's view of the project activities as well as the project leader's perspective.
- *Network of pilot project leaders*: This does not exist yet, but such networks exist within other project activities, e.g. among World Heritage managers who network amongst themselves with minimal input from UNESCO offices.
- *Suggestions to revise the CSI approach*: These included adding a fourth component – wise practices implementation – to the three existing CSI modalities (pilot projects, university chairs/twinning networks and the WiCoP forum).

Sustainable livelihoods for artisanal fishers through stakeholder co-management in the Portland Bight Protected Area, Jamaica – *Peter Espeut*

Major highlights

It is the Jamaican Government's policy to ultimately protect 25% of the country's land area, and while the government retains the ultimate

authority, management is undertaken by non-governmental organizations (NGOs). Portland Bight with its rich terrestrial and marine biodiversity is one such protected area where co-management is being implemented. There are six stakeholder councils, respectively addressing fisheries, watersheds, tourism, industry (pollution), enforcement and civil society. A management plan has been prepared and one of the goals is to develop community nature and heritage tourism. A Block B GEF grant has recently been negotiated, with co-financing from the Inter-American Development Bank. (See pilot project summary and list of related WiCoP forum articles, Annex 6.1.)

Discussion

- *Concept of co-management*: In Jamaica, the government sees co-management as handing over management responsibilities for a protected area to an NGO without any provision for funding. But this is a limited view since co-management must include the representation and involvement of all stakeholders, including the government, not just the delegation of authority. A legal framework for co-management does not exist in Jamaica, but is being developed as the Portland Bight project progresses.
- *Physical planning and the implementation of plans*: While many plans have been prepared in Jamaica, stakeholders have often not been involved in their preparation and implementation has been lacking.
- *Local community involvement in ecotourism*: The question was raised whether local groups fully understand and/or are competent to conduct ecotourism activities. While the answer may be negative at the moment in the Jamaica case, training with the support of the Jamaica Tourism Product Development Company will provide for such competency.
- *The social cost of tourism*: The impact of large numbers of visitors on local communities is a serious issue. The nature of the impact differs among regions, e.g. the Caribbean is already strongly influenced by North American culture through television and local communities overseas, while some Pacific island nations have been less affected by such influences.

Caribbean Coastal Marine Productivity program (CARICOMP): sustaining coastal biodiversity benefits and ecosystem services – *June-Marie Mow*

Major highlights

The project started in 1989 when it was decided to develop standardized methods to monitor mangroves, seagrass beds and coral reefs in the Caribbean region. Data collection started in 1992, and is undertaken on a voluntary basis by a number of institutions around the Caribbean, including laboratories, marine parks and NGOs. Lessons learnt include the need to start monitoring at a very basic level and the necessity to develop ways, within such a multi-lingual group, to make all members feel like equal partners. (See pilot project summary, Annex 6.2.)

Mangrove monitoring at a CARICOMP site at Punta de Mangle, Isla de Margarita, Venezuela

Discussion

- *Involvement of local people in monitoring*: This is not done within CARICOMP because of very sophisticated measurement methods, which require trained scientists. Experiences with monitoring conducted by less-experienced personnel, e.g. university students, have yielded poor results. However, there are other monitoring programmes working with CARICOMP, e.g. Reef Check, which involve communities.
- *Information availability*: CARICOMP information is made available by the site directors to their communities. Eventually a website will be established to make information available, e.g. relating to coral bleaching episodes.
- *Networking*: CARICOMP is a good example of an effective Caribbean-wide network.
- *CARICOMP – a CSI project or a natural sciences project*: The question was raised whether CARICOMP is more of a natural sciences project than an intersectoral CSI project, and while this may be the case at the moment, the project holds potential for application to community and governmental needs, and thereby becoming an intersectoral CSI co-sponsored project.

CORALINA, San Andrés, Colombia – *June-Marie Mow*

Major highlights

The Corporation for the Sustainable Development of the Archipelago of San Andrés, Old Providence and Santa Catalina (CORALINA) is a government institution created in 1993 after the United Nations Conference on Environment and Development (1992), and is one of Colombia's 33 autonomous corporations set up to manage natural environmental systems. The institution started work in the San Andrés Archipelago in 1995 and conducts baseline surveys for resource management, monitoring, environmental impact assessments (EIA), as well as issuing environmental licenses. The archipelago is home to an ongoing GEF project for marine protected areas, and has recently been declared a UNESCO Biosphere Reserve. CORALINA also works closely with NGOs.

Haitian fishers in a dugout canoe, La Gonâve Island, Haiti

Enhancing coastal and fisheries resource management through stakeholder participation, local knowledge and environmental education, Arcadins coast, Haiti – *Jean Wiener*

Major highlights

Haiti is one of the poorest countries in the western hemisphere and its government is in a state of flux. The pilot project has concentrated on the development of educational materials and the strengthening of stakeholder groups. However, with the political and economic situation there is general mistrust and the concept of 'community good' is suffering. This was highlighted in a recent WiCoP forum contribution 'When vested interests hijack the goals of stakeholder groups/ Haiti'. Links with other pilot projects are being

established, e.g. there was a fishers exchange between Haiti and Jamaica in 1998, and through co-operation with the COSALC project, beach monitoring is being established in Haiti. (See pilot project summary and list of related WiCoP forum articles in Annex 6.3.)

Discussion

- *Poverty and fisheries management*: In Haiti, people understand the consequences of over-fishing and other unsustainable resource extraction practices, but the poverty level is such that they feel they have no choice but to pursue such practices. The contrast between fishers and farmers was highlighted as an educational tool for fisher communities: fishers are reminded that those who just take from the sea without giving anything back will eventually deplete their resource, unlike the farmer who takes from the land but also nourishes it with labour, seeds, fertilizers.
- *The mood of the country*: In Haiti there is extreme pessimism at the moment, exacerbated by the absence of a stable government at both the local and national levels, as well as an economy on the verge of collapse. This increases environmental degradation, e.g. as the price of propane rises, so does the rate of deforestation to provide charcoal.

Planning for people and human settlements, southern coastal area of Havana Province, Cuba – *Antonio Diaz Tablada*

Major highlights

The pilot project in Cuba focuses on the south coast of Havana Province, which consists mainly of wetlands and where problems facing the coastal settlements include flooding during spring tides, erosion and pollution. A preliminary diagnostic study of the area has provided an integral vision of the zone, and prepared the way for capacity building and the establishment of a database. Future work will focus on sociological factors and stakeholder involvement. (See pilot project summary, Annex 6.4.)

Groynes built by the community to promote beach accretion and protect houses at Playa Mayabeque, Helena del Sur, Cuba, 2001

Discussion

- *Public involvement in the planning process*: The need to fully involve the public and communities in all aspects of the planning process, right from the beginning, was emphasized.

Managing beach resources and planning for coastline change, Caribbean islands – *Gillian Cambers*

Major highlights

This project, which started in the mid 1980s, has concentrated on developing capacity in the small islands of the Caribbean to effectively manage beach resources. Starting initially with beach erosion, the project established monitoring programmes within government agencies, NGOs and sometimes schools, so that islanders could understand the changes taking place on their beaches and begin to develop solutions to those problems. The challenge now facing the project is to develop ways to convince senior decision-makers of the need, indeed the necessity, to implement some hard decisions, such as

controlling beach sand mining and beachfront development. (See pilot project summary and list of related WiCoP forum articles in Annex 6.5.)

Discussion

- *Integration of 'coastal development setback distances' guidelines into planning legislation*: This is taking place in the islands slowly as the countries are adopting new planning legislation. Once the laws have been passed, coastal development setback guidelines can be included in the regulations.
- *Transparency in implementation*: This is especially important so that people can see that laws and regulations bind everyone.
- *Data quality control*: This is a major concern, especially when monitoring is carried out by different and diverse groups. A routine for data quality control has been included in the beach analysis software routines.
- *Cycles of erosion*: Even though the databases cover as long as 12 years in some cases, it is difficult to distinguish cycles beyond the seasonal cycle because every beach behaves differently, and the influence of hurricanes may interrupt other cycles.

Group of planners and developers discussing a recently constructed seawall at Meads Bay, Anguilla, 1998

Samoan schoolchildren undertaking fieldwork in the Saanapu-Sataoa mangroves

Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa – *Peter Varghese, Asipa Pati, Asofou So'o*

Major highlights

This project seeks to strengthen the value of wetlands as viewed by local communities. One project component focuses on education among schoolchildren based on the 'feel, touch and find-out' approach; an activities book, a mangrove inventory and teachers workshops are preparatory steps prior to incorporation of the activities into the national school curriculum. Traditional management practices are the second project component and a survey is being conducted to document traditional knowledge relating to the mangrove areas. (See pilot project summary and list of related WiCoP forum articles in Annex 6.6.)

Discussion

- *Importance of village councils*: These are very powerful and highly respected institutions in Samoa; 80% of the land in Samoa is under customary ownership and village council authority.
- *Use of the mangroves*: Tidal waters and the mangrove areas have been exploited by the village people for a long time, and hence they exercise authority over these areas. (The concept of individual ownership of

land is foreign to many Pacific island communities).

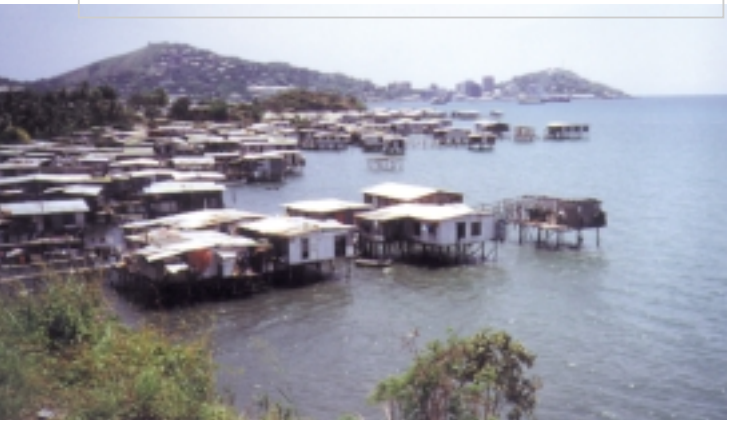
- *Clearing of mangroves for development*: This remains a problem in many islands. A mangrove buffer zone is to be incorporated into the legislation in the Seychelles.
- *Cultural and religious values*: Ways in which Christian and other religious and cultural values can strengthen conservation need to be explored.
- *Confronting nature versus working with nature*: The message given in western-style education is often to 'confront nature' whereas in the local (Pacific) system, the rule is to 'work with nature'.
- *Awareness about mangroves*: This has increased as a result of various projects and education efforts.

Sound development in the Motu Koitabu urban villages, Port Moresby, Papua New Guinea – *Haraka Gaudi*

Major highlights

The livelihoods of the Motu Koitabu people living in several urban villages within the National Capital District of Port Moresby are increasingly under threat from large developments. The Motu Koitabu are the traditional landowners of the area and have not been properly compensated for the take-over of their land for development purposes. The situation is such that the younger generation represents a 'time bomb' and serious unrest could result at any time. This pilot project focuses on raising the level of public awareness about environmental issues among the village people and youth groups. (See pilot project summary and list of related WiCoP forum articles in Annex 6.7.)

Hanuabada, a village built on stilts in the sea, and the modern city of Port Moresby in the background, Papua New Guinea, 2000



Discussion

- *Compulsory acquisition of land*: The Government of Papua New Guinea acquires land for major development projects, and often – since land ownership is in dispute – there is no compensation given to the traditional landowners. This is an especially severe problem in the National Capital District of Port Moresby, where the needs of a rapidly growing urban population tend to override the needs of the minority traditional landowner communities.

Palau perspective on wise coastal practices – *Yimnang Golbuu*

Major highlights

This archipelago, which has a very diverse underwater environment and several unique species, is now facing serious problems from tourism and industrial development. Control over land and marine resources is under the jurisdiction of the country's 16 states, not the national government. The major problems relate to a lack of land use planning and inadequate enforcement. The way forward must be to develop local capacity. (See country summary in Annex 6.8.)

Discussion

- *Social dimension*: The problems illustrate the need for capacity building in social sciences; indeed there is a need for all types of expertise.

Coastal resources management and ecotourism: an intersectoral approach to localizing sustainable development, Ulugan Bay, Palawan, Philippines

Gerthie Mayo-Anda

Major highlights

This project has three main phases: preliminary studies; implementation of various activities e.g. fish farming, sustainable tourism, education; and the development of an empirical model. In an area where most people rely on farming and/or fishing for their livelihood, the project considers ecotourism as a complementary livelihood, not a sole livelihood. One of the major lessons learnt was that communities want a much greater part in environmental protection and tourism development; and are willing to take a major role in enforcement activities, as manifested by the citizens' apprehension of a commercial fishing boat illegally fishing within the municipal waters of Ulugan Bay. (See pilot project summary and list of related WiCoP forum articles in Annex 6.9.)

Discussion

- *Support of the communities (barangays)*: While the chairpersons of the five barangays (smallest administrative governing unit in the Philippines) were supportive of the project, some of the councillors had interests in commercial fishing and private enterprises. The barangays have also asked for more training in human and civil rights, thus they will know what options are available if corruption takes place.
- *Knowledge leads to good governance*: If the public are knowledgeable about their rights, this can then lead to good local governance. An active citizenry and the media can also act as checks on corruption.
- *Apprehension of a boat caught fishing illegally*: The case was eventually dismissed in court on the basis of insufficient evidence showing that the fishers were caught in the act of fishing (despite the fact that the boat's nets were down). However, the case is under appeal, and this process may take more than a year.
- *Illegal fishing in the Seychelles*: On average, three boats are caught fishing illegally every year. However, it is very difficult to manage a large marine area, and in the Seychelles local fishermen are used as the 'eyes of the ocean'.
- *Environmental training of public prosecutors and magistrates/judges is needed in most regions*: Some attempt has been made to do this in the Philippines, through the Foundation for the Philippine Environment (1994) and through an ongoing Asian Development Bank/World Bank project. CORALINA in San Andrés has prosecutors trained in environmental law. CORALINA also has the power to enforce the law and did in fact close down two hotels for several months because of inadequate sewage disposal.
- *Control of polluters*: In the Seychelles, existing hotel operators are progressively reducing pollution levels over a five-year period and new hotels have to include proper treatment in their start-up costs.
- *Harassment suits*: These are becoming increasingly common, e.g. in Jamaica, the government instituted fishing quotas, and

Fish farming activities in Ulugan Bay, Palawan, Philippines, 2000

the commercial sector then sued government individuals (the case is still in court). The responsible minister then closed the fishing season. The fear of such suits may act as a deterrent for small organizations as well as government departments to take appropriate action regarding environmental violations.

- *A moral or a legal issue*: The rich are harassing the poor and those who help the poor. This is a moral matter, not a legal matter.

Integrated coastal management for sustainable development in coastal regions and in small islands, University of the Philippines – *Rebecca Rivera-Guieb*

Major highlights

The Chair is laying down a foundation for integrated learning, and is trying to integrate community training with student education. There is a strong linkage between the activities of the Chair and the pilot project in Ulugan Bay. The openness and flexibility of the Environmental Sciences programme, in particular the involvement of non-academics in the Chair activities, has been instrumental in its success to date. There are too many studies about the poor, and too few by the poor or done in collaboration with the poor; this is one of the issues the Chair is trying to address. (See university chair summary and list of related WiCoP forum articles in Annex 6.10.)

Discussion

- *Approach of the Chair*: The Chair is an example of a sensitive approach that works within existing structures, by training graduates, some of whom may become future managers, and through its work in community service.
- *Integrated approaches*: There is a strong tendency among academics to stay within their department, so an integrated approach is new to some.
- *New diploma course in environmental studies*: This is scheduled to start at the University of Samoa next year. Samoa has an interest in learning more about the experiences of the University of the Philippines in setting up an Environmental Science programme.
- *Flexibility in the university programme*: This is necessary to include topics that may evolve from current field projects. In order to address issues on sustaining the efforts of students and faculty, the Chair needs to shape a research agenda which includes training, in collaboration with the implementers and stakeholders of the field projects.

Promotion of indigenous wise practices: medicinal knowledge and freshwater fish, Moripi Cultural Area, Gulf Province; and food security, Trobriand Islands, Milne Bay Province, Papua New Guinea
UNESCO Chair in 'Wise and locally relevant approaches towards the management of coastal regions and small islands, University of Papua New Guinea' – *Linus digim'Rina*

Major highlights

This pilot project centres around two main spheres of activity, firstly focusing on the traditional knowledge regarding a particular freshwater fish, and secondly, the planting of food trees to provide for future food security. It is necessary to clearly define how the local people are benefiting from this and other pilot projects. The chair at the University of Papua New Guinea is still at the conceptual stage. The concept of university chairs often invokes the idea of prestige, lengthy duration and substantial funding. (See pilot project summary in Annex 6.11, and university chair summary in Annex 6.12.)

Inscription above the door of Port Moresby Parliament Building, Papua New Guinea

Discussion

- *UNESCO Chair financial support*: This usually totals US$ 10–15,000 per year, to be used as seed money in supporting student involvement in pilot project activities, equipment, publications etc., over a limited time.
- *Documentation of indigenous knowledge*: This is not easy; agreement has to be obtained with the traditional knowledge owners, and even then it is difficult to get a complete and accurate picture.

The UNITWIN network – *Dirk Troost*

Major highlights

This is a proposed network of six universities in Asia and the Pacific, which is being set up to facilitate collaborative research, training and activities leading to the development of wise coastal practices for sustainable human development. (See agreement in Annex 6.13.)

Discussion

- *Nature of the agreement*: Discussion focused on whether the network had been formally established yet and whether the agreement should contain an implementation schedule.
- *Involvement of other institutions*: Ways to involve other institutions that are not universities were discussed. Furthermore NGOs and other organizations need to know about this network so as to lobby their universities to actively participate. Also some of the smaller islands do not have a university so they get left out of such networks. In these cases, virtual distance learning may provide some opportunities.

There was no formal presentation on the CSI pilot project 'A place for indigenous people in protected areas, Surin Islands, Andaman Sea, Thailand'. However, the project summary and list of related WiCoP forum articles is included in Annex 6.14.

Mauritius perspective on wise coastal practices – *Mitrasen Bhikajee*

Major highlights

Mauritius has industrialized very quickly in the last two decades. Scarcity of coastal land has given rise to unplanned developments in environmentally sensitive areas. Because of the size of the island, all land-based activities impact directly on the coast. The major problems identified in the coastal zone are beach erosion, poor water quality in the lagoon, loss of biological diversity in the marine/coastal areas, drop in fish catches and inadequate development planning in the coastal zone. The concept of community-based management is not widespread largely due to the small size of the island and the existing nation-wide interaction. Significant gaps in existing activities are a lack of expertise in coastal erosion and sediment transport fields and the absence of a holistic approach to coastal zone management. (See country summary in Annex 6.15.)

Seychelles perspective on wise coastal practices – *Rolph Payet*

Major highlights

While the Seychelles is implementing its environmental management plan, the key threats to the environment are coastal urbanization, coastal

tourism, over-exploitation of coastal resources, coastal erosion, marine pollution, sea level rise and climate change. The country has a 'cap' on the number of visitors which has recently been raised to 200,000 per annum; it also has a policy to prohibit heavy industry and only allow light industry. (See country summary in Annex 6.16.)

There was no presentation on the 'Maldives perspective on wise coastal practices'. However, the country summary is included in Annex 6.17.

Workshop participants discussing the pilot project activities, Sataoa village, Upolu, Samoa, 2000

Field trip to Saanapu-Sataoa

Major highlights

A visit was made to Sataoa village on the south coast of Upolu. The Saanapu-Sataoa Conservation Area is the site of the CSI pilot project; this area is also one of 17 project sites under the UNDP-GEF/SPREP South Pacific Biodiversity Conservation Project. The CSI pilot project is a few months old, while the SPREP project is three years old. Prior to the establishment of the SPREP project, the villagers used to cut the mangroves and use poison and chemicals for fishing. Now if anyone is caught using these harmful practices, they may be banned from the village for life or may have to pay a fine, e.g. five pigs. A tourism centre is under construction as part of the project. There is a trail from the village to the mangrove lagoon where canoe paddle tours through the mangroves are conducted.

Kava Ceremony, Sataoa village, Upolu, Samoa, 2000

On arrival at the village, a Kava Ceremony with the village chiefs was conducted. Following this, participants were taken on a canoe paddle tour through the mangroves, during which they had the chance to discuss matters of interest with their guides.

Canoe paddle tour through the mangroves at Sataoa village, Upolu, Samoa, 2000

The participants then returned to have lunch with the village chiefs and to discuss the environmental projects and ways in which they benefited the village community.

After the visit to Sataoa, participants visited the Sinalei Reef Resort, one of Samoa's largest coastal tourism establishments, before returning to Apia.

Discussion

- *Sharing of ecotourism revenue*: Funds from ecotourism enterprises, e.g. canoe trips through the mangroves, are divided: 50% (WST 10 – Western Samoa Tala) go

to the boat owner, 25% to the boat operator (WST 5) and 25% to a community fund (WST 5).

- *Conservation Area Coordinating Committee (CACC)*: This committee has four members; one person concentrates on conservation, one on tourism, and two focus on interaction with the other villagers, one of whom is a woman who interacts with the other women in the village in handicraft production and sale.
- *Role of the mayor*: The mayor, who is elected, liaises with the village council of chiefs and the national government.
- *Village perception of tourist visitors*: The village council members were happy with having tourists come into their village, although when women came in, they tried to make sure that village women took care of them.
- *Project promises*: Four projects have been started by various donors and organizations in the villages of Sataoa and Saanapu. Some of the villagers are disillusioned in that some of the projects have not followed through on their promises to provide materials/goods for the village.
- *Selection of Saanapu-Sataoa villages as a CSI pilot project site*: The reasons why this area was selected for the CSI pilot project include the existence of other projects in the area; the pristine nature of the mangroves and the minimal human impact; and the co-operation of the village councils.
- *Educational component of the pilot project*: The mangroves in this area are being used as a model for the development of educational activities, which will then be applicable to other mangrove areas in Samoa. (A draft of the mangrove activities booklet for schoolchildren was provided to the participants.) Some of the activities provide the opportunity for students to interview and collect information from the villagers. This has a spin-off effect, such that villagers are informed of the importance of mangroves. A resource book on Samoa's mangroves, as well as field study guides for inclusion in the national curriculum will also be prepared. A series of one-day training workshops for teachers will be held early in 2001, prior to the integration of mangrove field studies into the national curriculum.
- *Linkage with UNESCO Associated Schools Project (ASP)*: The Saanapu Primary School within the pilot project site is designated as an ASP school; 80% of the schools in Samoa are ASP schools and one major theme they focus on is 'environment'.
- *Traditional management component of the pilot project*: 80 interviews discussing indigenous knowledge and using a list of standard questions have been conducted with the villagers by three researchers, one from the National University of Samoa, one from the Curriculum Development Unit of the Education Department, and one from the Environment Section of the Department of Land, Survey and Environment. These were recorded, tabulated and are being analysed. The interview work was very time-consuming, since on many occasions it was necessary to hold long meeting sessions with the village councils, such as is required by protocol in customary Samoan society.
- *Continual interaction with the village elders*: Every time work is carried out in the field, meetings are held with the village elders. While this is time-consuming and involves the exchange of some kind of token (money), it provides the opportunity to further the education of the village elders themselves. However, this extra financial cost needs to be included in the project funding.

The CSI platform in the context of the UNESCO mandate and summary of the CSI approach with particular reference to small-island issues – *Dirk Troost*

Brief introduction of the CSI small-island pilot projects and university chairs, and the potential activities in the Indian Ocean – *CSI workshop participants*

Major highlights

Mr Troost's presentation highlighted similar points to those raised in his talk on 'Wise coastal practices for sustainable human development in small island states: needs and approaches'. Other CSI workshop participants briefly summarized their activities.

Discussion

- *Documentation of wise practices*: The WiCoP forum is a good source of documentation and discussion on example wise practices as well as unwise practices; the forum contributions are also available in paper copies. The CSI website is another source of information, since it contains items from many different sources ranging from publications to newspaper articles.

Coastal infrastructure management strategy project – *Tracey Haszard and Teresa Ngau Chun*

Major highlights

After two cyclones hit Samoa in 1990 and 1991, major rehabilitation programmes were undertaken, and this particular World Bank-funded project was designed to reduce potential damage from similar events. The project started in April 2000 and has developed coastal hazard maps for strategic planning purposes. Consultations have been held in order to develop a national coastal infrastructure management strategy, involving government actions, local level actions and pilot projects. It is hoped to integrate this project with other initiatives.

Discussion

- *Capacity-building focus*: This is being conducted at the national level in the first instance; communities will be involved later in the project. The project also hopes to co-operate with other community-based projects, e.g. the Australian AID fisheries project.
- *Community structure in Samoa*: This is strong and very well organized. The consent of the village is necessary in order to implement any national law. Projects should, wherever possible, use existing village social structures and committees rather than implement new ones. Also key people in the village have to be identified. This project is trying to develop a national strategy and then assist the local communities in adopting this as their own.
- *Land ownership*: 80% of the land in Samoa is customary land and it is difficult and often impossible for government to dictate the use of this land. Developers need to consider the customary landowners as serious stakeholders.
- *Document availability*: Hazard maps developed under the project are a key part of the knowledge dissemination process. Key documents are being published in English and Samoan.
- *Community knowledge and outside experts*: The community has more knowledge of the local area than outside experts and there is a need to access and document this local knowledge and use it in the strategy. The strategy may result in designating a considerable area of the coastal zone unsuitable for infrastructure development.

Samoa Water Authority: water supply infrastructure – *Sebastian Mariner*

Major highlights

This European Union-funded project aims to reconstruct two river intakes, two new treatment plants and some new pipes. The project document, which was prepared some years ago, specifies that black beach sand of particular specifications must be used. The extraction of this sand from within Samoa will have a considerable impact on sand supplies and on the environment. It may spur the use of alternatives, such as imported sand; however, this is many times more expensive.

Discussion

- *Sources of sand*: Practically all sand for construction in Samoa currently comes from the beach. Alternatives do exist such as crushed rock, dredged sand and imported sand; all are estimated to be significantly more expensive than current sources. No feasibility study has been done regarding the alternatives.
- *Time lags between feasibility studies and project start-up*: The feasibility study for the water project was done in the early 1990s, yet the project did not come on stream until ten years later. Following the cyclones in the early 1990s the sand situation has become more critical.
- *Coastal erosion*: Much of the coastline is eroding and in some places sand mining is a significant factor.
- *Control of sand mining*: The Public Works Department issues permits for sand mining without environmental impact assessments (EIA).
- *Profit by middlemen*: Property owners, and sometimes villages, often sell sand to contractors who then make a huge profit on resale to developers.
- *Integration between projects*: Government agencies involved in aid-funded projects need to develop better communication in order to integrate projects and their activities.
- *Offshore sand*: This may provide an alternative source for construction material, but often dredging is expensive and may just transfer the problem from the beach to the offshore zone. It may be possible to combine activities, e.g. a proposed port-dredging project may also provide sand for construction. There has been limited experience with the dredging and placement of sand on beaches in Samoa, and the few projects executed after the cyclones in 1991 were not very successful.
- *Sand mining is a major issue in other islands*: In the Caribbean many attempts have been made to manage the sand mining problem over the past 20 years, most of them unsuccessful. One island, Montserrat, achieved success in managing the problem largely because several factors came together: there had been two major hurricanes ten years apart; a new government was elected which was willing to tackle the problem; there was widespread public support as a result of education and awareness efforts; and alternative sand supplies at a reasonable cost were available. (This example is documented in the WiCoP forum, see Annex 6.5).
- *Sand mining in the Seychelles*: Two initiatives have been adopted here: mining the coastal plains and then backfilling with other material; and stockpiling coral fill from deepening navigational channels. This has provided 10–15 years supply, supplemented by the use of alternative materials, e.g. crushed glass for road bedding.
- *Hard shoreline protection*: Many Samoans have more interest in protecting the land than conserving the beach, and thus favour hard structures such as seawalls.
- *Expensive water*: Large-scale water projects may result in water being very expen-

sive, e.g. in Papua New Guinea water is more expensive than electricity. In Samoa, where people have traditionally used running water to wash clothes (e.g. in rivers), the use of similar washing methods with piped water may result in very high costs. In Samoa, wastage may be a more significant issue than supply. Water consumption in Samoa is among the world's highest at 400–600 litres/person/day. There is significant leakage from the present water supply infrastructure. Consumption patterns and leakage are being addressed by introducing water meters (initially in the urban Apia area), as well as through public awareness campaigns and the above-mentioned water supply infrastructure project, which will replace approximately 145 kilometres of old pipes. There is concern over the monopoly of the water supply, which could lead to exploitation of the poor.

Coastal fisheries extension project – *Jennifer Kallie and Autolaua Taua*

Major highlights

Inshore fisheries resources, which are very important to Samoan culture and lifestyle, are declining due to population increases, destructive fishing practices, land runoff and natural disasters. This community-based project, funded by the Australian Agency for International Development, works with the individual villages and assists them in drawing up a management plan, which they then adopt and implement through their village rules. Community undertakings may include actions like the development of fisheries reserves and a ban on dynamite fishing. The project is resulting in a shift in community attitude, such that villagers believe that increased catches adjacent to fisheries reserves are related. (This project is well documented and discussed in the WiCoP forum, see Annex 6.18.)

Discussion

- *Evaluation*: It is often difficult to determine if people are telling the truth about the project. In this particular project, the officer doing the six-monthly reviews is the same officer who visits the village regularly to help with activities. Thus he has a fairly good idea of progress.
- *Community-based or community-oriented*: It was suggested that all the projects discussed in this workshop were not community-oriented since they were initiated from outside. However, in the case of this project, it was argued that the villagers suggested all the activities, thus it was a truly community-based project.
- *Provision of boats*: A third of the cost was met by the community, and two thirds by the European Union (EU); however, the EU pulled out of this agreement during the project, leaving the project coordinators in a somewhat embarrassing situation.

World Conservation Union (IUCN) Marine Protected Areas Project – *Foua Toloa*

Major highlights

The goal of this IUCN community-based project is to establish marine protected areas at Aleipata and Safaatoa on the south coast of Upolu Island. The first phase of this five-year project is focusing on a biodiversity survey, a management plan and awareness activities. Major issues include how to meet community expectations as well as maintain a profile in the communities, and ways to ensure collaboration among stakeholders.

Discussion

- *Conflict within the village social structure*: The village committee for this project wanted to take the necessary decisions, and this sometimes brought them into conflict with the village chiefs. Now mecha-

nisms are being established for the council of chiefs and the project committee to work closer together.

- *Unwise practices*: Many such practices have been documented within this project, e.g. destructive fishing practices such as the breaking of coral.
- *Co-ordination of agencies*: This is an area where considerable improvement is needed, especially when there are several agencies working in one area, e.g. the Saanapu-Sataoa Conservation Area, which has benefited from several projects sponsored by the UNDP/South Pacific Regional Environment Programme (SPREP), the New Zealand Overseas Development Agency (NZODA), UNESCO-CSI, and now IUCN.

South Pacific Regional Environment Programme's (SPREP) coastal zone management activities – *Mary Power, Natasha Stacey, Joanna Axford*

Major highlights

This regional organization involves 22 island countries and its role is to assist national governments in environmental management. SPREP focuses on institutional building at the government and community levels and covers many areas ranging from biodiversity to waste management. The Pacific region is still a long way from achieving integrated coastal management. Lessons learnt include: the need to ensure full awareness of projects among all relevant government departments; project flexibility, for priorities can change; and the need to implement projects through national teams.

Discussion

- *Inter-project integration*: This was again raised as an issue; all too often, this is done by default rather than design.
- *Community involvement*: SPREP involves local communities through local and national NGOs.
- *Changing goals at the Saanapu-Sataoa project site*: This project was initiated as a biodiversity conservation project, not an ecotourism project. The grant from UNDP-GEF was approved for the conservation of globally significant biodiversity. Confusion exists within the communities because the goals often appear to have been turned around; ecotourism is often seen as the most significant aspect of the project, especially from the community point of view. Problems were caused by the fact that the two villages did not communicate or get along, and only certain families benefited from the project. As a result of such difficulties, different strategies had to be devised for each of the two project villages.
- *Performance indicators*: ISO 14001 is an international standard which includes environmental targets and management systems, but it is not as comprehensive as ISO 9000. Other standards are being developed and used, such as Green Globe and Blue Flag. Participants generally felt the need to obtain further information about these international standards.

Samoa Hotel Association – Samoan coastal tourism – *Mats Loeskvist*

Major highlights

As a result of the crisis in Fiji and the increased capacity of Polynesian Airlines, there has been a higher demand for hotel rooms. However, the task force that was created did not include any hoteliers in the first instance, and focused on the need for new investment. Whereas in actual fact, with refurbishment, existing rooms could meet the demand. Samoa's selling point in the tourism market is its culture and stable government.

Additional work is required on the standard of infrastructure, especially utilities.

Discussion

- *Leasing of customary land:* Since this land can only be leased for development and not purchased, and since approval of leases is a lengthy process, this helps deter rash development.
- *Traditional building styles*: 'Fale' are the traditional style huts with open walls, crushed stone, sand or coral floors and thatch roofs, and can be rebuilt easily after a hurricane. Building standards are being developed in Samoa.

Wise practice characteristics and their use in pilot project evaluation

The list of wise practice characteristics (see Annex 4) was used as a basis for the evaluation of two pilot projects: 'Managing beach resources and planning for coastline change, Caribbean islands' and 'Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa'. The characteristics proved to be a useful basis for the evaluation. Following the evaluation and discussion of these two projects, suggestions were made to refine and add to the characteristics. These suggestions have been noted in Annex 4, and will be taken into account when the final version of the 'Wise Coastal Practices for Sustainable Human Development Forum – Work in Progress 2' report is prepared (scheduled for the first half of 2001).

Other small-island pilot projects were also evaluated using the same characteristics; the results were circulated, but there was insufficient time to discuss them fully. These evaluations will be retained as a starting point for future, more detailed project assessments.

The next form of the UNESCO-CSI platform – *Peter Espeut*

Major highlights

It was suggested that the pilot projects be renamed 'field experiments' with clearly defined hypotheses and pre- and post-experiment testing, leading to wise (and unwise) practices which should then be published and fed into the WiCoP forum. The UNESCO Chairs could be transformed into/replaced with UNESCO-CSI focal points, e.g. a focal point for the Caribbean region, one for the Indian Ocean etc. The WiCoP forum should be wider and deeper, with interactive linkages between the field experiments and the focal points. A final suggestion was to hold 'Wise practices training workshops' to discuss the output from the field experiments, focal points and WiCoP forum, namely the wise practices. These could lead to new activities on the ground, e.g. clusters of new field experiments, and would require either a UNESCO or non-UNESCO trust fund for financial sustainability. (See proposal in Annex 6.19.)

Discussion

- *Renaming the pilot projects*: Several persons questioned the phrase 'field experiments' as a replacement for 'pilot projects' and felt that this was not a very helpful term for local stakeholders, and although it corresponded well to natural science concepts, this was not necessarily the case for human sciences. However, the need to test hypotheses was agreed.
- *Number of pilot projects*: While there is always scope and need for new pilot projects, it was suggested that there are already too many pilot projects for CSI to effectively manage. It was noted that some larger and very diverse islands have more than one pilot project, e.g. Papua New Guinea, which has two pilot projects at three different sites. However, some pilot projects may come to an end and

make room for new ones. Any new pilot projects should be properly designed with clearly defined goals, objectives and time frame.

- *Sustainability of CSI operations*: The long term continuity of the CSI operations was questioned, as well as the name 'UNESCO Chair'. The establishment of both chairs and pilot projects requires a considerable amount of time.
- *UNESCO Chairs*: Since the establishment of chairs is so time-consuming, it was suggested that to have one or two focal points in a region might be more productive.
- *The UNITWIN network*: This may be a more useful mechanism and less time-consuming to establish, than university chairs.
- *The University of the Philippines UNESCO Chair*: While the Chair certainly provides prestige to the chair holders, it is more important to have flexibility and continuity through a clear research agenda. Training is also an important component.
- *Other non-CSI projects*: Some 'other' projects are included on the CSI website, and interaction with these provides a useful way of enhancing CSI activities.
- *Integration with other major projects*: This should be a priority for all.
- *Implementation of wise practices*: This might be a more useful fourth CSI component than the proposed 'Wise practice training workshops', which is an intermediate step. However, the training workshops with their intense exchanges and interaction were considered an important activity.
- *WiCoP forum*: It was questioned whether the forum should be widened any further in terms of content, although deepening and refocusing were possibly needed.
- *Importance of publications*: Publications were mentioned by several persons as end-products and ways to assess progress. This was in contrast to the July 2000 Bangkok meeting where caution was expressed about publications becoming the main end-product with too little emphasis on action on-the-ground.

Concluding remarks

One of the key issues that has emerged from the WiCoP forum is the need to widen the sphere of influence of small, locally-based, successful initiatives so as to change attitudes and implement wise practices across a wide spectrum of society and a more extensive geographical area. There are no easy answers to this dilemma. However, a meeting such as this one, with its focus on interlinking project and training activities, both within UNESCO and with other organizations, is one mechanism. The networking, both formal and informal, that has commenced at this meeting, can only further the small islands' programme for action.

The WiCoP forum is another way to extend the influence of a particular activity/practice from the local to the global level. It is also a way to get feedback on ideas, methods and key issues. Thus a proposal to focus the WiCoP forum, so that it becomes an interactive tool for pilot projects and university chair/twinning activities, will also assist small islands as they seek balances between economic development and environmental conservation.

The intersectoral and interdisciplinary nature of all CSI's activities is another key factor in addressing the small-islands programme of action. Most of the small-island pilot projects address several of the SIDS problem areas in need of priority attention in an integrated manner, and it is only by such efforts, involving different disciplines and societal sectors, that such complex issues can be effectively addressed and appropriate solutions found.

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Tourists to the rescue on Chumbe Island. Sibylle Riedmiller, p. 13. http://www.unesco.org/csi/wise/wise8e.htm

The points man in the Philippines last frontier. Peter Coles, pp. 14–15. http://www.unesco.org/csi/act/ulugan/ulugan1e.htm

Annexes

Annex 1

WORKSHOP PROGRAMME

MONDAY, 4 DECEMBER 2000

9:00 **Opening**

- Blessing and prayer – Reverend Lotu Uele, Vaiala.
- Welcome address – Ms Edna Tait, Director, UNESCO Apia Office
- Welcome address – Mr Dirk Troost, Chief CSI, UNESCO Paris
- Address and official opening – Mr Tupae Esera, Secretary-General, Samoa National Commission for UNESCO

9:45 Meeting photograph
Morning tea
Meeting adjourns to UNESCO conference room

10:30 **Overview – keynote presentations**

- Wise coastal practices for sustainable human development in small island states: needs and approaches – Mr Dirk Troost
- Developing and advancing wise coastal practices: project assessment and inter-project exchange – Ms Gillian Cambers

11:15 **CSI pilot project presentations, exchange and discussion**

Caribbean pilot projects:

- Sustainable livelihoods for artisanal fishers through stakeholder co-management in the Portland Bight Protected Area, Jamaica – Mr Peter Espeut
- Caribbean Coastal Marine Productivity program (CARICOMP): Sustaining coastal biodiversity benefits and ecosystem services – Ms June M. Mow

12:30 Lunch

13:30 **CSI pilot project presentations, exchange and discussion (continued)**

- Enhancing coastal and fisheries resource management through stakeholder participation, local knowledge and environmental education, Arcadins coast, Haiti – Mr Jean Wiener
- Planning for people and human settlements, southern coastal area of Havana Province, Cuba – Mr Antonio Diaz Tablada
- Managing beach resources and planning for coastline change, Caribbean islands – Ms Gillian Cambers

15:00 Afternoon tea

15:30 **CSI pilot project presentations, exchange and discussion (continued)**

Pacific pilot projects:

- Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa – Mr Peter Varghese, Mr Asipa Pati, Mr Asofou So'o
- Sound development in the Motu Koitabu urban villages, Port Moresby, Papua New Guinea – Mr Haraka Gaudi
- Palau perspective on wise coastal practices – Mr Yimnang Golbuu
- Coastal resources management and ecotourism: an intersectoral approach to localizing sustainable development, Ulugan Bay, Palawan, Philippines – Ms Gerthie Mayo-Anda

17:00 Close

Tuesday, 5 December 2000

8:30 **CSI University Chairs and UNITWIN activities – presentations and discussions**

- University of the Philippines: UNESCO Chair in integrated coastal management for sustainable development in coastal regions and in small islands – Ms Rebecca Rivera-Guieb
- University of Papua New Guinea (planned chair): UNESCO Chair in wise and locally relevant approaches towards the management of coastal regions and small islands – Mr Linus digim'Rina
- UNITWIN Network – Mr Dirk Troost

10:00 Morning tea

10:30 **Potential CSI activities for the Indian Ocean: presentations and discussions**

- Mauritius perspective on wise coastal practices – Mr Mitrasen Bhikajee
- Seychelles perspective on wise coastal practices – Mr Rolph Payet

12:00 Lunch

13:00 Summary and discussion on the scope, coverage, inter-island exchange and advancement of the existing and potential small island pilot project and university chair activities

14:30 Presentation of the Saanapu-Sataoa field visit programme – Mr Peter Varghese, Mr Iteri Tiatia, Mr Asipa Pati, Mr Asofou So'o

15:00 Afternoon tea

15:30	Discussion: Assessment and inter-project exchange – Towards a standard CSI modality.
17:00	Close
18:30	Social function

WEDNESDAY, 6 DECEMBER 2000

8:30	Field visit to Saanapu-Sataoa

THURSDAY, 7 DECEMBER 2000 – OPEN DAY

9:00	Informal opening. Mr Dirk Troost, Mr Hans Thulstrup.
9:10	Introduction of the CSI platform in the context of the UNESCO mandate and summary of the CSI approach with particular reference to small-island issues – Mr Dirk Troost
9:30	Brief introduction of international participants, including comments on ongoing projects and university chairs – Project leaders and Chairholders
10:15	CSI: Discussion
10:45	Morning tea

Session 1: Coastal infrastructure development

11:15	• Coastal infrastructure management strategy project – Ms Tracey Haszard, Ms Theresa Ngau Chun
11:35	• Samoa Water Authority water supply infrastructure – Mr Sebastian Mariner
11:55	• Discussion
12:30	Lunch Break

Session 2: Sustainable management of marine resources

13:30	• Coastal fisheries extension project – Ms Jennifer Kallie, Mr Autolaua Taua
13:50	• IUCN Marine Protected Areas Project – Mr Foua Toloa
14:10	• Discussion
14:45	Afternoon tea

Session 3: Environment and development in the coastal zone

15:15	• SPREP Coastal zone management key activities – Ms Mary Power, Ms Natasha Stacey, Ms Joanna Axford
15:35	• Samoa Hotel Association. Samoan coastal tourism – Mr Mats Loeskvist
15:50	• Discussion
16:30	Final comments and close

FRIDAY, 8 DECEMBER 2000

8:30	Discussion on the results of the field trip and ways to advance the 'Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa' pilot project
9:30	Final summary, discussion and conclusions on the development of a standard CSI modality for assessment and inter-project exchange
10:30	Morning tea
11:00	Final summary, discussion and conclusions on small-island issues in UNESCO's 2002–2007 Medium-Term Strategy
12:30	Wrap-up and circulation of initial proceedings summary
13:30	Informal closing of workshop

Annex 2

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Annex 3

LIST OF CSI PILOT PROJECTS AND UNIVERSITY CHAIRS

(Projects solely or partially dealing with small islands are shown in italics.)

1. LIST OF PILOT PROJECTS

AFRICA: EAST/SOUTHERN

- Development-conservation strategies for integrated coastal management: Maputaland, South Africa; and Mozambique.
- Communication and education for sustainable coastal development: Sub-Saharan Africa and Indian Ocean islands.

AFRICA: NORTH/EASTERN MEDITERRANEAN

- Underwater archaeology and sustainable coastal development, Alexandria, Egypt.
- Urban development and freshwater resources in small historic coastal cities: Essaouira, Morocco; Mahdia, Tunisia; and Saida, Lebanon.

AFRICA: WEST/CENTRAL

- Sustaining human and environmental health in peri-urban coastal communities, Dakar, Senegal.
- Urban flood control, Lagos, Nigeria.

AMERICA: SOUTH/CENTRAL

- The Rio de la Plata estuary and sustainable development: Uruguay and Argentina.

ASIA: SOUTH

- Environmental, social and cultural implications of a ship-breaking industry, Alang-Sosia, Gujarat, India.

ASIA: SOUTHEAST

- *Reducing the impact of a coastal megacity on island ecosystems, Jakarta and the Seribu Islands, Indonesia.*
- *Coastal resources management and ecotourism: an intersectoral approach to localizing sustainable development, Ulugan Bay, Palawan, Philippines.*
- *A place for indigenous people in protected areas, Surin Islands, Andaman Sea, Thailand.*

CARIBBEAN (SMALL) ISLANDS

- *Managing beach resources and planning for coastline change, Caribbean islands.*
- *Caribbean Coastal Marine Productivity program (CARICOMP): Sustaining coastal biodiversity benefits and ecosystem services.*
- *Enhancing coastal and fisheries resource management through stakeholder participation, local knowledge and environmental education, Arcadins coast, Haiti.*
- *Sustainable livelihoods for artisanal fishers through stakeholder co-management in the Portland Bight Protected Area, Jamaica.*
- *Planning for people and human settlements, southern coastal area of Havana Province, Cuba.*

Europe

- Local government partnerships for sustainable coastal development, North Kurzeme, Latvia.
- Urban development and freshwater resources in small historic coastal cities: Omisalj, Croatia; Kotor, Montenegro, Yugoslavia.
- Sustainable coastal development in White Sea – Barents Sea region, northern Russia.

Pacific (small) islands

- *Sound development in the Motu Koitabu urban villages, Port Moresby, Papua New Guinea.*
- *Promotion of indigenous wise practices: medicinal knowledge and freshwater fish, Moripi Cultural Area, Gulf Province; food security, Trobriand Islands, Milne Bay Province, Papua New Guinea.*
- *Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa.*

2. List of UNESCO Chairs and UNITWIN

Established chairs in 'Sustainable coastal development'

- Université Cheikh Anta Diop, Dakar, Senegal.
- University of the Philippines, Quezon City, Philippines.
- Universidade Eduardo Mondlane, Maputo, Mozambique (Intergovernmental Oceanographic Commission).

Chair projects initiated

- University of Alexandria, Alexandria, Egypt.
- Université de l'Océan Indien, Réunion.
- University of Papua New Guinea, Port Moresby, Papua New Guinea.
- University of Latvia, Riga, Latvia.

University twinning initiated, wise coastal practices for sustainable human development (WiCoP) network Asia and Pacific

- University of Bhavnagar, Bhavnagar, Gujarat, India.
- University of Chulalongkorn, Bangkok, Thailand.
- University of Indonesia, Jakarta, Indonesia.
- University of Papua New Guinea, Port Moresby, Papua New Guinea.
- University of the Philippines, Quezon City, Philippines (co-ordinating).
- National University of Samoa, Apia, Samoa.

Annex 4

WISE PRACTICE CHARACTERISTICS AS AN EVALUATION TOOL

The wise practice characteristics and their definitions are listed below in italics. Workshop discussion items and, in some cases, recommendations are included under individual characteristics. One new characteristic was proposed; this is listed under 'General comments'.

- ***Long-term benefit***: *The benefits of the activity are still evident 'x' years from now and they improve environmental quality*.
  Potential benefits should be identified at the planning stage of the project, so that progress can be assessed during periodic evaluations. The timeframe of the long-term benefits ('x') should be identified for each project. Intangible benefits, e.g. confidence building, legal empowerment should be included. The issue of whether the benefits are project-confined or apply to a wider population also merits consideration.
- ***Capacity building and institutional strengthening***: *The activity provides improved management capabilities and education for the stakeholder groups, as well as knowledge and efforts to protect the local coastal/marine environment*.
  There was discussion as to whether these two items should be separated, for capacity-building deals with people, e.g. the number of fishermen trained, while institutional building deals with organizational units, e.g. a unit is established for integrated coastal management. However, in view of the fact that there are significant overlaps between the two, it was decided to retain the characteristic as one item.
- ***Sustainability***: *The activity adheres to the principles of sustainability (the extent to which the results will last and development continue once the project/programme has ended).*
  The evaluation would need to determine different aspects of sustainability, e.g. financial, human.
- ***Transferability***: *Aspects of the activity can be applied to other sites in and/or outside of the country.*
  The project planning process should define which project components are potentially transferable locally, nationally, regionally and globally.
- ***Interdisciplinary and intersectoral***: *The activity fully incorporates all relevant disciplines and all societal sectors.*
  Due to budget and time resources, it may not be feasible to include all relevant disciplines; in such cases, priority disciplines need to be determined.
- ***Participatory process***: *Transparent participation of all the stakeholder groups as well as the involvement of individuals is intrinsic to the process.*
  Identification of all stakeholder groups is a vital component of any project and its evaluation.
- ***Consensus building***: *The activity should benefit a majority of the stakeholder groups, whilst bearing in mind that in some cases certain under-privileged groups may need to be treated as special cases.*
  This characteristic may need to be re-drafted to encompass the concept of bene-

fit sharing (this might need to be linked to long-term benefit).

- ***Effective and efficient communication process***: *A multidirectional communication process involving dialogue, consultation and discussion is needed to attain awareness.*
- ***Culturally respectful***: *The process values local traditional and cultural frameworks while also challenging their environmental validity.*

  It was recommended that this characteristic should be termed 'Locally sensitive' instead of 'Culturally respectful'.
- ***Gender and/or sensitivity issues***: *The process accounts for the many aspects of gender and/or other sensitive issues.*
- ***Strengthening local identities***: *The activity provides a sense of belonging and self-reliance at various levels.*
- ***National legal policy***: *The activity adheres to current government environmental, economic, legal and social policies.*

  The definition needs rewording since it is sometimes necessary to change government policy. It was suggested that the definition should read 'the activity progressively shapes current government environmental, economic, legal and social policies.'
- ***Regional dimension***: *The activity should embody the regional economic, social and environmental perspective.*
- ***Human rights***: *The activity should provide freedom to exercise fundamental human rights.*
- ***Documentation***: *The activity and the lessons learnt have been well documented.*
- ***Evaluation***: *The activity has been assessed to determine the extent to which ICM has been achieved and/or wise practice characteristics utilized.*

General comments

- An additional characteristic was proposed, as follows:

  Cultural transformation: Positive ways in which the activity influenced existing cultural patterns or behaviour.
- *Focus of evaluation*: It was agreed that any evaluation should focus on project activities that have been achieved to date, not those that are likely to be undertaken in the future.
- *Verifiable indicators*: Wherever possible, it is recommended to use verifiable indicators.
- *Linkage of characteristics*: Some of the characteristics are linked and this should be taken into account in the determining of performance during an evaluation, e.g. the 'Culturally respectful' and 'Strengthening local identities' characteristics.
- *Numerical or grouped evaluation indicators:* Grouped indicators were used during the workshop trial, namely Full, Partial, None and Unknown. One suggestion was to use a scale of 1–10 instead.

Annex 5

FEATURE ADDRESS

Reverend Lotu Uele

'And the King will answer them – Truly I say to you, as you did it to one of the least of these my brethren, you did it to Me'. Matthew 25:40

Everyone hates a bully. By golly I say to you, that my school days would have been the most enjoyable times of my life, were it not for the bullies. Being the small man that I am, every time I try to conjure up good memories of my school days, I inevitably think first of the beatings that I used to get from the bullies.

To counter the abuses, I vouched to myself to concentrate on my studies to get good results, just to get back at them. So good was one of my exam papers, that I told a bully, who was sitting behind me during the exam, to read it. He was impressed and requested that I hold it up so he could copy from it. As he groped for a pen, I turned a page, he began to copy in earnest. Never did the bully know that it was the wrong page. When the results came out he had a 'D' for his grade. I did not mind for I was glad that the bully was last in our class.

Bullies are defined as arrogant and lacking in love. They enjoy what they do at the immense expense of their victims. Bullying is a senseless act devoid of Christian feeling. CSI's effort to clean up our act on the environment is a noble cause. Small-island nations' coastlines have continued to sink at an alarming rate according to scientific reports. Yet, we are only voices in the wilderness. Big countries continue to ignore us and our plight. The Tokelaus, Tuvalu and Kiribati, to name a few, are really feeling the effects of the greenhouse gases. High tides have become huge and they continue to eat away at the coastlines. You don't have to be a scientist to know that your island is sinking. Will the big countries ever relent? We can only pray and hope.

The famous Australian journalist, Michael Willesee, in a recent report called 'Signs of the times' said 'The frequency in the occurrence of cyclones has been quite overwhelming over the last decade, and more important is the magnitude of the force with which they hit the world'. Is this intensity a work of God? Or is it purely human-generated? It is not hard to know that it is man-made. If the intensity of Cyclones Ofa and Val is anything to go by, then Samoa was completely flattened. You feel violated and hollow inside, as you survey the sheer devastation afterwards. Do you blame God for it? 'The bug stops here' said Truman. Our prayers and pleas to the powers that be, are 'Please slow down'.

We, in the small countries, always appear to be at the receiving end of every calamity. When prices fall in big countries, we feel the brunt. When natural disaster strikes, we go hungry. When the exchange rate plummets, we become beggars. Our top citizen said 'When America sneezes, the Pacific islands contract pneumonia'. When big decisions affecting the well-being of all mankind are taken, we are not consulted. It matters little if one's fate is decided elsewhere. What matters is that we are all cast in God's holy image. 'Aye, there's the rub'. In your effort to protect our environment we request you to impart your managerial expertise fully, to help train our locals to continue the struggle to preserve our coastal areas – with your assistance

we can sustain our fragile environment. I thank UNESCO for inviting you, the learned participants, to our shores. I wish you great success and pray that in your discourse, nothing will be left to chance. That your knowledge and advice will go a long way in drawing international attention for worldwide action, directed towards true conservation of the little islands' fragile environment. Land may not be an emotional issue to the big countries. In the islands, emotions run high when the issue is land. That is how precious it is to us. That is why we are thankful for this meeting. You will be imparting expert ideas to sustain our small, limited and fragile coastlines. In your hands lie the future of all these islands and their societies.

Did not Jesus go after the poor and downtrodden? Did he not seek after the lowly and the sick? And did God not bring down the mighty from their thrones? Yes, He brought down the bullies with great might. Nebuchadnezzar, King of Babylon, epitomizes the downfall of the bullies 'And the King will answer them – Truly I say to you, as you did it to one of the least of these my brethren, you did it to Me. Amen'.

Our Father in Heaven, thank you for allowing us to gather here in peace – to discuss some of the most sensitive issues confronting us today. Although the problem becomes acute for us the small nations, we pray for thy Holy Spirit to draw the attention of our bigger brothers to the plight that we as a people are now facing. Enlighten your servants present here and endow them with your wisdom to enable them to solve these difficulties. And may their deliberations be truly inspired by you the God of all creation. Bless UNESCO and all those who have contributed to the success of this programme. Bless the participants and all of us here today – in the name of Jesus Christ.

Annex 6

FURTHER INFORMATION ON CSI AND NON-CSI ACTIVITIES

In addition to the information contained in the following sub-annexes, readers are directed to the CSI website at http://www.unesco.org/csi for reports, articles, publications and newspaper articles relating to these project and university chair activities.

Annex 6.1

SUSTAINABLE LIVELIHOODS FOR ARTISANAL FISHERS THROUGH STAKEHOLDER CO-MANAGEMENT IN THE PORTLAND BIGHT PROTECTED AREA, JAMAICA

PILOT PROJECT SUMMARY

Revision date: 13 November 2000

Title: Sustainable livelihoods for artisanal fishers through stakeholder co-management in the Portland Bight Protected Area, Jamaica.

Goals: To reverse the extreme overfishing in Jamaica's most productive mainland fishery and to balance fishing efforts so as to achieve maximum sustainable yield; to empower local artisanal fishers to manage their fishery landing sites, as well as the fisheries on the island shelf using coastal 'wise practices'; to establish a terrestrial and marine protected area in the Portland Bight Area (PBA) of Jamaica's south coast; to diversify the economy of the PBPA to provide alternatives to primary natural resource extraction, particularly through the introduction of nature tourism; to provide a model of natural resource management and human development which may be adapted to other parts of Jamaica and to other islands with a similar context.

Location: The Portland Bight Protected Area (PBPA) on the south coast of Jamaica.

Starting date: 1993; with efforts divided into several phases.

Partners: Caribbean Coastal Area Management (C-CAM) Foundation; Natural Resources Conservation Authority (NRCA), the Fisheries Division of the Government of Jamaica; various fishers' associations and co-operatives; UNESCO: Coastal Regions and Small Islands (CSI) platform.

Pilot project leader: Mr Peter Espeut
Executive Director, Caribbean Coastal Area Management (C-CAM) Foundation,PO Box 33, Lionel Town, Clarendon, Jamaica, West Indies
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e-mail: pespeut@infochan.com
Web site: www.portlandbight.com.jm; www.ccam.org.jm

Description: There have been six major activities:

1. Biophysical and socio-economic baseline studies (started 1993). In order to know in detail the health of the human and natural resources of Portland Bight and to be better able to judge the effectiveness of management strategies, biophysical and socio-economic baseline studies were commissioned. These include studies on the forests, reptiles, birds, wetlands, marine turtles, coral reefs and the human population.
2. Formation of primary fishers' organizations (started 1994). Of the eight fish landing sites within the PBPA, only two had functioning organizations (co-operatives). The fisherfolk were assisted to form an additional five fishers' organizations. Later, an inactive fishing co-operative was reactivated. Skills training was offered, and a participative workshop on fisheries management was held with each of the new organizations.
3. Formation of Fisheries Stakeholder (Co-Management) Council (started 1995). On the Food and Agricultural Organization (FAO) International Fishermen's Day (June 29) 1995, the Portland Bight Fisheries Management Council (PBFMC) was launched, and sixty monthly meetings have been held up to October 2000. There are thirty-two members, drawn from the fishers' organizations and co-operatives, government agencies and NGOs, and they have reviewed existing laws, drafted regulations for the PBPA, supported enforcement activities and undertaken conflict resolution.
4. Appointment of fisherfolk as Honorary Game Wardens/Fisheries Inspectors (begun 1995). Each year about fifty fishers and fish vendors (men and women) are appointed Honorary Game Wardens/Fisheries Inspectors by Jamaica's Head of State. They have powers of arrest and search without warrant, and have enforced Jamaica's Wildlife Protection Act and Fishing Industry Act. This is real empowerment, and has been a major factor in motivating the fisherfolk and convincing them that improvements in the fisheries are possible. It is also more probable that regulations will be obeyed.
5. Declaration of Portland Bight Protected Area (1999). On Earth Day (April 22) 1999, the order bringing the Portland Bight Protected Area into existence was signed by Jamaica's Minister of the Environment. This was the culmination of a series of meetings that led to the preparation of the Management Plan for the PBPA. A second council, the Portland Bight Citizens' Council, composed of representatives of civil society, local and central government and other NGOs, was established and is ongoing.

6. Delegation of management authority for the PBPA (expected 2000). Jamaica has no legal framework within which stakeholder co-management can be located; government will delegate management authority to C-CAM who will operate along co-management lines through a series of councils, with the Sustainable Development Council at the apex.

Achievements and assessment:

1. Empowerment of the stakeholders: The Honorary Game Warden programme and the PBFMC process have empowered fisherfolk in real terms, and have the possibility for further deepening.
2. Further funding: A Global Environmental Facility (GEF) Block B Project Development Fund of US$ 509,000, co-financed by the Inter-American Development Bank (IDB), has been approved to prepare for a full project of US$ 6 million. This grant will fund the implementation of the Management Plan for the PBPA.

Future directions:

1. Management of the PBPA: When management authority is finally delegated to C-CAM, the on-the-ground management will begin. This will be the real test of the approach.
2. Further biophysical and socio-economic studies: Further studies will need to be carried out to assess the effectiveness of the management efforts so far, particularly with respect to fisheries.
3. Assessment of local knowledge of resource change: Semi-directive interviews with local fisherfolk (men and women) will investigate stability and change in fishing strategies, and assess local understanding of shifts in coastal resource abundance, as well as explanations for these changes and trends.
4. The establishment of nature tourism: With the GEF/IDB funding, as well as with assistance from Jamaica's Ministry of Tourism, a nature tourism programme will be implemented which will diversify the local economy and improve living conditions for residents. With the realization that the local economy depends upon the health of the environment, this should lead to the deepening of a conservation ethic among the residents.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

Co-management in marine protected areas / Portland Bight-Jamaica – *Peter Espeut*
http://www.csiwisepractices.org/?read=53

Annex 6.2

CARIBBEAN COASTAL MARINE PRODUCTIVITY PROGRAM (CARICOMP): SUSTAINING COASTAL BIODIVERSITY BENEFITS AND ECOSYSTEM SERVICES

PILOT PROJECT SUMMARY

Revision date: 25 October 2000.

Title: Caribbean Coastal Marine Productivity program (CARICOMP): Sustaining coastal biodiversity benefits and ecosystem services.

Goal: Contribute to integrated coastal management by determining the factors that regulate productivity of the three main coastal ecosystems in the Caribbean region – mangroves, seagrasses and coral reefs – and assessing the nature and influence of land-sea interactions.

Location: The network consists of 29 sites in 22 countries and territories: Bahamas, Barbados, Belize (2), Bermuda, Bonaire, Cayman, Colombia (2), Costa Rica, Cuba, Curacao, Dominican Republic, Haiti, Honduras, Jamaica (2), Mexico (2), Nicaragua, Panama, Puerto Rico, Saba, Trinidad and Tobago, USA, Venezuela (2).

Starting date: Planning began in 1985; data collection began in 1992.

Partners: Marine laboratories, parks and reserves in the countries and territories; Florida Institute of Oceanography, University of South Florida (who provide administration); MacArthur Foundation, US National Science Foundation, and the US Coral Reef Initiative, Department of State (who have provided support); UNESCO: through the Coastal Marine Programme 1985–1995, and through the Coastal Regions and Small Islands (CSI) platform 1996 onwards.

Pilot project leader: The network is coordinated by a Steering Committee composed of eight members, including two co-chairs. Current co-chair contact is: Dr John C. Ogden, Florida Institute of Oceanography, 830 First Street South, St Petersburg, Florida 33701, USA.
tel: +813 553 1100; *fax*: +813 553 1109
e-mail: jogden@marine.usf.edu

Description: CARICOMP is a regional scientific programme to study coastal ecosystem productivity. Major activities are:

1. Co-operative networking by marine laboratories, parks and reserves to investigate and compare productivity, structure and function of the three main coastal ecosystems in the Caribbean: mangroves, seagrasses and coral reefs.

2. Monitoring for ecosystem change at permanent stations within each site using standard research methods to build regional capacity and share expertise. For example, in 1999 the CARICOMP disease protocol was used to assess the incidence of coral disease in 14 reefs at six diverse sites.
3. Centralized data processing and storage at the Data Management Centre (DMC) in the University of the West Indies, Jamaica, which regularly distributes analysed data to participating sites, serves as a clearing house for new ideas and methods, and coordinates investigations of regional biological, oceanographic and meteorological phenomena, such as the mass mortality of Diadema or coral bleaching events.
4. Evaluating and comparing data to determine the nature of ecosystem change and influences on coastal productivity, seeking to discriminate human disturbance from long-term natural variation in coastal systems.
5. Documenting the distribution, structure and function of coastal ecosystems and the extent to which these attributes are influenced by contact with land.
6. Working with communities at selected sites to collect data on coastal resource use and assist with community development, facilitating local management.

Achievements and assessment: Major achievements of the project to date are:

1. Realization of a Caribbean coastal research network (presently 29 sites in 22 countries/territories) with a management structure made up of an International Steering Committee and Site Directors at each site, formalized by a Memorandum of Understanding specifying the responsibilities of each site to the network and the contribution of the programme in equipment and logistical support.
2. Production and distribution of the *CARICOMP Methods Manual: Level I* (1994, revised 1998) which defines a common methodology to permit participation of all members and allow comparative analysis of data from a broad spectrum of coastal zones, where the structure and function of component ecosystems differ and the magnitude of terrestrial influence varies. The Level I Manual stresses simple techniques, using readily available equipment that is easily maintained, to guarantee frequent, regular and reliable data collection.
3. Establishment of the Data Management Centre (DMC) at the University of the West Indies, Kingston, Jamaica in 1992. Standardized data spreadsheets sent from each site are entered into the system. Analyses can be conducted on an individual station, site, country or region-wide basis. Data are sent to ReefBase, initiating the Global Coral Reef Monitoring Network (GCRMN) in the Caribbean region. The DMC also coordinates the electronic list that links the network.
4. Information exchange, identification and evaluation of regional events, and forums resulting in updates of monitoring protocols and network directions facilitated by regional workshops and Annual Site Directors meetings.
5. Dissemination of results through annual programme summaries. Papers based on the first three years of data were published in the Proceedings of the 8th Inter-

national Coral Reef Symposium (1996). Site descriptions with summaries of local research were published in 1998 (*Coastal region and small island papers 3*). Several other papers are available in journals and/or on the World Wide Web.

6. Discussion between natural and social scientists on the potential role of CARICOMP to monitor coastal resource use and facilitate community-based management was stimulated by an inter-sectoral workshop in 1998. The UNESCO workshop report includes results of socio-economic surveys at seven sites.

Future directions:

Future directions for CARICOMP are:

1. To expand coverage to include more anthropogenically disturbed sites and add more sophisticated methods to the methods manual; Level II, currently underway at several sites, introduces new biological and physical measures.
2. To explore ways in which long-term monitoring capability can provide baseline data on coastal and marine biodiversity, document ecosystem responses to change including human impacts and climate change, and contribute to the development and application of wise practices.
3. To directly address human-environment interactions and management alternatives for coral reef, seagrass and mangrove ecosystems, since it is now apparent that Caribbean coastal ecosystems are degrading because of increasing anthropogenic stresses superimposed upon natural trends.
4. To develop collaborations between natural and social scientists, exploring the application of research results to integrated coastal management.
5. To implement protocols to monitor coastal resource use, focusing on the interface between ecological and socio-cultural systems.
6. To strengthen the network by continuing to build capacity in coastal regions and small islands, making data and expertise available to enhance sustainable management, encouraging linkages with geographic information systems and trophic models such as ECOPATH, and promoting electronic communication between sites and development of the CARICOMP web page.

Annex 6.3

ENHANCING COASTAL AND FISHERIES RESOURCE MANAGEMENT THROUGH STAKEHOLDER PARTICIPATION, LOCAL KNOWLEDGE AND ENVIRONMENTAL EDUCATION, ARCADINS COAST, HAITI

PILOT PROJECT SUMMARY

Revision date: 1 March 2001

Title: Enhancing coastal and fisheries resource management through stakeholder participation, local knowledge and environmental education, Arcadins coast, Haiti.

Goals: To create a dialogue within and between local stakeholder groups to enhance their knowledge and implementation of sustainable resource use, through the compilation, blending and dissemination of information relating to current scientific knowledge/methods and local indigenous knowledge.

Location: Arcadins coastal zone, Port-au-Prince Bay, Haiti.

Starting date: 1997

Partners: Association des Pêcheurs (Grand Goave, Luly, Cont, Mitan, Leogane), Association des Femmes de l'Archaie; private companies; National Commission of Haiti for UNESCO; US Agency for International Development, Coopération Japonaise and other international agencies; UNESCO Coastal Regions and Small Islands (CSI) platform.

Pilot project leader:
Jean W. Wiener
Director, Fondation pour la Protection de la Biodiversité Marine (FoProBiM)
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Description: There are two main lines of activity within the project, each with various subcomponents:

1. The development of information and education materials
   a) Translation of the fisheries laws into Créole. The Haitian fisheries laws, although updated from other environmental laws, and finally appearing as the Fisheries Codes in 1978, are written in French. However, the majority of those affected by the laws, i.e. inhabitants of coastal communities and especially fishers, only speak or read Créole. In order to provide guidance to legal methods, legal recourse in cases of infringements of the laws, and future adaptation of these laws into realistic and observable measures, the laws must be available and understandable to the resource users.

b) Preparation of an ethno-ecological guide. This publication, which is being prepared with the help of local fishers, will include a guide to local living resources from algae to marine mammals, fishers' perceptions of their role in the environment, and information on certain traditional and. modern fishing methods. The guide will provide a foundation for a meaningful and mutually respectful dialogue between resource managers and resource users.

c) Compilation of documents and establishment of a local document centre. Library facilities are often poorly organized in institutions in Haiti, and most scientific research undertaken by overseas investigators in Haiti does not remain in the country. FoProBiM has been working on gathering these 'lost' documents as well as acquiring recent research and resource materials from both local and international sources in order to establish the first document resource centre in Haiti specifically geared towards coastal and marine resource use.

d) Development of an educational booklet for 10–16 year olds, for use in schools and community organizations, and using the information gathered during the course of the project. It will be geared towards providing general, and Haitian-specific information relating to the sustainable use of coastal and marine resources.

2. Meetings and workshops

a) Local meetings and workshops are ongoing activities and provide for discussion of the needs and concerns of various stakeholder groups as well as their commonality of interest. Discussions have included fishing and agricultural practices and laws, marine pollution, advocacy training, fisheries rehabilitation, safety at sea, as well as local community concerns and needs.

b) Exchange visits of fishers between Jamaica and Haiti in 1998 were undertaken to exchange ideas related to 'wise practices' in each country.

Achievements and assessment:

1. The translation of the fisheries laws into Créole has been completed and is awaiting final editing. At least 1,000 copies will be needed for the stakeholders, both public and private. It is believed that this document will serve to initiate discussions which will help this project as well as other environmental management initiatives in Haiti.
2. The ethno-ecological guide is in the final stages of preparation and should be ready for final editing by the beginning of 2001.
3. The compilation of documents and establishment of a local document centre at FoProBiM is underway and currently contains more than 700 documents and resource materials of which approximately 75% came from project funds and assistance. The library has been used by public institutions such as the Ministry of the Environment, international organizations, visiting consultants as well as private sector individuals including fishers.
4. The development of an educational booklet is in progress using information from the fisheries laws, the ethno-ecological guide, the resource documents and the meetings and workshops.

5. Local meetings and workshops have been successful in creating a dialogue both within and among stakeholder groups. Due to critical environmental conditions in Haiti, one of the most important results of this dialogue is the increasing realization, among all stakeholder groups, of how critically intermeshed are all of their activities, both good and bad, and the realization that everyone sinks or swims together. Continuing this dialogue is critical to the success of the project.
6. The exchange visits of fishers between Jamaica and Haiti helped to forge new links between two countries which, although only 45 minutes apart by plane, differ greatly in their approaches to resource management. It was a memorable two weeks of meetings and field trips for the 34 participants who then returned to their communities and shared their experiences with others, in the hope of promoting the positive aspects.

Future directions:

1. Continue to instigate and facilitate dialogue among stakeholders in order to promote concrete activities for the improved management of resources including the use of 'wise practices'.
2. Prepare additional educational materials, e.g. booklets, pamphlets and posters.
3. Involve more stakeholders and groups in the educational activities.
4. Increase and strengthen partnerships with both the public and private sectors including increased co-ordination with UNESCO Haiti (Jalousie project) and possibly programmes with the US Agency for International Development and the Inter-American Development Bank.
5. Undertake a socio-economic survey of the target area to better understand the inter-relationships between the fisheries sector, the private sector and the general public.
6. In conjunction with the COSALC pilot project, conduct training and provide technical support for a beach monitoring programme.
7. Update the ethno-ecological guide as more information becomes available.
8. Maintain and enhance the resource materials and documentation centre.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

'Self-help' among stakeholder groups / Haiti (also in French) – *Jean Wiener*
http://www.csiwisepractices.org/?read=17

A first step in sustainability: learning from traditional practices (also in French) – *Jean Wiener*
http://www.csiwisepractices.org/?read=131

Community-based fisheries management / from Samoa to Haiti – *Jean Wiener*
http://www.csiwisepractices.org/?read=153

Self-interest versus environmental interest (also in French) – *Jean Wiener*
http://www.csiwisepractices.org/?read=183

When vested interests hijack the goals of stakeholder groups / Haiti (also in French) – *Jean Wiener*
http://www.csiwisepractices.org/?read=287

Mitigating the effects of self-interest at a local level (also in French) – *Andrew Cooper, George Ekol, C. K. Rumisha, Carlo Langelaan, Mali Voi*
http://www.csiwisepractices.org/?read=310

Annex 6.4

PLANNING FOR PEOPLE AND HUMAN SETTLEMENTS, SOUTHERN COASTAL AREA OF HAVANA PROVINCE, CUBA

PILOT PROJECT SUMMARY

Revision date: 1 March 2001

Title: Planning for people and human settlements, southern coastal area of Havana Province, Cuba.

Goal: To provide for the presence and development of the human population in a fragile coastal area, utilizing the principles of integrated coastal management.

Location: Southern coastal area of Havana Province, Cuba.

Starting date: 1999

Partners: The Physical Planning Directorate of Havana Province (DPPF); the Provincial Government; the Physical Planning Directorates of the nine municipalities involved; the Provincial Delegation of the Ministry of Science, Technology and Environment (CITMA); UNESCO: through its Regional Office for Culture in Latin America and the Caribbean (ORCALC) in Havana, and Coastal Regions and Small Islands (CSI) platform.

Pilot project leader:
Antonio Diaz Tablada
Department of Scientific and Technical Development and Training
Physical Planning Directorate of Havana Province, Calzada de Managua Km $4^{1/2}$
Mantilla, Ciudad de la Habana, Codigo Postal 10 900, Cuba
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Description: The area lies on the south coast of Havana Province; it is 142 km long, 2.5–12 km wide and has a total area of 846 km^2; it is characterized by wetlands. The marine area lies in the Gulf of Batabano, under the jurisdiction of Havana Province and extends 55–60 km offshore. The main activities are:

1. Preliminary diagnostic survey (1999), which contains a synthesis and analysis of the bibliography and the territorial, statistical and cartographical information.
2. Supplementing the diagnostic survey (2000), following a review of the preliminary document by a UNESCO consultant, by adding the key marine aspects and searching the cadastral and statistical databases for information on the human settlements on the coastline, and special analysis of four of the seven settlements.

3. Publicity and awareness about the project was conducted during and after a visit by a UNESCO evaluation mission in April 2000. Interviews with the local actors at one of the coastal settlements, the project leader and a specialist from CITMA, were broadcast on national and provincial television. An interview with the project leader about the origin and goals of the project was broadcast on the provincial radio station. A project dossier was prepared and discussed with provincial and municipal leaders and specialists, to obtain external support to solve urgent, short-term problems at one of the coastal settlements.

Achievements and assessment:

1. The preliminary diagnostic survey has allowed the clear definition of the area's boundaries. This provides an integral vision of the area, its dynamics and the linkages between the ecological and socio-economic viewpoints. Through the diagnostic survey, knowledge of the international trends and the national instruments available for the planning, management and territorial control of coastal areas has been obtained. The diagnostic survey was the only document mentioned in the research category of the Annual Physical Planning Awards. In addition, the preparation of the database and bibliography has enhanced the capabilities of the project team.
2. The additions to the diagnostic survey and the analysis of the human settlements on the coastline have added new components relating to the land-sea interaction, and have allowed for the identification of priority settlements and the origin of negative impacts being experienced in the coastal area.

Future directions:

Future work will be focused on the population in the settlements situated in the first 1,000 m from the shore, and their relationship with the environment, and will include:

1. Completion of the analysis of the other three settlements on the coastline.
2. Evaluation of the dynamics of land use and the territorial transformations linked to the identified processes.
3. Investigation of the psychological and social aspects of some of the identified impacts such as the loss of wetland areas. This will require a complete sociological investigation and analysis.
4. Integration of the sociological investigation results into the conclusions of the diagnostic survey.
5. Sharing the results with the stakeholders in workshops focused on defining the development strategy for the area in the short–medium term.
6. Establishment of an Action and Monitoring Plan to be executed by local agencies.
7. Training of members of the research team in new planning techniques and tools.
8. Exchanging experiences internationally through conferences and other events and publication of the final report of the project.
9. Seeking funding for the implementation of the plan.

Annex 6.5

MANAGING BEACH RESOURCES AND PLANNING FOR COASTLINE CHANGE, CARIBBEAN ISLANDS

PILOT PROJECT SUMMARY

Revision date: 31 October 2000

Title: Managing beach resources and planning for coastline change, Caribbean islands. (The project was formerly titled 'Coast and beach stability in the Caribbean' and is known locally by an old acronym – COSALC).

Goal: To develop in-country capabilities so that small islands of the Caribbean, often economically dependent on coastal tourism, can effectively manage their changing beach resources and plan for coastline change in a framework of integrated coastal management.

Location: The initial focus was on small islands in the eastern Caribbean: Anguilla, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Turks and Caicos Islands, United States Virgin Islands; recently the scope has widened to include Haiti and the San Andrés Archipelago (Colombia).

Starting date: 1985; the project was refocused in 1996.

Partners: Government agencies responsible for physical planning, fisheries, forestry, natural resources, national parks, science and technology councils; schools; environmental non-governmental agencies in the 13 countries/territories; Caribbean Development Bank, Organization of American States, Organization of Eastern Caribbean States Natural Resources Management Unit (all of which have provided support); University of Puerto Rico Sea Grant College Program (who have been joint partners since 1994); UNESCO: Communications Sector (Kingston Office), Associated Schools Caribbean Sea Project (Port-of-Spain Office), Coastal Marine Programme (1985–1995), and Coastal Regions and Small Islands (CSI) platform (1996 onwards).

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Description: Within COSALC, there are at present four main activity lines:

1. Understanding beach changes, 1985–present (13 countries/territories): this involves providing persons from government agencies and non-governmental organizations with the skills, equipment, training and software, to measure, assess and manage the various phenomena associated with beach erosion. Beach monitoring programmes, using standardized methodology, have been established in the islands, and these are maintained and managed by the islands themselves; databases cover periods of 1–12 years. The information is being used by the islands in coastal planning and erosion mitigation.
2. Planning for coastline change, 1996–present (5 countries/territories): this activity seeks to apply the information collected in the activity line 'Understanding beach changes' so as to ensure that new coastal development is placed a 'safe' distance from the active beach zone, thereby providing for the safety of coastal infrastructure and the conservation of beaches. A generic methodology was developed which has been applied to five countries/territories (Anguilla, Antigua and Barbuda, Montserrat, St. Kitts and Nevis, St. Lucia) so that specific 'safe' setback distances have been determined for individual beaches in these islands.
3. Environmental video production and broadcast, 1998–present (3 countries/territories), in collaboration with the UNESCO Jamaica Office: this activity seeks 'to get the message into the living room' by providing training and equipment to persons from environmental and broadcast agencies in 3 countries/territories (Anguilla, Grenada, St. Lucia) to design, prepare and broadcast short environmental video clips (30 seconds–1 minute duration) which carry a specific message and can be broadcast repeatedly.
4. Sandwatch project, 1999–present, (5 COSALC countries, 13 Caribbean countries in total), in collaboration with the UNESCO Associated Schools Project Net, Caribbean Sea Project: this three-year project seeks to train schoolchildren in the use of the scientific method through monitoring and observing changes, activities and processes at local beaches; and then, with the assistance of their teachers, parents and communities, to apply that information to design and implement specific projects to solve a particular problem while also improving the environment at their local beaches.

Achievements and assessment:

1. Understanding beach changes: As a result of training and capacity building over a decade, beach monitoring programmes have been fully established in 13 countries/territories, and by December 2000 will be self-sufficient (running without external assistance) in at least 60% of these countries/territories.
2. Planning for coastline changes: 'safe' setback distances have been designed for several countries/territories; in 3 countries/territories (Anguilla, Montserrat, St. Kitts and Nevis), they are being implemented informally by planning departments; in one country (Antigua and Barbuda) they are awaiting planning legislation; in one country (St. Lucia) they are under review. In none of the islands, have the setback distances yet been incorporated into planning legislation.

3. Environmental video production and broadcast: 6 short video clips have been produced and aired on local television in the 3 countries/territories. Further training and editing equipment is needed before this activity becomes an established one in the three pilot project countries/territories, and before the activity can be expanded to other countries.
4. Sandwatch project: this project was launched in 2000 and a first training workshop for teachers is scheduled for the first half of 2000, after which the project will get underway in the various countries.

Future directions: Future activities will be focused on beach management in the islands of the Caribbean, but wherever possible, linkages will be established with small islands in other regions of the world in order to share and enhance ideas and activities. Specifically future directions are:

1. To evaluate the success of the longer-running beach monitoring programmes by determining if they continue once project support is reduced; to continue to work with the newer monitoring programmes to bring them to a level where they can continue without outside support; to expand the monitoring protocols to other islands in the region and in other regions.
2. To develop linkages and interfaces between the beach change databases and geographical information systems.
3. To evaluate the use and the effectiveness of the 'safe' setback concept, and to determine whether it can be applied as a planning concept to other islands in and beyond the region.
4. To continue to work with the islands of the region to reduce their dependence on beach sand for construction and to develop the use of alternative materials.
5. To establish an electronic communication network amongst the islands taking part in the project for the purpose of sharing information and solving problems.
6. To work with other agencies in the region to enhance and improve overall beach management, which is so important to the economic and tourism development of the region.
7. To develop a cadre of persons in the islands trained in environmental video production and broadcast, who will be skilled and equipped in the dissemination of information on environmental and coastal issues to the public.
8. Through the implementation of the Sandwatch Project, to educate schoolchildren, their parents and communities in the scientific monitoring and wise management of their beach resources.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

Planning for coastal erosion / eastern Caribbean islands (also in French and Spanish) – *Gillian Cambers*
http://www.csiwisepractices.org/?read=2

Seeking alternatives to beach sand mining / São Tomé and Principe (also in French) – *Lourenço Monteiro Jesus and Maria Rosario Partidario*
http://www.csiwisepractices.org/?read=49

The complexity of beach sand mining: an issue for many islands (also in French) – *Gillian Cambers*
http://www.csiwisepractices.org/?read=83

A viable solution to beach sand mining? / Montserrat – *Gillian Cambers*
http://www.csiwisepractices.org/?read=88

Economic aspects of sand mining / Kosrae – *Douglas Ramsay*
http://www.csiwisepractices.org/?read=142

A combination of factors is necessary for wise practice implementation – *Gillian Cambers*
http://www.csiwisepractices.org/?read=149

Economic incentives for wise practice implementation – *Douglas Ramsay*
http://www.csiwisepractices.org/?read=151

Conditions necessary for the implementation of this wise practice – *Gillian Cambers*
http://www.csiwisepractices.org/?read=154

An ‘environmental’ solution to coastal erosion / Caribbean (also in French) – *Arno S. Schmid*
http://www.csiwisepractices.org/?read=239

Planning measures need the support of all / Anguilla – *Sharon Roberts-Hodge*
http://www.csiwisepractices.org/?read=296

Annex 6.6

EDUCATION FOR SUSTAINABLE VILLAGE LIVING, SAANAPU AND SATAOA VILLAGES, UPOLU ISLAND, SAMOA

PILOT PROJECT SUMMARY

Revision date: 4 October 2000

Title: Education for sustainable village living, Saanapu and Sataoa villages, Upolu Island, Samoa.

Goals: To address environment and development problems such as resource depletion, waste disposal and pollution, through innovative coupling of indigenous knowledge and practice with contemporary science and technology; to ensure strong community participation with a particular focus on involving schoolchildren, youth and the local community in project activities to strengthen, in a complementary manner, indigenous knowledge, practice, cultural identity and self-esteem; to strengthen local values associated with mangroves and swamps as sources of food, medicine and other traditional products, as well as places of social/spiritual significance.

Location: Saanapu-Sataoa Mangrove Conservation Area, Saanapu and Sataoa villages, Upolu Island, Samoa.

Starting date: The project was expected to begin in 1998; however, due to various factors, it was only initiated in June 2000.

Partners: Government of Samoa through the Department of Education and the Department of Lands, Surveys and Environment; National University of Samoa; Saanapu and Sataoa Villages; Saanapu and Sataoa Primary Schools; UNESCO: Education Sector Associated Schools Project, Coastal Regions and Small Islands (CSI) platform.

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Description: The project works with two village UNESCO Associated Schools Project (ASP) schools, Samoan secondary schools and the local community in order to further the protection of natural heritage through the conservation and sustainable use of biodiversity while strengthening cultural identity through the recognition and innovative application of indigenous ecological knowledge and practice.
The pilot project has two major activities:

1. Opportunities will be provided for primary and secondary school students to develop an understanding and appreciation of the importance and usefulness of mangrove systems. This will be achieved through the development of a locally adapted mangrove field study guide booklet for primary and secondary school usage, based on organized field study visits to mangrove conservation areas. A further activity is to develop an illustrated resource book, of international quality, on Samoa's mangrove ecosystems. This resource book will also include cultural perspectives based on interviews, local practices and written records.
   Mr Asipa Pati, a senior lecturer in Biology from the National University of Samoa, coordinates this activity. He is assisted by senior secondary and primary school teachers, personnel from the Curriculum Development Unit, and the Department of Lands and Environment.
2. Traditional knowledge relating to key coastal resources and management practices will be recorded using Samoan advisers, personnel from the Department of Lands, Surveys and Environment, social science experts, and curriculum advisers. Information gathered will be compiled in a bilingual report to be published by end October 2000 covering the following information:
   - Traditional knowledge of key coastal resources, including specialized terms in Samoan language, indigenous concepts of ecosystem functions, and traditional management regimes;
   - Identification of threats and risks to the Samoan coastal environment, their causes, and culturally and socially appropriate solutions.

   It is hoped that the report will help the community to discover the symptoms and causes of environmental problems, understand their complexity and hence the need to develop critical thinking and problem solving skills, and stimulate the optional use of local knowledge and skills.
   The component is coordinated by Dr Asofou So'o of the National University of Samoa and his team of researchers.

Achievements and assessment:

1. The group made its initial visit to the conservation area on 17 June 2000 to familiarize itself with the area and to discuss and design field study activities. Work has been initiated on the field study activities and booklet, which will be field-tested before the camera-ready material is prepared, scheduled for the end of September. A digital camera has been purchased to capture high quality photographs of the rich biodiversity of the conservation area. Photographs will serve to illustrate the resource book on Samoa's mangrove ecosystems.
2. The group started interviews on 6 June 2000, and have so far interviewed a select group of approximately 30 individuals, comprising primary school teachers, students, parents, community leaders, and community members knowledgeable of traditional management practices. It is expected that about 80 people will be interviewed by the end of July, completing field data collection activities, after which a report will be prepared.

3. The registered UNESCO ASP schools in the country have now incorporated 'Environment' as a major supplementary activity in their schools. It is further evidenced by the celebration of 'environment day' where ASP schools take part in drama, essays, debates, poster preparations, etc. The ASP themes have now taken root in the schools and have become a permanent feature of the existing classroom environment.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi; password = wise)

Using traditional checks and balances in sustainable development / Samoa – *Mali Voi*
http://www.csiwisepractices.org/?read=3

Chumbe Island: an example of island conservation for the Pacific (also in French) – *Mali Voi*
http://www.csiwisepractices.org/?read=195

Tourism as a tool to conserve humanity's cultural and natural heritage / Pacific islands – *Mali Voi*
http://www.csiwisepractices.org/?read=249

Annex 6.7

SOUND DEVELOPMENT IN THE MOTU KOITABU URBAN VILLAGES, PORT MORESBY, PAPUA NEW GUINEA

PILOT PROJECT SUMMARY

Revision date: 1 March 2001

Title: Sound development in the Motu Koitabu urban villages, Port Moresby, Papua New Guinea.

Goal: To address, through generating awareness and self-realization, the social, economic and environmental problems affecting the livelihood of the Motu Koitabu people.

Location: Motu Koitabu villages in Port Moresby, the National Capital of Papua New Guinea.

Starting date: 1998

Partners: Representatives of the Motu Koitabu villages; Motu Koitabu Council; Papua New Guinea Institute of Public Administration (PNGIPA), National Commission of Papua New Guinea for UNESCO; UNESCO: Associated Schools Project (ASP), Growing up in Cities (GUIC), Management of Social Transformations (MOST), Coastal Regions and Small Islands (CSI) platform.

Pilot project leader:
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Description: The Motu Koitabu, numbering around 30,000 of the city's 250,000 total population, are the traditional landowners of the greater Port Moresby area. The city's current population is a cross-section of people from all the provinces of the country and the world over. Problems faced by the local people are related to rapid urbanization and limited space. Major development projects contribute to exacerbate these problems.
The project seeks to assist the Motu Koitabu to address their immediate environmental and conservation problems. It seeks to link the urban village population with municipal authorities, government agencies, as well as aid donors in a multidisciplinary approach and team effort to promote wise practices.

The main activities under the project can be listed as follows:
Phase 1 (completed 1998): An awareness campaign in Baruni, Tatana and Hanuabada villages, together with site surveys, data collection and meetings with villagers, were conducted. A final report covering Phase 1 was prepared.
Phase 2: The activities have included:

- Awareness seminars conducted in Baruni and Hanuabada villages. Baruni seminars targeted church-based youth groups, while the Hanuabada session formed part of the United Church Urban Region Youth Convention, attended by 600 youths from urban areas like Port Moresby, Madang, Lae (Morobe Province), Goroka (Eastern Highlands Province), Popondetta (Oro Province), Manus, Wewak and Vanimo. The findings of the Phase 1 Final Report were disseminated to the participants.
- The successful and historical Inaugural Summit on Motu Koitabu Development was held in Baruni Village on 31 August – 1 September 1999. The theme of the summit was Identity and Survival of Motu Koitabu People in Year 2000 and Beyond.
- A Working Group adopted by the Summit, the Motu Koitabu Task Force, was established under the leadership of Mr Gaudi. A general meeting was organized on 20 December 1999 at Parliament House by Lady Carol Kidu, Member of Parliament for the Port Moresby South Electorate.
- A workshop on 'Growing up in Cities' was held in Port Moresby in November 1999. Young people from the National Capital District and all over Papua New Guinea took part. Participants gained experience in co-operation and interaction amongst themselves and other agencies to influence their own human and physical environment. A Youth Declaration was also prepared.
- Lady Kidu was appointed as Chairperson of the Special Parliamentary Committee on Urbanization and Social Development. In December 2000, the final report of this Special Committee was submitted to Parliament. Mr Kabua Kabua and Mr Gaudi presented a set of Motu Koitabu position papers to this parliamentary committee in a public hearing in early March 2000.

Achievements and assessment:

1. The Motu Koitabu are slowly becoming aware of the complex social, economic and environmental problems affecting their livelihood.
2. The leaders, Motu Koitabu councillors, task force members and invited community leaders believe that the only way for their people to meaningfully participate in sustainable development is to work within the established structures and systems.
3. An identified constraint has been a lack of co-operation among community leaders and Motu Koitabu councillors, leading to petty jealousies, bickering and the promotion of self-interest.

Future directions:

1. Extend and develop advocacy activities targeting minority groups in the Motu Koitabu society.
2. Plan and prepare supplementary educational curriculum materials focusing on the Motu Koitabu.

3. Together with researchers and students from the University of Papua New Guinea, conduct research and social profiles of Motu Koitabu villages, with special reference to land ownership and land-use issues.
4. Organization of strategy meetings with representatives of all stakeholder groups to exchange views and develop action plans for addressing issues of relevance to the Motu Koitabu cause.
5. Full documentation of all activities.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

Cost benefit analysis of major infrastructural developments / Papua New Guinea – *Haraka Gaudi*
http://www.csiwisepractices.org/?read=13

Clarifications sought about levels of government control – *Gillian Cambers*
http://www.csiwisepractices.org/?read=15

Levels of government responsibility/concepts of land ownership – *Haraka Gaudi*
http://www.csiwisepractices.org/?read=21

Environmental impact assessment and capacity building – *Maria Rosario Partidario*
http://www.csiwisepractices.org/?read=30

Environmental impact assessment as a management tool / Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=37

Environmental impact assessment/mobilizing the public – *Haraka Gaudi*
http://www.csiwisepractices.org/?read=47

Local control of water supply / Papua New Guinea – *Mali Voi*
http://www.csiwisepractices.org/?read=213

The future of the wise practices forum – an Asia-Pacific regional perspective – *Maarten Kuijper*
http://www.csiwisepractices.org/?read=285

Related Web-based articles

Growing up in cities, Papua New Guinea Workshop
http://www.unesco.org/most/guic/guicpngframes.htm

Newsletter item on Growing up in Papua New Guinea – *Hans Thulstrup*
http://www.unesco.org/csi/act/png/newsletter.htm

Annex 6.8

PALAU PERSPECTIVE ON WISE COASTAL PRACTICES

Prepared by Mr Yimnang Golbuu
Revision date: 30 November 2000

Background

The Republic of Palau is the westernmost archipelago in Oceania, located 741 km east of Mindanao in the southern Philippines and about 1,300 km southwest of Guam. The islands of Palau stretch for 700 km from Ngeruangel Atoll in the north to Helen Atoll in the south. The population is about 17,000. Palau has the most diverse coral fauna of Micronesia, with 1,449 reef fish species.

Palau is made up of 16 states; each state has its own governor and legislature; and each state has jurisdiction over its land and water out to a distance of 12 miles. The present main focus for the states is economic development and income generation. Dive-based tourism is the most important type of tourism. The country has a complex legal structure with State laws and Chiefs' laws.

Principal and immediate coastal-related issues

Palau has traditional management systems for marine conservation. For instance, village chiefs could call for a ban ('bull') on fishing in certain areas or of certain species. However, with modernization, Palau is facing new threats resulting from development and population growth, e.g. pollution, erosion and sedimentation. These are new problems for Palau and there are no traditional systems to manage them.

The main environmental issues facing Palau are:

- Climate change and El Niño. The 1998 coral bleaching episode was very widespread extending to corals at depths of 125 ft. Some areas are showing recovery.
- Erosion, sedimentation and freshwater runoff, due to poor land-use practices, e.g. a major road-building project is causing erosion and landslides.
- Over-fishing of highly desired fish and invertebrate species.
- Insufficient infrastructure to support the population growth.
- Reef dredging for construction materials.
- Few informed stakeholders, and few stakeholders involved in conservation programmes.
- Insufficient collaboration and co-ordination among the different groups and agencies involved in monitoring, management and conservation.
- Inadequate land-use planning, regulations and enforcement.

Significant programmes and projects

Establishment of protected areas

One national protected area has been established, the Ngerukewid Islands Wildlife Preserve. Seven state marine protected areas have been established:

- Kayangel State: Ngeruangel Reserve;
- Ngiwal State: Ngemai Conservation Area;
- Ngeremlengui State: Fisheries Reserve;
- Ngatpang State: Ngatpang Reserve and Ngermeduu Bay Conservation Area (Aimeliik, Ngatpang, Ngeremlengui);
- Koror State: Rock Island Conservation Area (A Rock Island Conservation Management Plan is being prepared); and
- Ngerchelong State: Ebiil Conservation Area.

Local Marine Science Programmes
The Palau Community College is developing a Marine Science Programme.

Integrated Management Plan for Ngerikiil Watershed
This is being developed by the following agencies: Palau Community College, Natural Resource Conservation Service, Palau Environmental Quality Protection Board, Bureau of Natural Resources and Development, Palau Conservation Society, Bureau of Public Works – Water Division, and the Airai State Government.

Palau International Coral Reef Center
This was built with funding provided by the Japanese Government, and its mission is to carry out research into coral reef systems, their conservation and management. It has been designated as a Node for Micronesia as part of the Global Coral Reef Monitoring Network.

Marine Resources Pacific Consortium (MAREPAC)
This is a network of several islands in the region (Palau, Guam, Federated States of Micronesia, Marshall Islands, American Samoa) established to share information and expertise and provide for capacity building and collaboration among the different islands with the focus on marine resource management.

Significant gaps in ongoing and planned activities
There is a great need for further capacity building and training, particularly in the management of freshwater resources and aquaculture. An ICM plan is also needed.

Scope for potential CSI activity
Assistance is required in training and all aspects of capacity building, in particular:
- Assessment and monitoring;
- Socio-economic baseline surveys;
- Integrated coastal management; and
- Natural resources policy development.

Assistance is also required in awareness and sensitization efforts directed at all levels of society: villagers, traditional and political leaders, and policy-makers.

Annex 6.9

COASTAL RESOURCES MANAGEMENT AND ECOTOURISM: AN INTERSECTORAL APPROACH TO LOCALIZING SUSTAINABLE DEVELOPMENT, ULUGAN BAY, PALAWAN, PHILIPPINES

PILOT PROJECT SUMMARY

Revision date: 4 October 2000

Title: Coastal resources management and ecotourism: an intersectoral approach to localizing sustainable development, Ulugan Bay, Palawan, Philippines.

Goal: To generate a model for community-based coastal resources management using an intersectoral approach strongly linked to the development of sustainable livelihoods.

Location: Ulugan Bay, Puerto Princesa, Palawan, Philippines.

Starting date: 1996

Partners: City Government of Puerto Princesa, Palawan; National Commission of the Philippines for UNESCO; United Nations Development Programme (UNDP); UNESCO: World Heritage Centre (WHC), Man and the Biosphere (MAB) Programme, Coastal Regions and Small Islands (CSI) platform.

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Description: Ulugan Bay is an important area within the Palawan Biosphere Reserve and the northeastern part of the bay is adjacent to the Puerto Princesa World Heritage Site. The natural resources of the bay (reefs, seagrass beds, mangroves) provide livelihoods to more than 5,000 residents and represent a significant source of fish for markets in Puerto Princesa. Major issues include unsustainable fishing and agricultural practices, conflicting private land ownership, pressures from tourism, the planned naval base and marginalized indigenous people.

The main activities in this project are as follows:

1. A strategic planning workshop was organized by UNESCO in 1996; this resulted in the establishment of a working group and was followed by a series of consultations with stakeholders around the bay. A needs survey was also conducted.

2. In 1997 efforts were concentrated on the development of a project document for planning intersectoral activities in the bay and capacity building for local institutions particularly in the field of data collection.
3. With the support of UNDP, and the close collaboration of the Government of the Philippines and the City Government of Puerto Princesa City, UNESCO started a two-year project in 1998: Coastal resources management and sustainable tourism in Ulugan Bay. Following a data collection phase (ecological, traditional use, socio-economic profile, potential for sustainable tourism), the project focused on four main activity lines:
   - Community-based experimental areas for sustainable fish farming in Ulugan Bay.
   - Assessment of biodiversity trends and establishment of a fisheries database.
   - Master plan for community-based sustainable tourism.
   - Non-formal environmental education for youth and training.

At the end of this two-year project, in July 2000, a policy and management workshop was organized to foster open communication about the model between policy-makers and the communities in order to emphasize the lessons learnt.

Achievements and assessment:

1. A platform has been created for the development of policy and management practices at the community level in Ulugan Bay. A linkage has been established between data and policy such that data can provide a significant input for managerial decisions. There now exist practical guidelines for managers and policy-makers.
2. An empirical model has been generated for sustainable development in coastal areas, which can now be tested in other areas of the Philippines.
3. Local institutions have been strengthened to continue the biophysical monitoring activities and use these in addressing local issues.
4. Strong links have been established with other major UNESCO projects (Man and the Biosphere Programme, World Heritage Sites) as well as with the UNESCO Chair in integrated coastal management and sustainable development. Activities funded by other agencies also complement this project, e.g. a European Union (EU) funded project on 'Prediction of recovery and resilience in disturbed coastal communities in the Tropics' and a project on mangroves implemented by the United Nations Economic and Social Commission for Asia-Pacific.

Future directions:

The activities initiated by the project are envisioned to be further enhanced and sustained via the gains and commitment by partners – local, national, regional and international. This will start the formal institutionalization process. Gaps in knowledge and management will be continuously addressed so that, at the end, the entire project will be transformed into a model in integrated coastal area management, not just in the Philippines but in the region as well.

Following the policy and management workshop in July 2000, a project proposal was prepared and submitted to donors for the implementation of various sustainable tourism activities.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

Environmental impact assessment as a management tool / Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=37

Combining research and education in protected area management / Ulugan Bay, Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=78

Further questioning the role of some NGOs / Philippines (also in French) – *Miguel Fortes*
http://www.csiwisepractices.org/?read=146

Further developments at Ulugan Bay, Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=150

Exposing the hypocrisy of some 'environmental' resorts (also in French) – *Miguel Fortes*
http://www.csiwisepractices.org/?read=174

Sustainable tourism in a biosphere reserve, Puerto Galera, Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=197

Marine zonation – *Melissa Macasaet*
http://www.csiwisepractices.org/?read=235

Local (Palawan, Philippines) and global aspects of renewable energy – *Hugh Trudeau and Stefan Gossling*
http://www.csiwisepractices.org/?read=254

The future of the wise practices forum. An Asia-Pacific regional perspective – *Maarten Kuijper*
http://www.csiwisepractices.org/?read=285

Education rather than purchasing is a better option for conservation / Philippines – *Guillermo H. A. Santos*
http://www.csiwisepractices.org/?read=292

Sustainable tourism through the preparation of a tourism master plan / Philippines – *Melissa Macasaet and Martin Felstead*
http://www.csiwisepractices.org/?read=298

Enforcing environmental laws; a societal approach – *Bob Johannes*
http://www.csiwisepractices.org/?read=300

Land purchase/lease for conservation does work. Some examples – *Ray Leonard, Jean-Luc Solandt, Clive Gilbert, Sibylle Riedmiller*
http://www.csiwisepractices.org/?read=329

The impact of migrant fishers on sustainable development / Ulugan Bay, Palawan, Philippines – *Rebecca Rivera-Guieb*
http://www.csiwisepractices.org/?read=330

Annex 6.10

UNESCO Chair in integrated coastal management for sustainable development in coastal regions and in small islands, University of the Philippines

UNIVERSITY CHAIR SUMMARY

Revision date: 1 March 2001

Title: UNESCO Chair in integrated coastal management for sustainable development in coastal regions and in small islands at the University of the Philippines, Diliman.

Goals: In the short term, to institutionalize a Chair in integrated coastal management for sustainable development in coastal regions and in small islands at the University of the Philippines, Diliman. Emphasis is on disciplines which the country and the region need: coastal ecosystem dynamics, integrated coastal management, socio-economics, cultural anthropology and institutional/legal dynamics. In the long term, to use highly trained manpower towards implementing 'wise' management options for the sustainable development of coastal areas in the Philippines and the Southeast Asian region.

Location: University of the Philippines, Diliman, Quezon City, Philippines.

Starting date: November 1998; the chair was formally established on 21 July 2000, with an agreement signed by the UNESCO Director General and the President of the University of the Philippines.

Partners: College of Science Environmental Science Program (CS-ESP), University of the Philippines; UNESCO: Man and the Biosphere (MAB) Programme, Coastal Regions and Small Islands (CSI) platform.

Contact person:
Dr Miguel D. Fortes, Coordinator
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Chairholders:
Dr Miguel D. Fortes, Marine and Coastal Science, Second Semester 1998–1999;
Dr Luzviminda L. Valencia, Environmental Sociology, Second Semester 1998–1999 to First Semester 1999–2000, *e-mail*: c/o Dr Miguel Fortes;
Prof. Rebecca Rivera-Guieb, Social Sciences, First Semester 1999–2000, *e-mail*: rrivera@netgazer.com.ph; beckyguieb@usa.net
Dr Esteban Magannon, Social Anthropology, First Semester 2000–2001, *e-mail:* magannon@cybercable.fr

Description: The University of the Philippines and UNESCO jointly launched the chair to advance the opportunities for promoting an integrated system of research and training, and to link the chairholders with pilot project activities in Ulugan Bay (http://www.unesco.org/csi/act/ulugan/summary_3.htm) and MAB activities in Puerto Galera. The following activities have been undertaken:

Research activities:

1. The chair provides support for promoting an integrated system of learning that is accommodated as special topics in the CS-ESP. In the lectures and seminars for CS-ESP, the chairholders use their research data and involvement in the field projects as case studies and 'seeds' for class projects.
2. Dr Valencia, as a technical consultant in charge of the social aspects of development activities, has evaluated Environmental Impact Assessment reports on the provinces of Palawan and Mindoro.
3. Dr Fortes' class project in Environmental Science 282 (Environmental Impact Assessment) for the Second Semester 1999–2000 focused on the tourism development plan of Puerto Galera. Likewise, his other classes have produced studies that informed both the Ulugan Bay and Puerto Galera projects. He worked on the ecological profile of Ulugan Bay and utilizes this case study in his lectures.
4. Ms Rivera-Guieb's thrust is to utilize case studies, such as the Philippines experience on sustainable ICM and the livelihood projects within the Fisheries Sector Programme, to demonstrate integrated coastal management (ICM) approaches. She has worked on the socio-economic profile of Ulugan Bay and utilizes this case study in her lectures.

Support to pilot projects

1. The chairholders are actively involved in the UNESCO activities in Ulugan Bay and Puerto Galera. Dr Fortes, for example, was responsible for a study on seagrass-fish interaction in Ulugan Bay. Ms Rivera-Guieb used the socio-economic profile of Ulugan Bay as a basis for a community-based sustainable tourism initiative in the area.
2. The chairholders have interacted with the City Government of Puerto Princesa City in Palawan and the Environmental Legal Assistance Center (ELAC), the NGO responsible for the education campaign for the Ulugan Bay project.
3. Dr Fortes presently coordinates the UNESCO programme in Puerto Galera in the province of Oriental Mindoro and has transformed the site into a laboratory for his classes so that the students can have a practical hands-on experience and a better appreciation of local and on-the-ground strategies. Dr Fortes and Ms Rivera-Guieb also participated in the Ecotone IX held in Puerto Galera in May 2000, as workshop coordinator and convener of the socio-economics module, respectively.

Training activities:

1. For the second semester 1998–1999 and with 15 students and 3 young researchers, the class in Environmental Science 297 (Special Topics: Coastal Ecosystem Dynamics) went to Ulugan Bay to conduct studies on coral reefs, seagrass beds and water quality. This initiative was the first attempt to monitor the damage wrought by the December 1998 typhoon. The results of these studies have contributed to an understanding of the natural components and processes in the bay.
2. For the first semester 1999–2000, the class in Environmental Science 297 tackled the same subject matter as in the previous semester; however, emphasizing an ecosystem approach as well as an ICM approach. These combined methodologies are new additions to the academic content of the course.
3. In support of the activities in Ulugan Bay, Ms Rivera-Guieb facilitated training on participatory research and coastal resource management planning in 1998 and 1999. Community organizers from various NGOs in Palawan and community extension workers of the City Government participated in the training.

Achievements and assessment:

1. The chair is laying down a foundation for an integrated system of research, training, information and documentation in the field of ICM and sustainable development in coastal regions and in small islands. This integrated system of learning is designed for the students, many of whom are themselves trainers, researchers, NGO workers, or government staff. Exchanges among the faculty, students and researchers utilize concrete examples that relate to practical strategies and local actions, which directly impact people's livelihoods.
2. One of the most significant achievements of the chair is to link teaching and research with project activities in Ulugan Bay and Puerto Galera. The scientific inputs guided the project activities and the learning is enhanced by expanding the base of knowledge to include the views and perspectives of stakeholders from the project sites.
3. Efforts are being made to establish and expand institutional linkages. For example, the Philippine Coast Guard (PCG) of the Department of Transportation and Communication is expected to forge a co-operative venture with CS-ESP. The latter will train PCG personnel on the fundamentals of ecological science and pollution prevention, control and monitoring. The PCG has modern laboratory facilities which the CS-ESP lacks. The objective is to train personnel from all over the country and to institutionalize the effort so that the capacity is built and maintained. In addition, CS-ESP coordinates activities with the National Defense College (where Dr Fortes is a Fellow), and plans to link up with the Department of Human Geography of Stockholm University, Sweden and Connecticut College in the USA.

Future directions:

To continue with the activities already initiated by the chair and to sustain efforts of the CS-ESP in institutionalizing the integrated system of research, training, information and documentation in the field of ICM and sustainable development in coastal regions and in small islands.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password= wise)

Environmental impact assessment as a management tool / Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=37

Combining research and education in protected area management / Ulugan Bay, Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=78

Further questioning the role of some NGOs / Philippines (also in French) – *Miguel Fortes*
http://www.csiwisepractices.org/?read=146

Further developments at Ulugan Bay, Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=150

Exposing the hypocrisy of some 'environmental' resorts (also in French) – *Miguel Fortes*
http://www.csiwisepractices.org/?read=174

Sustainable tourism in a Biosphere Reserve, Puerto Galera, Philippines – *Miguel Fortes*
http://www.csiwisepractices.org/?read=197

Marine zonation – *Melissa Macasaet*
http://www.csiwisepractices.org/?read=235

Local (Palawan, Philippines) and global aspects of renewable energy – *Hugh Trudeau and Stefan Gossling*
http://www.csiwisepractices.org/?read=254

The future of the wise practices forum. An Asia-Pacific regional perspective – *Maarten Kuijper*
http://www.csiwisepractices.org/?read=285

Education rather than purchasing is a better option for conservation / Philippines – *Guillermo H. A. Santos*
http://www.csiwisepractices.org/?read=292

Sustainable tourism through the preparation of a tourism master plan / Philippines – *Melissa Macasaet and Martin Felstead*
http://www.csiwisepractices.org/?read=298

Enforcing environmental laws; a societal approach – *Bob Johannes*
http://www.csiwisepractices.org/?read=300

Land purchase/lease for conservation does work. Some examples – *Ray Leonard, Jean-Luc Solandt, Clive Gilbert, Sibylle Riedmiller*
http://www.csiwisepractices.org/?read=329

The impact of migrant fishers on sustainable development / Ulugan Bay, Palawan, Philippines – *Rebecca Rivera-Guieb*
http://www.csiwisepractices.org/?read=330

Annex 6.11

PROMOTION OF INDIGENOUS WISE PRACTICES: MEDICINAL KNOWLEDGE AND FRESHWATER FISH, MORIPI CULTURAL AREA, GULF PROVINCE; FOOD SECURITY, TROBIAND ISLANDS, MILNE BAY PROVINCE, PAPUA NEW GUINEA

PILOT PROJECT SUMMARY

Revision date: 18 February 2001

Title: Promotion of indigenous wise practices: medicinal knowledge and freshwater fish, Moripi Cultural Area, Gulf Province; food security, Trobriand Islands, Milne Bay Province, Papua New Guinea.

Goals: To rekindle, stimulate and promote dormant wise indigenous practices; to ensure the continuity of useful and sustaining knowledge and practices; to maintain wise traditional methods of resource exploitation; to maintain sound and durable notions of self sustenance; to challenge present critical attitudes and behaviour towards all forms of traditional knowledge; and to restore sufficient levels of food supply in preparation for future natural disasters, such as climatic variations caused by El Niño/La Niña episodes.

Location: The coastal area of the Moripi Cultural Area, Gulf Province; and five villages: Okeboma, Okupukopu, Ilalima, Osapola and Ketuvi, Kiriwina Island, Trobriand Islands, Milne Bay Province, Papua New Guinea (PNG).

Starting date: 1998 (Moripi Cultural Area), 1999 (Trobriand Island).

Partners: Papua New Guinea Office of Environment and Conservation; selected village researchers; Gulf Provincial Department of Primary Industry; Milne Bay Provincial Forestry Department, Alotau; Millenium Ecosystem Assessment – Small Islands Under Pressure in Papua New Guinea (Dr Colin Filer – Department of Anthropology/ Resource Management in Asia-Pacific Project, RSPAS, ANU); Environmental Science, Biology and Physical Geography disciplines of the University of Papua New Guinea; UNESCO Coastal Regions and Small Islands (CSI) platform.

Pilot project leader: Dr Linus s. digim'Rina
Head of Anthropology and Sociology Department
University of Papua New Guinea
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e-mail: lsdigi@upng.ac.pg

Description: *The Moripi Cultural Area* lies along the coast and is accessible by vehicular roads as well as by air from Port Moresby. It is composed of three main Toaripi language speaking villages: Miaru, Iokea and Oiapu. The other inland villages belong to the Austronesian language-speaking Mekeo villages: Apanaipi and the others. The main feature of the area is characterized by the huge River Miaru on which the villages largely depend for much of their resources. The planned activities include:

1. A social profile of the Miaru village as the key point of entry.
2. A survey of indigenous medicinal plants and uses.
3. Intensive research on the traditional methods of exploitation and conservation of a local variety of freshwater fish, Sarevera.
4. An archaeological survey of previous historical settlements.

The Trobriand Islands are all coral atolls, probably relics of previous volcanic activities in the region. The highest points of the islands are around 50 m above sea level. The five villages upon which the pilot project is based are all on the main island, Kiriwina. The main crops cultivated for sustenance are yams, taros, bananas, tapioca and sweet potatoes. Long droughts and extended periods of rain render the local food supply precarious. This was revealed to the people in 1997's El Niño episode when the people were forced to 'beg' for assistance from the government, who failed to supply their needs. The planned activities are:

1. To promote the replanting of local fruit/nut-producing trees and plants, including mangoes, guavas, breadfruit (kum), malay apples (mokolu), menoni, mokakana, lawa, yomwegina, lokwai, kikirodu, chestnut (vivi), gwadina, natu, vadila, kasikuku boi, pupukuna, coconuts, etc. These are mostly trees, adapted to local climatic and ecological conditions. The practice is not new and the knowledge is certainly local and intergenerational.
2. Promote indigenous knowledge about values. The present fruit/nut trees planted by elders three generations ago are all dying. There has been no effort to replant/replace them, even though everyone loves to harvest them for food. The 1997 El Niño episode killed all root crops and the people viciously competed for the very few fruit/nut-producing trees available.
3. New ideas on sustenance have had a negative effect on the attitudes of the younger generations about anything traditional. This exercise is an eye-opener for most villagers, and draws their attention towards real self-sufficiency rather than dreaming of 'money' being the sole provider of sustenance.
4. The five villages will set an example for the entire island, as well as for the province and the country as a whole. Five years after planting, the trees can be harvested, and fruits and nuts will be shared with neighbouring villagers and relatives from afar. The project's activities will be publicized.

Achievements and assessment: *Moripi Cultural Area*

1. The social profile of the Miaru village was completed in 1998. This involved university students as part of a fieldwork exercise. The report is near completion.

2. The survey and collection of information on medicinal plants is underway and so far at least 33 different local plants and their uses have been identified.
3. Field information on the Sarevera fish has been compiled, further research and collaboration with marine biologists from the University's Motupore Marine Centre has yet to be completed.
4. No archaeological work has been carried out to date, although it is scheduled for end 2000/2001.

Trobriand Islands

It was agreed with the villagers concerned that the project leader would supply the mango seeds whilst the villagers would have to procure seeds of other fruit/nut trees themselves.

1. At the end of 1999, about 8,200 mango seeds were flown from Port Moresby to the island by the project leader. All were distributed amongst the five villages, mission stations, schools and some individuals from outside the pilot project's ambit. An average of three mango seeds was supplied to each household.
2. During a visit in May 2000, a sample survey of the progress of the plants showed that two thirds of the plants had survived. Villagers complained of some bad seeds, which is attributed to the project leader's indiscriminate collection of seeds from households and footpaths in Port Moresby.
3. Meetings held with the villagers showed unanimous endorsement of the whole idea. They said it was cheap and required little labour, being based on locally available seeds and local knowledge. This is leading to a realization of the importance of local knowledge.
4. Many of the seeds have been planted within the residential areas. This might pose potential problems of overcrowding and perils during cyclones.

Future directions:

Moripi Cultural Area

The project will be expanded inland to include the northern Apanaipi village, Iokea and Oiapu to the east, and eventually towards the Malalaua district of the Lakekamu delta.

1. Complete and submit the social profile report.
2. Prepare a draft report of the medicinal plants survey by early 2001.
3. Complete a draft report of the Sarevera fish.
4. Concentrate efforts on the expansion of the project, including liasing with relevant provincial and district authorities as well as other research institutions.

Trobriand Islands

The next step is to ensure that the planted seeds are progressing well without hindrance, and to hold meetings for greater awareness of the project's benefits for the people.

1. Provide a thorough account of the variety of plants that have been included in this project.
2. Determine the relationship between ownership of trees as property and land, which may lead to a better understanding of existing land tenure principles.

3. Provide lectures and discussions amongst interested local groups, governing bodies and schools to promote the idea.
4. Consult with partners, especially government departments, for assistance and co-operation.
5. Due to lime production for betel chewing, a widespread habit on the island, there is a real threat to the corals in the future. Coral fingers provide the best lime powder for the locals. Protection of corals and reduction of over-fishing of mud crabs and ‘bech de mer’ for commercial purposes, are future projects and much harder tasks, which could perhaps be embraced by the planned UNESCO university chair.

Annex 6.12

UNESCO Chair in wise and locally relevant approaches towards the management of coastal regions and small islands, University of Papua New Guinea

UNIVERSITY CHAIR SUMMARY

Revision date: 25 November 2000

Title: UNESCO Chair in wise and locally relevant approaches towards the management of coastal regions and small islands.

Goals: In the short term, to institutionalize an integrated approach to academic research programmes within the university, particularly among the following disciplines: anthropology and sociology, environmental science, geography, biology and community medicine. An immediate goal is to publish and/or co-publish existing manuscripts in relevant fields to raise funds for research activities. In the long term, to utilize local expertise in ways that would stimulate and revamp research activities in such areas, whilst providing adequate training for young and promising researchers; to provide advice on current national and local policies; and to support and ensure the continuation and expansion of existing pilot projects both within and outside the country.

Location: University of Papua New Guinea (UPNG), Port Moresby, National Capital District, Papua New Guinea (PNG).

Starting date: June 1999; the chair has yet to be formally established.

Partners: University of Papua New Guinea, Office of Environment and Conservation, PNG-BioNet, Pacific Adventist University, Wau Ecology Institute (PNG), National Agricultural Research Institute (NARI); UNESCO Coastal Regions and Small Islands (CSI) platform.

Contact person: Dr Linus S. digim'Rina
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Future Chairholders: Dr Linus s. digim'Rina, Anthropology and Sociology 2002
Dr Frank Griffin, Biology, UPNG 2003
Mr John Duguman, Environmental Science, UPNG 2004

Dr Budai Tapari, Geography, UPNG 2005
Dr John Muke/E. Kinkin/J. Ketan, Anthropology and Sociology, UPNG 2006
It is planned to rotate the chair among the above persons for the first five years.

Description: The following concerns provide the rationale behind the establishment of the chair:

1. Lack of institutional research efforts relating to coastal and small island populations, environments and locally adapted living strategies.
2. Inadequate efforts to integrate existing indigenous wise practices and wisdom into institutionalized research programmes and teaching methods.
3. Lack of genuine integration of local expertise in applied research, training and projects.

To date, the following activities have been/are being undertaken:

1. Submission of a draft proposal for the chair to UNESCO.
2. Establishment of a pilot project: 'Promotion of indigenous wise practices: medicinal knowledge and freshwater fish, Moripi Cultural Area, Gulf Province; food production, Trobriand Islands, Milne Bay Province, Papua New Guinea'. Local villagers and UPNG students have been involved as researchers, advisers, informants and commentators.
3. Establishment of a pilot project: 'Sound development in the Motu Koitabu urban villages, Port Moresby, Papua New Guinea'. Prominent community leaders and villagers have participated along with Social Studies students from UPNG.
4. Dr John Muke is currently completing a city-wide survey of the issues related to poverty alleviation focusing on squatter settlements in the city of Port Moresby. This project is undertaken in conjunction with the Japanese International Co-operation Agency (JICA) and the Department of Anthropology and Sociology, UPNG. Senior students in anthropology have been engaged in numerous social surveys for this project since 1998 and a publication is in preparation.
5. Dr Frank Griffin has established initial arrangements for research collaboration with a university in China.

Achievements and assessment: The above activities are the foundations for the anticipated activities of the chair when it is formally instituted. However, it should be borne in mind that, as a country, PNG has had many offshore concepts, ideas and proposals bearing the catchwords 'sustainability' and 'research collaboration' thrust upon it, and many failed to last. In order to ensure the UNESCO Chair does not follow the same path, it is proposed that the concept be low-key initially, concentrated amongst as few researchers as possible to allow effective and practical progress. Gradually the project will expand outwards within the country thereby pursuing its overall goal. A symbiotic relationship between staff and students for research co-ordination at the university is anticipated.

The following administrative heads have been approached, and their preliminary endorsements of the project is very encouraging: Vice Chancellor (UPNG), Director (Planning), Dean (Social Science), Dean (Natural Sciences), and Dean (Postgraduate Studies).

Future directions: The concept for the chair has been based upon the existing research capabilities of UPNG including both staff (expertise) and students (training), and on specific cultural, environmental and scientific interests. In the long run, the chair will provide:

1. A viable graduate programme centred on coastal regions and small-island environments.
2. Data that can be used for both teaching at various educational levels as well as disseminating information to general public.
3. Local incentives and knowledge on wise practices.
4. A stimulating research environment at the tertiary level.
5. Inter-disciplinary as well as inter-institutional research activities and collaboration in the region.

Annex 6.13

UNITWIN AGREEMENT

Agreement concerning the establishment of a UNITWIN co-operation programme between

The United Nations Educational, Scientific and Cultural Organization (UNESCO)
and
the 'Wise Coastal Practices for Sustainable Human Development' (WiCoP) Network

Drafted by:
The University of the Philippines in consultation with the other five member universities of the proposed WiCoP Network and UNESCO (CSI)

November 2000

The Network on 'Wise Coastal Practices for Sustainable Human Development' (hereinafter referred to as 'the Network') composed of:

- University of Bhavnagar, Bhavnagar (India),
- University of Chulalongkorn, Bangkok (Thailand),
- University of Indonesia, Jakarta (Indonesia),
- University of Papua New Guinea, Port Moresby (Papua New Guinea),
- University of the Philippines, Manila (the Philippines),
- National University of Samoa, Apia (Samoa),

members of the Network represented by the President of the University of the Philippines and the United Nations Educational, Scientific and Cultural Organization (hereinafter referred to as 'UNESCO'), 7 place de Fontenoy, 75352 Paris, France, represented by its Director-General, Mr Koïchiro Matsuura,

Considering that one of the essential factors favouring development in the fields of competence of UNESCO is the exchange of experience and knowledge between universities;

Convinced that joint work by university teachers, researchers and administrators from different regions across the world will benefit the entire academic community;

Recognizing that sustainable human development can only be achieved through integrated efforts that bridge boundaries between disciplines, societal sectors and between local/ indigenous and scientific knowledge;

Bearing in mind the mission and the objectives of UNESCO set forth in its Constitution and the role of UNESCO in promoting inter-university co-operation on an international scale;

Taking into account the experience of the international UNITWIN/UNESCO Chairs Programme as a stimulus to the rapid transfer of knowledge through twinning, networking and other linking arrangements.

Have agreed as follows:

1- Purpose

UNESCO and the Network will create a UNESCO/'Wise Coastal Practices for Sustainable Human Development' Co-operation Programme (hereinafter referred to as 'the Co-operation Programme') in the framework of the UNITWIN/UNESCO Chairs Programme.

2- Main objectives

The principal objectives of the Co-operation Programme are to:

- Promote an integrated system of research, training, demonstration, information and documentation activities in the field of 'Integrated Management and Sustainable Development in Coastal Regions and in Small Islands'.
- Provide advice and expertise to assist all countries in:

- establishing truly intersectoral pilot projects;
- facilitating links between local, regional and global levels, harmonization between top-down and bottom-up approaches, and complementarity among societal domains;
- providing scientific-technological and socio-cultural support to the pilot projects;
- enhancing interdisciplinary research, education and training and the use of new information and communication technologies;
- strengthening local and indigenous knowledge systems and facilitating, where applicable, their equitable articulation with scientific-technological knowledge;
- developing methods for evaluating and applying wise coastal practices for sustainable human development;
- recognizing higher-education qualifications;
- developing guidelines and protocols towards the prevention of potential, and resolution of existing conflicts over coastal resources and values.

3- Fields and disciplines concerned

The Co-operation Programme focuses upon the interface between Environment and Society. The principle domains are: scientific-technical,

socio-cultural and education-communication. The disciplines concerned are environmental sciences, social and human sciences, cultural heritage, management, law and economics as applicable to coastal region and small-island issues.

4- Phasing of the establishment of the Co-operation Programme

4.1. The official date of launch is proposed to be February 2000.

4.2. The development of the Co-operation Programme will comprise two phases:

- *Phase one*: development of the Co-operative Programme activities in conjunction with those on the UNESCO Environment and Development in Coastal Regions and in Small Islands platform (CSI).
- *Phase two*: identification, in close collaboration with the members of the Network and with UNESCO, of ways of extending the Programme to include other participants and/or institutions. All admission of new participants and/or institutions into the Co-operation Programme must be approved in writing by each of the parties concerned.

5- Contribution of each party

5.1. Each party shall appoint its own principal contacts for the Co-operation Programme and duly notify the other.

5.2. Whenever possible, UNESCO shall provide a 'seed-money' contribution. Any financial contribution shall be the subject of a written agreement. UNESCO will collaborate with the network in raising extrabudgetary funds in order to contribute to the smooth functioning of the Co-operation Programme.

5.3. The Network shall submit an annual report to UNESCO presenting and evaluating the activities carried out by the Network. If approved, UNESCO will distribute the report to the world academic community. UNESCO shall ensure the international dissemination of information on the experience and potential benefits of the activities of the Network at the regional and international levels. The Network shall provide a detailed financial report indicating support obtained for the Co-operation Programme from different sources.

5.4. UNESCO shall take the necessary steps to facilitate the participation of the Network in its programmes and activities with a view to promoting international academic co-operation in the field of 'Integrated Management and Sustainable Development in Coastal Regions and in Small Islands'. Whenever possible, UNESCO shall also promote the exchange of information and documentation, and of professors, researchers, and students associated with the Network within the framework of the UNITWIN/UNESCO Chairs Programme.

6- Regular consultations

Regular consultations between the Network members will be carried out using means available at the various institutions.

7- Other provisions

7.1. Subject to the terms of this Agreement, the Network shall assume all expenses linked to the execution of Co-operation Programme activities.

7.2. Neither the Network nor any member of its staff employed for the execution of Co-operation Programme activities shall be considered an agent, representative or member of UNESCO's staff, nor shall they enjoy any benefit, immunity, remuneration or reimbursement if not clearly foreseen in this Agreement; moreover, they shall not be authorized to present themselves as being part of UNESCO, nor make statements on UNESCO's behalf, nor commit UNESCO to any expense of any nature or to any other obligation.

7.3. The Network shall be entirely responsible for taking any measures it deems necessary to insure itself against loss, injury or damage incurred during the execution of these activities.

7.4. The present Agreement shall enter into force upon its signature and will stay in force for a period of four (4) years on the date of all signatures having been appended. It may be terminated by either party subject to sixty (60) days' written notice to the other party.

7.5. Any renewal of the present Agreement shall be effected by an exchange of letters between the parties.

7.6. In the event of a disagreement, the parties shall make an effort in good faith to settle it amicably. In the event that a settlement cannot be reached, any dispute arising out of, or relating to, this Agreement shall be settled by a sole arbitrator appointed by mutual agreement, or failing this, by the President of the International Court of Justice at the request of either party.

Annex 6.14

A PLACE FOR INDIGENOUS PEOPLE IN PROTECTED AREAS, SURIN ISLANDS, ANDAMAN SEA, THAILAND

PILOT PROJECT SUMMARY

Revision date: 4 October 2000

Title: A place for indigenous people in protected areas, Surin Islands, Andaman Sea, Thailand.

Goals: To create a dialogue among the Surin Islands' stakeholders; to encourage the maintenance of appropriate technology and 'wise practice' through the understanding and appreciation of indigenous knowledge; to ensure the continuity of indigenous cultural pride and identity; to provide a model of cultural and natural environmental conservation to be adapted to other islands with a similar context.

Location: Surin Islands National Park in Phang-nga Province, Thailand.

Starting date: 1998; the project has been divided into several phases.

Partners: Surin Islands National Park Administration; Chulalongkorn University Social Research Institute; various other governmental and non-governmental organizations; UNESCO: Culture Sector (Bangkok Office), Intergovernmental Oceanographic Commission Western Pacific Office (Bangkok), Coastal Regions and Small Islands (CSI) platform.

Pilot project leader:
Dr Narumon Hinshiranan
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Description: There have been three major activities:

1. Stakeholder Workshops (November 1998), to discuss the wants and needs of the indigenous Moken and their socio-economic options which require commitment and support from relevant parties. Several issues were brought up during the first workshop including Moken-defined quality of life, park regulation and enforcement on the Moken, and building community strength. More concrete strategies were developed during the second workshop and each stakeholder took on a number of tasks to help with some of the urgent issues. Future project activities were drafted after the workshops.

2. Primers Production (March 1999–present), to produce illustrated primers in four languages for the Moken, Urak Lawoi and Thai children. There are 20 short texts portraying Moken's and Urak Lawoi's marine livelihood, boat travel, important rituals, curing practice, legends, etc. The final primers (1,000 copies) will be printed and distributed to ten local schools attended by sea nomad children. Not only will the primers enable the children to learn through their own language, they will also encourage cultural enthusiasm and pride.
3. Interdisciplinary Resource Assessment Studies (December 1999 – May 2000), to survey the biological aspects of Moken resource use and its impact on the natural ecosystem, and to examine the indigenous knowledge of terrestrial and marine resources and the traditional conservation practices. The active participation of the Moken in these studies was crucial since only the Moken know the ecological history of the islands that they inhabit. The eight graduate students (from marine science, forestry, and anthropology) who conducted the assessment presented their findings in a seminar and the recommendations were presented to the Park Superintendent in an attempt to incorporate the indigenous resource management practices into modern conservation efforts.

Achievements and assessment:

1. Dialogue between stakeholders. The workshops have encouraged a continued dialogue between the parties involved in the Surin Islands natural and cultural environment conservation. Assistance and co-operation have been recruited from several sources, such as a craft training offer from the Bangkok Art College and a turtle conservation fund from the Wildlife Fund Thailand.
2. Draft primer tested and prepared for final production. The primers (200 copies) were tested in five local schools, and feedback from teachers and children will be used in the final production. A few copies were also distributed to local residents and tour operators and received positive responses for creating more cultural understanding and appreciation. There have been several requests for continuing the series of primers. It is expected to publish the primer by the end of 2000.
3. Resource Assessment Studies. Recommendations from the resource assessment studies were presented in the seminar attended by the Marine Park Division Deputy Director and the Park Superintendent. A report on the resource assessment will be prepared by the end of 2000. There is also an initiative to set up a research information centre on the islands.

Future directions:

1. Assess the Moken's health situation and needs, and increase their awareness of the importance of health and dental care. Biodata survey to better understand the population size and dynamics.
2. Enhance the Moken's ability to produce good quality handicrafts, based on their traditional skills, patterns and techniques.

3. Facilitate inter-school exchange between children from the adjacent mainland province and the Moken children. This may generate a spin-off effect such that the relationships between the Fisheries Officers, the Park Rangers and the Moken are improved.
4. Carry out additional resource assessment surveys of certain over-exploited shellfish species and sea cucumbers, and design appropriate measures for replenishment.
5. Reinvigorate the oral tradition of the Andaman Sea tribes, including the Moken and the Uruk Lawoi, through the analysis of old legends and animated discussions. Particular attention will be paid to the environmental conservation message contained in these legends.
6. Design and establish a dedicated website for the project.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

Improving communication and preserving cultural heritage / Surin Islands, Thailand
– *Narumon Hinshiranan*
http://www.csiwisepractices.org/?read=70

The future of the Wise Practices Forum. An Asia-Pacific regional perspective – *Maarten Kuijper*
http://www.csiwisepractices.org/?read=285

Annex 6.15

MAURITIUS PERSPECTIVE ON WISE COASTAL PRACTICES

Prepared by Mr Mitrasen Bhikajee
Revision date: 1 March 2001

Background

The Republic of Mauritius is made up of several small islands. Apart from the main island, Mauritius, located at 20º17' S and 57º33 E, the republic also consists of the outer islands of Rodrigues, St. Brandon, Agalega, the Chagos Archipelago and Tromelin. Because these islands are widely scattered over the Western Indian Ocean, the Mauritian Exclusive Economic Zone (EEZ) covers an area of 1.9 million km^2.

Mauritius, with a land area of 1,865 km^2 and a coastline of 177 km, has a population density of 572 per km^2. In view of the fact that half of the island is covered by sugar cane, the population density on the remaining area is quite high.

Mauritius has witnessed very rapid industrial development in the last two decades. Coastal land is scarce and is sought after by various competing users. This is causing unplanned development of prime coastal land in environmentally sensitive areas.

Because the island is so small, nearly all land-based activities impact directly on the coast, thus the entire island can be considered a coastal zone. It is expected that, in spite of mitigating measures, the pressure on the coastal zone from a multitude of users will remain intense.

Principle and immediate coastal-related issues

According to the National Environmental Action Plan (NEAP) (Government of Mauritius, 1999), intense pressure from the sea (fisheries and water sports) and land-based activities (construction, sewage disposal, industry and agriculture) is degrading the environment and threatening to prevent the realization of the country's full economic potential. The most damaging effects are:

- *Beach erosion*: this has recently been exacerbated by the construction of jetties and walls right on the water's edge;
- *Poor water quality in the lagoon*: all the rivers drain into the lagoon after passing through agricultural and industrial areas, and as a result they have a high nutrient load and a lot of illegally dumped liquid effluents. Only a small part of the island is connected to the sewer system and even here the waste water is discharged into the sea after only primary treatment. The lagoon water quality also suffers as a result of the large number of beach bungalows having soak-away pits;
- *Loss of biological diversity in the marine and coastal areas*: this is considered to be quite serious and much of the damage is not directly visible. Corals are affected by coastal works, water sports, anchor damage and tourist activities;
- *Drop in fish catch* due to over-fishing of the lagoon. The high rate of industrialization coupled with insufficient measures to prevent direct or indirect discharges of effluents and agrochemicals into the lagoon has a serious impact on the lagoon productivity. The coastal fishery production in 1997 was the lowest recorded in the preceding ten years.
- *Inadequate planning of the coastal zone*: high quality land, particularly in prime coastal areas, is scarce and widely sought after. Land planning failures in the past,

coupled with inadequate control, has led to incompatible developments and encroachment onto environmentally sensitive areas.

Significant programmes and projects

With the rapid deterioration of the environment in the 1990's, the Government of Mauritius published the first NEAP. Through the implementation of this plan, several remedial measures have been taken:

Beach erosion

- In areas where solid walled jetties existed, the owners have been ordered to have them removed.
- Vulnerable beaches have been protected by means of steel-meshed gabions, with some degree of success.

Poor water quality in the lagoon

- The Ministry of Environment has just created an Environment Police to look into cases of illegal dumping.
- The sewer network is being extended and further water treatment plants will soon be commissioned.
- There are several ongoing projects on lagoon water quality.

Loss of biological diversity in the marine and coastal areas

- The Fisheries and Marine Resources Act has recently been promulgated, which now makes several activities punishable by law.
- At dive sites, permanent mooring buoys have been placed and general sensitization programmes have been organized at various levels.
- Two areas have been designated as marine parks.

Drop in fish catch

- Fishermen are being given incentives to fish outside the lagoon.
- To give the fish stock time to recover, the Government has started to buy back fishing net licenses from those who had been allocated a permit.
- Spear fishing has been made illegal.
- Dynamite fishing, which used to be a problem, no longer exists as a result of the Government's policy to allow only the police to handle dynamite.

Inadequate planning of the coastal zone

- A National Physical Development Plan has been prepared which provides a sound basis for land planning. However, the plan does not have any legal status yet and has only been used as a guideline to date.
- The Ministry of Environment has recently created an Integrated Coastal Zone Management (ICZM) Division within the Department of Environment.

Significant gaps in ongoing and planned activities

- *Data collection* is required in a number of areas: coastal erosion and sediment transport to determine long-term solutions; a complete survey of the flora and fauna of the coasts of Mauritius and its outer islands; and research on the biology, food and feeding habits, behaviour, and fish larval transport of the coastal fishes in Mauritian waters.
- *ICZM plan* which would include a holistic plan for the rehabilitation of the lagoon.
- *Lack of capacity* in the ICZM Division because of non-availability of trained personnel.

Scope for potential CSI activity

- CSI activities can be of enormous help in capacity building and institutional strengthening since as in most island states, only limited expertise is available locally and very often projects do not progress satisfactorily due to a lack of trained personnel.
- Potential partners working in the region and who could be interested in teaming up with CSI are SEACAM, the Indian Ocean Commission through the University of the Indian Ocean, and the Western Indian Ocean Marine Science Association (WIOMSA).

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

A regional approach to integrated coastal management / West Indian Ocean islands – *Yves Henocque*
http://www.csiwisepractices.org/?read=52

Annex 6.16

SEYCHELLES PERSPECTIVE ON WISE COASTAL PRACTICES

Prepared by Mr Rolph Payet
Revision date: 14 November 2000

Background

The Republic of Seychelles consists of 115 islands scattered over an Exclusive Economic Zone of 1.4 million km^2 in the Western Indian Ocean. The Seychelles group consists of granitic and coral islands, which are highly vulnerable to sea level rise, as the majority of economic activities are located on the coastal plains. In 1998, per capita gross domestic product stood at US$ 6,837, an increase of US$ 536 from 1996.

Principal and immediate coastal-related issues

Key threats to coastal habitats include urbanization, increased tourism and industrial development, over-exploitation of coastal resources, coastal degradation and erosion, marine pollution and sewage disposal.

On a global scale, the 1998 abnormally high sea surface temperatures affected coral reefs in the entire Indian Ocean, with the most severe impacts within the Seychelles. Although recovery is expected in the long term (20 years), the resulting breakdown of the reef structure may significantly reduce fish productivity and affect coastal stability leading to increased erosion. Socio-economic impacts include direct losses of tourism income, fish productivity and coastal erosion. Increased human activities will further pressure these stressed habitats.

Ecological stability therefore needs to be ensured by improving the management of coastal activities, sustainable use of coastal resources, and protection of critical and stressed habitats. Ecosystems and coastal integrity are also threatened by the impacts of mass coral bleaching resulting from warming of the ocean, sea-level rise, propagation of ecotoxic marine organisms and diseases. There is insufficient data to determine the ability of a reef to withstand a sea-level rise of 20–40 cm over the next 50 years. Lack of knowledge of the natural and 'inbuilt' resilience of coastal ecosystems precludes conclusions about their ability to continue to deliver the same functions after being severely stressed or affected by direct and indirect human impacts.

The intensity of development and urbanization, as well as the diversity and fragility of the coastal habitats emphasizes the need for workable and robust national and regional mechanisms to be put in place to ensure sustainable coastal development and resource use within this vulnerable island group. The implementation of integrated coastal management (ICM) should not only seek to provide more sustainable use of available resources, but to provide a framework for improving coastal environment quality, taking into consideration issues of global change and increasing population pressure. The lack of harmonized policies, approaches and enforcement mechanisms to ensure sustainable ICM will also need to be critically addressed.

Significant programmes and projects

There have been several programmes to address these problems.

Land-use planning

With the introduction of geographical information systems (GIS) and remote sensing data, plans to make full use of geographical informa-

tion have just been initiated. There is inadequate land-use planning, with many areas undergoing development without proper land-use plans. The new Environmental Management Plan for Seychelles (EMPS), 2000–2010, outlines some of these issues. A Coastal Management and Land-use Programme has yet to attract any external support.

Coastal tourism

The components of the EMPS, prepared under the Tourism and Aesthetics Programme and the Coastal Zone Programme, identify the key coastal tourism priorities. With increased demands being placed by the industry, there is an urgent need to address specific issues concerning sustainable tourism development. A research project will be submitted to the Western Indian Ocean Marine Scientists Association (WIOMSA) for consideration under its new marine research grant programme to address the issue of sustainable coastal tourism.

Management of coastal resources

The Seychelles Fishing Authority manages two shell reserves, collects fishery statistics and manages some threatened resources such as lobsters. The EMPS emphasizes and proposes activities to support coastal resource management; however, these have not yet been scheduled for implementation.

Coastal erosion

Coastal erosion issues have been addressed by a Programme of the Indian Ocean Commission, with support from the Réunion University. The initial work indicates the need for a beach management programme, especially for those beaches currently utilized by tourism and those experiencing human-induced stress. Several workshops have been held involving a wide group of stakeholders. The project ended in early 2000. The EMPS also refers to several specific coastal erosion issues, and discussions are now being held on the best way forward.

Solid and liquid waste management

During the previous EMPS, 1990–2000, the Solid Waste Management and Wastewater Management programmes were implemented and will continue to be implemented through joint government-private investment in the new EMPS (2000–2010). The new Victoria and Beau Vallon Sewage Treatment project will treat most of the sewage discharges from the most urbanized parts of the country. The involvement of the European Union is expected to support these initiatives financially as well.

Significant gaps in ongoing and planned activities

There are many ways in which existing programmes can be enhanced, especially through technical assistance in the form of skills training, e.g. in GIS and remote sensing, and management approaches. While ICM in the Seychelles has benefited from substantial overseas funding in the last decade, few of these initiatives have been integrated into the country's programmes. Significant gaps include:

- *major institutional issues*: (i) no specific ICM body, although plans exist for an ICM unit in the Ministry of Environment and Transport, (ii) legal inconsistencies with many very old laws and ineffective implementation, (iii) poor co-ordination among institutions, (iv) lack of ICM training opportunities, and (v) a need for mechanisms to fully involve non-government sectors in ICM;
- *lack of long-term monitoring data and accurate data analysis*: there is a need for further training and ensuring data is available in electronic formats.

Scope for potential CSI activity

The main area where assistance is required, and which falls within CSI's scope, is institutional strengthening and capacity building, specifically in the following areas:

- land use planning and sustainable infrastructure development within coastal cities and communities;
- sustainable coastal tourism, especially wise practices for the tourism industry and environmental impact assessment;
- coastal resource assessment, valuation and management;
- participatory approach to coastal policy development and implementation;
- coastal indicators and approaches to cost-effective research and monitoring of the coastal environment.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org
(username = csi, password = wise)

A regional approach to integrated coastal management / West Indian Ocean islands – *Yves Henocque*
http://www.csiwisepractices.org/?read=52

Clean renewable energy / Cousin Island, Seychelles – *Kerstin Henri*
http://www.csiwisepractices.org/?read=251

Local (Palawan, Philippines) and global aspects of renewable energy
– *Hugh Trudeau and Stefan Gössling*
http://www.csiwisepractices.org/?read=254

Annex 6.17

MALDIVES PERSPECTIVE ON WISE COASTAL PRACTICES

Prepared by Ms Faathin Hameed
Revision date: 13 November 2000

Background

The livelihoods of Maldivians, centred around small island ecosystems and surrounding marine resources, have traditionally been focused on integrated and sustainable natural resource use. However, recent development trends, such as the adoption of imported building technologies, have had negative impacts, primarily on the fragile coral reef ecosystems. Initial sectoral programmes to address these issues have gradually been replaced by a more comprehensive and integrated approach; however, key issues relating to management of the environment and sustainable development need to be fully addressed.

Principal and immediate coastal-related issues

As a Small Island Developing State (SIDS), where the entire population lives in low-lying coastal areas, nearly all environmental issues in the Maldives are related to integrated coastal management (ICM). Principal and immediate coastal-related issues relating to environment and development identified in the Second National Environment Action Plan of the Maldives include:

- beach erosion due to inappropriate human intervention in the coastal environment;
- threats to the biological diversity of coral reefs resulting from over-fishing of some reef resources, and increased reef habitat degradation;
- increased conflicts amongst reef resource users;
- greater stress on bait fish resources to support the pole-and-line tuna fishery, one of the mainstays of the national economy;
- increased stress on island freshwater leases fuelled by growth in island populations;
- groundwater contamination and environmental degradation due to inadequate solid waste and sewage disposal practices;
- increasing population pressure seen in overcrowding, encroachment onto beach areas, necessitating land use planning and sustainable resource use;
- vulnerability to climate change and sea level rise.

Significant programmes and projects

Since the late 1980s, certain environmental degradation trends have been mitigated and slowed by a strong environmentally-friendly policy. Strategies adopted by the Government of the Maldives include the passing of national environmental legislation in 1993, the establishment of an Environment Ministry and supporting institutional arrangements such as mandatory environmental impact assessment (EIA) requirements, and the implementation of a National Environmental Action Plan.

Significant programmes/projects (ongoing and planned) in the Maldives to address the issues identified above are listed herewith under general headings:

Reef resources management

- Integrated Reef Resources Management (IRRM) programme: activities include

coral reef ecosystem and resources monitoring, assessment and development of integrated reef resources management approaches appropriate to the Maldives;

- Global Coral Reef Monitoring Network (GCRMN): activities in the Maldives under the GCRMN (sponsored by IOC, UNEP, IUCN) include: (i) assessment of reef monitoring capacity, (ii) Maldivian attendance at regional workshops and training courses, (iii) a regional workshop held in the Maldives in April 1998, (iv) use of a small grant to the Marine Research Centre to monitor coral reefs following coral bleaching in May/June 1998. Comprehensive socio-economic and bio-physical monitoring activities are planned for 4–5 pilot sites by local institutions;
- Awareness programmes for fishing communities in particular, and the general public, on issues relating to reef resources management;
- Strengthening baseline physical and biological knowledge of the country's coastal areas, monitoring and regulatory projects addressing extractive reef resource use for building purposes;

Biodiversity

- Protection and regeneration of endangered species and conservation of threatened species and sites, including establishment of protected dive sites;
- Formulation of strategies and actions necessary for protection and sustainable use of the Maldives' biodiversity as part of a Global Environment Facility (GEF) Project (National Biodiversity Strategy and Action Plan and Country Report to the Conference of Parties);
- GEF Project on 'Conservation and sustainable use of biodiversity associated with coral reefs in the Maldives' (project in pipeline);

Marine protected areas

- Marine Protected Areas Project (AusAid): to establish three model protected sites and develop methodologies in participatory approaches for protected area establishment and management (initial stages of project);

Development and tourism planning

- Various strategies for the sustainable development of the primarily coastal and marine based tourism, supported in the second Tourism Master Plan;
- Managing land resources management within the context of national development planning and development of regional growth centres;
- EIA procedures for all development projects and industrial activities;

Climate change and sea level rise

- Ongoing work is being undertaken to assess vulnerability to climate change and sea level rise and identify possible adaptation strategies, including programmes to fulfil country commitments as a party to the United Nations Framework Convention on Climate Change and related instruments;

Poverty alleviation

- Country partner in Asian Development Bank Regional Technical Assistance for Coastal and Marine Resources Management and Poverty Alleviation in South Asia (project in pipeline).

Significant gaps in ongoing and planned activities

While the above programmes and projects represent substantive steps to address pressing issues in the sustainable use of coastal resources, these can be supplemented and enhanced through a greater emphasis and support for integrated approaches to coastal management. This need and strategies to address it were identified in the Second National Environmental Action Plan (1999). However, the practical implementation of ICM is hindered by several constraints. These include:

- *Major institutional issues* including: (i) Lack of a cohesive and well defined ICM policy and strategy, (ii) inadequate institutional arrangements to support ICM,

(iii) insufficient and haphazard co-ordination between primary agencies involved in coastal and marine resources development, (iv) gaps in institutional capacity;

- *Lack of data* of temporal changes relating to unsustainable use of coastal and marine resources in some areas; over-exploitation of coral reefs, aquatic resources, sand mining, etc. and absence of a comprehensive database to record and monitor changes;
- *Inadequate consultation* with local communities at all stages of coastal management leading to a need for a strong enforcement orientation in the regulatory framework.

Hence, ongoing and planned programmes and projects need to address these institutional and data gaps, as well as to focus on the use of participatory approaches to ICM planning and implementation. There is also a need to formulate a cohesive and well-defined policy and strategy to promote wider and faster adoption of wise practices for ICM.

Scope for potential CSI activity

Possible focal areas for CSI to address these needs in a complementary manner include:

- Assistance in the development of management approaches to achieve integrated and participatory management;
- institutional strengthening and capacity building to support wise practices in management and, in particular, programmes for capacity building and enhancing awareness at the local community level.

Annex 6.18

COASTAL FISHERIES EXTENSION PROJECT, SAMOA

Community-based management of subsistence fisheries / Samoa
Jennifer Kallie and Autalavou Taua
http://www.csiwisepractices.org/?read=46

Posted on: 16 July 1999

Description: The decline in inshore catches of fish and shellfish in Samoa, due to human activities, overexploitation, destructive fishing methods and the aftermath of two recent major cyclones, has greatly reduced the availability of marine protein resources, causing concerns for the nutritional status of coastal village communities. Government actions and national laws to protect fish stocks have not previously proved successful. Wise practice involves using a culturally appropriate extension process to encourage and motivate village communities to manage their own marine resources. A range of resource management undertakings and conservation measures are incorporated by communities into their own management plans. These measures include the establishment of small marine protected areas (MPAs) within traditional fishing grounds.

Village management actions have included: banning of chemicals, explosives and plant-derived fish poisons; banning the smashing of corals to catch fish; enforcing national laws on fish size regulations; controlling the use of nets and underwater torches for fishing at night; collecting and removing crown-of-thorns starfish; banning the removal of beach sand (sand mining) and the dumping of rubbish in lagoon waters. Reciprocally, to support community undertakings, the Fisheries Division has undertaken to provide various forms of assistance and technical training. For example, to relieve inshore fishing pressure, communities are assisted to purchase small aluminium boats for outer reef slope fishing. Tilapia stock are introduced into villages where there are suitable natural lakes or ponds. Communities are also provided with giant clams to restock lagoon fish reserves. In addition, regular demand-based technical training workshops are held in tilapia and clam aquaculture, fishing methods, gear technology, sea safety, fish handling and skills for small business management.

Status: A staged induction of 59 villages has occurred over the 3.5 years of implementation of the programme. Individual village management plans have now been in operation for up to 37 months.

Discussion

Long-term benefit: Sustainability of inshore fisheries resources and the marine environment through community action.

Indicators: Successful management of marine resources by villages; village laws being enforced; MPAs operating.

Capacity building: Re-instituting customary marine tenure and tradition-based controls on fishing.

Sustainability: Sustainability enhanced by agency support including fisheries development (aquaculture, restocking of depleted species and introduction of new species).

Transferability: The developed extension process, with cultural modifications, is likely to be transferable to other tropical countries.

Consensus building: The extension process deliberately involves all community groups in outlining problems and proposing solutions.

Participatory process: After an initial expression of interest, a meeting is arranged with the village. During this meeting, the community is provided with information to allow them to either accept or refuse the extension programme. If the programme is accepted, participants are encouraged to analyse the condition of their marine environment and fish stocks and to assess the degree of change that fishing, seafood catches and the marine environment has undergone over recent years. Key problems are identified, causes are determined, solutions are proposed and remedial actions are planned.

Effective and efficient communication process: A trained extension facilitator records the discussion as a problem/solution tree, on a portable white board. At a second meeting, a more in-depth examination of the most practical solutions is undertaken.

Culturally respectful: The extension process recognizes the village ‘fono’ (council meeting) and chiefs as the prime instigators of change, but also allows ample opportunities for other community groups to participate. An experienced cultural adviser is employed to ensure the process is appropriate.

Gender and sensitivity issues: The extension process involves separate meetings of several village groups, including women, untitled men, fishers and titled men. In this way, particular

sections of the community are free to express opinions, which they otherwise may not do in large groups dominated by titled people. The Village Fisheries Management Advisory Committee is formed with three representatives nominated from each group.

Documentation: The extension process for each village culminates in the production of a unique and specific Village Fisheries Management Plan. Bound copies, in Samoan, are distributed to the community. English and Samoan versions are catalogued in the Fisheries Division library. Additionally, process, results and reviews are reported in the following papers:

Faasili, U. 1997. The use of village by-laws in marine conservation and fisheries management. Pacific Science Association Intercongress, July 1997, Fiji.

King, M. and Faasili, U. 1998. Community-based management of subsistence fisheries in tropical regions. Fisheries Ecology and Management UK. 6, 133–144.

King, M. and Faasili, U. 1998. A network of small, community-owned fish reserves in Samoa. PARKS 8, 11–16.

Kallie, J.Y., Taua, A. and Faasili, U. 1999. An assessment of community-based management of subsistence fisheries in Samoa. Marine Resources Assessment Group Workshop on Aspects of Coastal Fisheries Resource Management, Fiji.

Evaluation: The Fisheries Division undertakes to review all management plans after approximately six months of operation and then at appropriate intervals, to verify sustainability. A quantitative assessment questionnaire is used to score village management performance.

General discussion: The Community Fisheries Management programme attracts considerable interest from new coastal village communities and the waiting list is increasing by 'word of mouth' of existing participants. The success of community-based management in Samoa is also evidenced by the growing interest of other islands around the Pacific.

The Fisheries Division Annual Plan is to increase the number of participating communities. However, it is now timely to consider how best to deploy limited government services for the future. Villages who consistently score highly must be empowered and encouraged to completely self-manage their programme with minimal government assistance. Conversely, villages with only average scores may simply require time to consolidate their views and actions and it can be argued that a significant proportion of Fisheries Division services should be allocated to these villages to assist them in reaching autonomy. Finally, in the light of limited staff and material resources, support for poor performing villages needs to be withdrawn to facilitate participation of additional villages potentially more ready to self-manage their subsistence fisheries.

Approximately 20% of communities perform poorly for various reasons; some management committees fail to hold meetings; some do not enforce village rules; many do not care for restocked clams; others fail to maintain shorelines, reserve

signs and markers. The readiness of a community for a long-term commitment with few immediate rewards is an unknown variable in the initial years of a community-based programme. Nevertheless, the fact that at least 25% of the communities are managing their own fisheries very effectively, indicates that communities are ready for self-management and, indeed, value the opportunity.

Related WiCoP forum articles

The WiCoP forum may be accessed at:
http://www.csiwisepractices.org (username = csi, password = wise)

Helping those who are willing to be helped – *Gillian Cambers*
http://www.csiwisepractices.org/?read=81

Responding to varying levels of participation – *Jennifer Kallie and Autalavou Taua*
http://www.csiwisepractices.org/?read=84

The role of the village communities – *Jennifer Kallie and Autalavou Taua*
http://www.csiwisepractices.org/?read=156

Villages to conduct their own fisheries management / Samoa – *Jennifer Kallie and Autalavou Taua*
http://www.csiwisepractices.org/?read=259

Annex 6.19

THE NEXT FORM OF THE UNESCO CSI PLATFORM

Prepared by Mr Peter Espeut
Revision date: 5 December 2000

1. Pilot projects now to be called 'Field experiments'

- It must be clear which 'wise practices' are being studied; therefore, hypotheses to be tested must be identified, and the method of testing must be clearly outlined.
- It is preferable to have both a pre-test (socio-economic/biophysical baseline) and a post-test (to determine the effectiveness of process and goal); often a pre-test is impossible, so at least there must be a post-test. Clear evaluation criteria for both goal and process must be identified.
- There must be full documentation of the field experiment, both by internal and external observers, which leads to publications.
- Wise and unwise practices must be distilled from the results of the field experiments, which lead to publications and feed into the WiCoP forum.
- Only those pilot projects which fulfil the criteria should be retained as field experiments.

2. UNESCO Chairs to become UNESCO focal points

- Chairs must be associated with a field experiment.
- Chairs must have a clear research agenda, and also hypotheses and method.
- Chairs must fully document results, which lead to publications.
- Chairs must distil wise practices, which lead to publications and feed into the WiCoP forum.

3. Wise practices forum

- This must be wider and deeper.
- This must be fed wise practices from the pilot projects and the university chairs.
- This must distil the discussions/conclusions for each 'wise practice' and publish annually.
- The forum results must feed back to the pilot projects and university chairs for more research and experimentation.

4. Wise practices training workshops

- They should be regional/national.
- Facilitators should be UNESCO Chairs and field experiment staff.
- The content would be 'wise practices' lessons learnt, the output from 1, 2, 3 above.
- The location will be a field experiment site, used as a laboratory.
- The participants will be recommended by a UNESCO field office or other agency/person.
- The expectation is that this activity will spawn more field experiments/chairs.
- The result will be clusters of field experiments and chairs reinforcing each other.
- A UNESCO Trust Fund should be established for each cluster (or other Trust Fund if more appropriate).

Other titles in the CSI series
***Coastal region and small island papers*:**

1 *Managing beach resources in the smaller Caribbean islands.* Workshop Papers. Edited by Gillian Cambers. 1997. 269 pp. (English only)

2 *Coasts of Haiti. Resource assessment and management needs.* 1998. 39 pp. (English and French)

3 *CARICOMP – Caribbean Coral Reef, Seagrass and Mangrove Sites.* Edited by Björn Kjerfve. 1999. 185 pp. (English only)

4 *Applications of Satellite and Airborne Image Data to Coastal Management.* Seventh computer-based learning module. Edited by A. J. Edwards. 1999. 185 pp. (English only)

5 *Glimpses of the Blue Caribbean. Oceans, coasts and seas and how they shape us.* By Joy Rudder. 2000. 69 pp. (English only)

6 *Reducing megacity impacts on the coastal environment. Alternative livelihoods and waste management in Jakarta and the Seribu Islands.* 2000. 64 pp. (English only)

7 *Yoff, le territoire assiégé. Un village lébou dans la banlieue de Dakar.* 2000. 90 pp. (French only)

8 *Indigenous people and parks. The Surin Islands Project.* 2001. 63 pp. (English only)

Titles in the *CSI info* series:

1 *Integrated framework for the management of beach resources within the smaller caribbean islands.* Workshop results. 1997. 31 pp. (English only)

2 *UNESCO on coastal regions and small islands.* Titles for management, research and capacity-building (1980-1995). 1997. 21 pp. (English only)

3 *Qualité de l'eau de la nappe phréatique à Yeumbeul, Sénégal.* Étude sur le terrain. 1997. 27 pp. (French only)

4 *Planning for coastline change. Guidelines for construction setbacks in the Eastern Caribbean Islands.* 1997. 14 pp. (English only)

5 *Urban development and freshwater resources: small coastal cities.* Proceedings and recommendations. 1998. 109 pp. (English and French)

6 *Coast and beach stability in the Caribbean Islands.* COSALC Project Activities 1996-97. 1998. 57 pp. (English only)

7 *Role of Communication and Education.* Workshop Proceedings (PACSICOM). 1999. 88 pp. (English and French)

8 *Développement urbain durable en zone côtière.* Actes du Séminaire international (Mahdia, Tunisie, juin 1999). 2000. 225 pp. (French only)

9 *D'une bonne idée à un projet réussi.* Manuel pour le développement et la gestion de projets à l'échelle locale. 2000. 158 pp. (French) (Original English version published by SEACAM)

10 *Wise coastal practices for sustainable human development.* Results of an intersectoral workshop and preliminary findings of a follow-up virtual forum. 2000. 126 pp. (English and French)

ENVIRONMENT AND DEVELOPMENT
IN COASTAL REGIONS AND IN SMALL ISLANDS