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Tourism in the Coastal Zone: Perspectives from Hainan, P.R. China

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1. Introduction

Tourism is too important to be left to tourism specialists. There are a number of reasons for this. First, while one can debate whether or not tourism is an industry, there is widespread recognition that tourism is fragmented among many varied operations of differing sizes and with different products. These include transportation, attractions, accommodations, food and beverage suppliers, and souvenir producers and their outlets to name a few. Furthermore, much tourism training has a relatively narrow focus upon hospitality, i.e. hotel and catering management, to the relative neglect of other aspects of tourism. To complicate matters further, tourism is a phenomenon which has links to many other sectors of the economy and many tourism issues are not solely tourism problems but involve relationships with agriculture, forestry, mining, environmental protection and a host of other activities which compete for scarce resources of land, labour, capital, energy, waste assimilation capacity and the like. Thus, it is important to consider tourism in relation to these other phenomena: a narrow focus is unlikely to be able to do justice to the wide variety of interrelated concerns. It also follows that policies designed to sustain tourism may not necessarily contribute to sustainable development more broadly conceived for the perpetuation of tourism may not always be in the broader, long-term, interest (Wall 1997).

The coast is a place where oceanic, atmospheric, terrestrial and human processes, including tourism, are juxtaposed and linked. Integrated Coastal Zone Management (ICZM) is an integrated, interdisciplinary, intersectoral and adaptive approach for addressing complex issues for the conservation and sustainable development of coastal resources. It is an holistic perspective which recognizes the interconnections between coastal systems and uses and encompasses the

dynamic tasks of measurement, assessment, community participation, evaluation, planning, management and monitoring. It is directed at the maintenance of balance between the protection of valuable ecosystems and the development of related economies.

Operationally, ICZM focuses on three objectives: strengthening sectoral and inter-sectoral management, for instance through human resources development and institutional strengthening; preserving and protecting the productivity and biological diversity of coastal ecosystems, mainly through prevention of habitat destruction, pollution and over-exploitation; and promoting rational development and sustainable utilization of coastal resources.

The coast is an environmental setting that is often attractive to tourists and tourist developers. However, just as coasts themselves take many forms (e.g. sand and rocky beaches, cliffs, estuaries, coral reefs, wetlands...) so the forms of tourism that occur in their vicinity are highly varied. The world's coasts are also the location of its major cities and are under growing pressure from population growth, industrial activity, port development, fisheries, conversion to aquaculture, offshore petroleum and gas production and so on. It is self-evident that tourism developed in ignorance of these trends may be inappropriate, inefficient and, in many cases, doomed to failure. Thus the coast provides an excellent, perhaps extreme, example of the normal situation in which tourism is one among a number of activities with claims on access to resources and which may or may not be compatible in their use of those resources.

It is a truism to state that everything is related to everything else. Ideally, therefore, wise decisions should be informed by a complete knowledge of the system at hand, including factors external to the system that impinge upon it. Such an approach requires that one adopt a **comprehensive** approach and examine everything that may affect the issues of concern.

Unfortunately, limitations of knowledge, time and resources mean that it is impossible to study everything. Therefore, to embark on a comprehensive study is to be destined to failure and to raise expectations which cannot be fulfilled.

An **integrated** perspective leads to a more modest and pragmatic approach through which a subset of important phenomena is examined, including their interrelationships, so that the whole is greater than the sum of the parts. However, as might be ideal for a comprehensive approach, no claim is made that all phenomena have been taken into account and that a comprehensive investigation has been undertaken. Thus, an integrated approach is more pragmatic than a comprehensive approach. However, an attempt is still made to consider the integration of phenomena but primary attention is devoted to phenomena that are perceived to be important on the basis of past experiences, scoping, political concerns or some other criteria (Mitchell 1997: 56-7).

The adoption of both comprehensive and integrated perspectives requires that information of many types must be brought together, leading to the espousal of interdisciplinary and multidisciplinary approaches. A literature has emerged that attempts to distinguish between these two approaches but this will not be pursued here. Suffice to say that disciplines have their own emphases and cultures, and the number of disciplines involved in an investigation has implications for the ease with which insights can be pooled and can be used to inform each other. Frameworks can be developed in advance in an attempt to facilitate integration of data and results or the task can be left to the latter part of a project when more information is available to guide what needs to be done. Both have their strengths and weaknesses and they are not mutually exclusive.

This paper presents the framework prepared to guide a project on integrated monitoring and management of the coastal zone in Hainan, China. Tourism is an important part, but only one part, of this project. Tourism has links to many other sectors. It will be argued that while it is legitimate, even necessary, to focus attention on single sectors, such as tourism, to do so in the absence of attention to links between sectors would be to provide an inevitably incomplete but also inadequate appreciation of the current situation, issues and options. However, it is not an easy task to embrace intersectoral linkages.

For context, a brief description of the overall project, including the characteristics of the Province of Hainan, will be provided prior to presentation and discussion of the framework.

2. Project Structure and Goals

The full title of the project is "Environmental Training for Integrated Monitoring and Management in the Coastal Zone of Hainan Province, China". The project is funded by the Canadian International Development Agency (CIDA) through the Canada-China Higher Education Program (CCHEP) with contributions in kind from the Chinese (Nanjing University) and Canadian partner institutions (University of Waterloo, University of Guelph and Wilfrid Laurier University) in liaison with local government authorities, particularly the Provincial Department of Land, Environment and Resources in Hainan. The University of Waterloo is administering the program under a contribution agreement with CIDA. The project began officially in 1997 and is expected to continue until the middle of 2003.

As a sub-tropical island province, Hainan is in a unique and special situation in China. It is a formally-designated special economic zone which has experienced substantial port development and rapid urbanization. Its magnificent beaches, particularly in the south, are undergoing tourism development. In addition, the island contains substantial ethnic minorities whose livelihoods may be impacted by such changes. The environmental conditions in and around the island are generally currently quite good. However, developments is likely to induce considerable land use changes with the prospects of environmental degradation if steps are not taken to protect fragile natural resources both in the interior and on the coast. Hence, there is a need to strengthen monitoring systems, to identify specific impacts and to prepare local institutions and officials to respond to the growing need to manage pressures on coastal resources.

The project is designed to address pressing needs to enhance Chinese capabilities in Integrated Coastal Zone Management (ICZM) through human resource development (HRD), institutional strengthening and the improvement of information management in the context of Chinese national and provincial development strategies. The program has been developing locally-based materials for instructional purposes and, at the same time, providing training and resources to enhance sustainable management of Hainan's sensitive tropical environment through the application of ICZM by local managers.

The key project beneficiaries are expected to be those local government agencies in Hainan charged with managing the coastal zone (and, through improvement in their performance, the people of Hainan); Nanjing University through strengthening of their capabilities in ICZM; and the Universities of Wa-

terloo and Guelph, and Wilfrid Laurier University, through increases in their expertise with respect to resources and environmental management in China.

The project consists of three main components:

1. an educational component in which a suite of courses has been taught to approximately 50 participants, mostly local government employees, in Haikou, the provincial capital in the north of the island. These courses have been accepted by Chinese educational authorities and Nanjing University as meeting the course requirements (excluding thesis) of the Master's degree at Nanjing University.
2. a monitoring component in which selected aspects of both natural and human systems have been examined in an integrated manner. These activities have been concentrated in and around Sanya in the south of the island.
3. an outreach component in which the importance of coastal resources, resources management and sustainable development is conveyed to a broad public in both China and Canada.

A key task and challenge of the project revolves around the word "integration" for, in addition to the usual challenges of coastal management involving land and water, natural and human systems, different disciplines and academic and governmental perspectives, the project must also embrace differences in language and culture.

A framework for integrated coastal zone management was developed to guide project activities and this will be presented.

3. The ICZM Framework

The framework can be summarised in a single sentence: Forces for change give rise to stresses which are analysed using integrative concepts and methods, resulting in outputs in the form of human resources development, improved information and the ability to use it, and modified institutional arrangements, leading to enhanced capability to undertake integrated coastal zone management (Figure 1). This statement will be amplified under the following headings: forces for change, stresses, integrative concepts and methods, and measurable outputs.

3.1 Forces for Change

The forces for change in Hainan include urbanization, primary resource production (e.g. agriculture, fisheries, & mining), economic development (e.g. tour-

ism, port construction), and policy directives associated with its status as a Special Economic Zone. These forces are giving rise to stresses on both the environment and human beings and their activities. Four key forces for change were identified. The first of these includes population, particularly urbanization (Gu 2002). The population of Hainan has grown substantially, both through natural increase as well as through migration. Hainan has large ethnic minority populations, particularly in the south-central part of the island (Xie 2001). The population is not well-educated by Chinese standards and unemployment is high. Tourism offers the potential to provide economic opportunities for both minority and Han populations and is a substantial contributor to urban growth in both Haikou and Sanya, the main cities in the north and south of the island respectively.

The second includes primary renewable resource production. This consists of agriculture (subsistence, commercial and plantations) and fisheries, including aquaculture. The island is an important producer of tropical fruit and vegetables as well as seed crops for the mainland. Large areas are in rubber and tea plantations. Some primary forests, particularly in the centre and southwest of the island, have ecotourism potential (Stone 2002) and rugged areas of secondary forest are scenic but subject to swidden agriculture. Aquaculture is increasing rapidly in coastal locations. Iron ore deposits that were formerly exploited by the Japanese are no longer in production.

The third includes non-renewable resource extraction and transshipment which consists of offshore oil and gas and substantial port development. In spite of its key location in the South China Sea and its status as a Special Economic Zone, the economy is less vibrant than desired, particularly since the end of a speculative property boom in the mid 1990s. Tropical agriculture and tourism have been identified by the Government of Hainan as having great potential.

Finally, policy directives of relevance include status as a Special Economic Zone which facilitates international investment as well as the arrival of international visitors, many of whom no longer require a visa (although the number of international visitors is still small). Also, Hainan has been declared the first Eco-province in China, although it is not at present clear exactly what this will mean.

3.2 Stresses

Stresses can be divided into two main categories: those associated with environment, and those associated with people and economy.

Environmental stresses can be divided into abiotic (such as water quality and quantity, reef modification, coastal erosion and sedimentation) and biotic (such as destruction of mangroves (Kennedy 2001) and changes in biodiversity, natural areas, agricultural productivity and deforestation).

The people and economy division can also be divided into two groups: socio-economic change and institutional stresses. The former includes such phenomena as displacement of people, pressures on minority groups (Wang 2003), regional imbalances, changing employment structure, changing access to resources, migration, and differential opportunities by ethnicity and gender. The institutional category includes overspecialisation and fragmentation of management capabilities, lack of integration of policies and programmes, and deficiencies in institutional capacities and in the capabilities of human resources (Liu 2002).

Virtually all of the above have implications for or are modified by the development of tourism.

3.3 Integrative Concepts and Methods

Integration, or the amalgamation and combining of diverse forms of data and their interpretation, is a key concept in this paper. It is also something that is particularly difficult to do well. In the broadest sense, there are two main approaches that can be considered: participatory and technical. These approaches could be applied individually or in combination. Ideally, it would have been good to involve stakeholders in all aspects of the project to seek their interpretation of data and to assess their understanding and interpretation of linkages. However, this approach was difficult to adopt because of language complexities and the infrequent and limited stays of team members in the study area. Technical methods, as will be indicated below, can be used to analyse and integrate certain types of data although the interpretation of results and their local significance may require resolution in other ways.

More specifically, integration can be facilitated by careful research design and the adoption of concepts and methods that facilitate and even require the use of and/or interpretation of multiple types of information. Examples of such concepts and methods follow.

Choice of appropriate study areas. The coastal zone itself is an integrative concept, focusing upon both land and water and the interface between them. Of course, one can argue about the exact definition of the coastal zone and how it is to be determined, what attributes it should possess and how wide it may be. In fact, in a relatively small island, one could argue

that even the interior is part of the coastal zone because changes throughout the island have implications for the coast.

A watershed is another spatial unit with integrative elements. While the focus may be on the quantity and quality of water, this, in turn, reflects other changes in the system such as population growth, land-use change and industrial development. It also may draw attention to relationships between upstream and downstream locations.

Relevance. Some concepts and approaches lend themselves more to integration than others. For example, interdisciplinary and multidisciplinary perspectives imply some degree of integration of different approaches and types of information. Assessments of sustainability require that attention be given to economy, environment and culture. Land use change and associated changes in water quality and quantity are key concepts. Land use itself may be an integrative concept in that it is the product of a combination of natural capabilities and human decisions and activities. Both land use and water reflect both physical and human processes and were used to identify areas of stress and documented in a demonstration area which incorporates a watershed and the adjacent coastal zone. Gender is a theme that cuts across many types of resource use and economic sectors. Somewhat similarly, tourism can be used as an integrative theme, because of its multiple dimensions. The fragmentation and complexity characteristic of tourism that have been highlighted above can be turned to advantage if tourism is used as a focal activity or lens through which observations can be interpreted.

Information. Many development issues require an integration of information, both economic and environmental, if they are to be addressed adequately (Hu 2003). For example, deforestation is likely to have economic underpinnings with implications for water quality and sedimentation. Land use conflicts, perhaps reflecting development possibilities associated with tourism that may, for example, be viewed as being in competition with traditional agriculture and lifestyles, require the weighing of multiple perspectives and types of information (Wang 2003).

Methods. Numerous techniques lend themselves to manipulation of varied types of data and may in fact require a diversity of information sources. Their application and outputs may require complex inputs and interpretation, perhaps involving multiple skills and even interdisciplinary teams. Examples of such techniques are geographical information systems, remote sensing, the ABC (abiotic, biotic and cultural) method (Bastedo 1986), SWOT (strengths weaknesses, opportunities, threats) analysis (Wall 2002), rapid rural

appraisal, gender focused development, and environmental and social impact assessment.

Communication. Communication is both a challenge and an opportunity. In a situation involving people with different languages and cultures, with varied disciplinary backgrounds, representing different economic and other interests, as well as both academic and government (and occasionally private sector) perspectives, communication is difficult. On the other hand, the rich diversity of experiences and approaches that can be brought to the table, assuming that appropriate fora for exchange of information and training can be devised, can stimulate mutual learning and novel interpretations.

Institutional analysis, leading to the stimulation of dialogue between authorities with overlapping jurisdictions, can lead eventually to intersectoral policy development.

Thus, although it is much easier to list possibilities than to put them into practice, a wide variety of techniques, either singularly or preferably in combination, can be used to stimulate more integrated perspectives on the collection, analysis and interpretation of information.

3.4 Outputs

The project that has led to the preparation of this paper, has had practical objectives as its major goal - enhancement of the capability of governments in Hainan to better manage the growing pressures on the coast. Accordingly, the project has been designed and managed under a "results-based management" framework (Appian Consulting Inc. 2001) with all the strengths, weaknesses and bureaucratic requirements that this implies. It is important to recognise that this presenter, as the Canadian project director, and his team have no mandate to manage the coast of Hainan - nor should they! Rather, it is assumed that through human resources development, improved information availability and enhanced institutional arrangements, local capacity for better management of the coast of Hainan, i.e. ICZM, would be achieved. Human resources development was interpreted as the enhancement of analytical (and integrative) skills and management capabilities, the promotion of greater gender equity and appreciation of the differential consequences of development for women and men, through the provision of new education and training opportunities.

One of the greatest impediments to ICZM is the lack of accurate and replicable data sets on linked environmental and human systems that can be used as a basis for informed decision making. The information

base on which decisions could be made was enhanced through the development of teaching materials, new data sets, new knowledge of local conditions, and the provision of and training in the use of new equipment, as well as the preparation of reports and publications. Changes in institutional arrangements have taken place in Hainan, including the renaming of the main governmental department with which we collaborate, the initiation of the Eco-province initiative, and the enhancement of networks both within Hainan, nationally and internationally. However, it is not absolutely clear that either of the first two should be attributed to the existence of this project.

4. Summary and Conclusions

Tourism is a major force for change in Hainan and, thus, should be an important consideration in managing the coast and, indeed, the interior of this tropical island. However, to focus solely upon tourism would be to overlook the many interrelationships between tourism and other sectors leading to partial understanding. Yet, it is impossible to examine everything. Pragmatism requires that one relinquish a desire for a comprehensive in favour of an integrated approach.

A framework has been presented to guide project activities related to coastal zone management in Hainan. A review of this framework reveals that tourism is seldom mentioned explicitly (perhaps it should be!). On the other hand, almost all statements in the framework have implications for tourism research or training. Conversely, a detailed examination of tourism, in the absence of an appreciation of broader linkages, would lead to an impoverished understanding of issues facing Hainan and the role of tourism within them.

A little knowledge is a dangerous thing! It is natural that tourism trainers, planners and authors should concentrate on tourism but, unfortunately, it is contended that this all too frequently occurs to the neglect of the bigger picture and tourism's place within it. Yet, if tourism specialists do not take up the challenge of placing their subject in a broader context, is it reasonable to expect others to do it for them?

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