THE STATUS OF CAMBODIA’S COASTAL AND MARINE ENVIRONMENT:
"EMERGING POLICIES AND MANAGEMENT STRATEGIES".

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Abstract

This paper presents the major current coastal and marine environmental problems in Cambodia and highlights the present lack of policy, and legal and institutional capacity to properly manage coastal and marine resources in the face of increasing development pressures and touches on the policy response being developed by the government to address these problems. The paper looks at the elements involved in the coastal policies and management strategies in Cambodia, which are still to be formulated, and the beginning of a coastal zone management framework, which is emerging.

INTRODUCTION

During the past two decades was the complete destruction of institutions responsible for capable of managing the country’s coastal and marine resources. These include trained personnel, appreciate laws and regulations, enforcement capacity, and government structures for the development of coastal and marine environmental policies and needed co-ordination for their implementation.

Cambodia does not yet have a compliment of coastal and marine environmental policies. By nature, policy development is a protracted affair, which requires extensive dialogue within governments. It is a process that entails the development of legislation and the creation of institutions and supporting structures. Cambodia is just at the start of the process. As a consequence the content of coastal and marine issues and problems for instance logging over exploitation of natural resources, administrative and management issues, infrastructure issues, is for meantime less critical than developing the process by which the issues and problems can be managed. However, there is little room for complacency as the development pressures are mounting rapidly. Any advantage that Cambodia currently enjoys will be rapidly lost unless safeguards are put in place to allow inevitable economic development while ensuring the sustained quality of coastal and marine environment and resources based.

This paper is divided into three sections. The first provides an overview of the major coastal and marine environmental issues. Second identifies the existing legal, policy and institutional framework issues for managing and protecting coastal and marine ecosystem. The third section addresses the elements involved in the coastal and marine policies and management strategies in Cambodia are still the beginnings of a coastal zone management framework are emerging.

1. OVERVIEW OF COASTAL AND MARINE ISSUES

Cambodia is situated in Southeast Asia between 10° and 15° latitude North and 102° and 108° longitude east. The country occupies about 181,035 km² and has population 11.2 million persons. Cambodia shares a land border with Thailand on the Northwest, Lao PDR on the Northeast and Viet Nam on the east and south. The coastline of Cambodia extends 435-km along the Northeast shore of the shallow Gulf of Thailand between the Vietnamese and Thai borders. The coastal zone consists of estuaries and bays and 64 islands of various dimensions, including three offshore islands of Tang, Pring, and Polowaii. Administrative boundaries of the coastal zone include Koh Kong province, Sihanoukville Municipality, Kampot province and Kep Municipality. The total area of the claimed Exclusive Economic Zone is about 500,000 km² as was declared on 6 February 1970 (SEAPOL, 1991).

The coastal climate of Cambodia is tropical monsoon, which is typically hot and humid. The average annual temperature is around 27°C with maximum average of 35°C in April and a minimum average of 19°C in December. Average annual precipitation varies from 2,000 to 4,000 mm. The season is from about June to October.

The coastal provinces and municipalities of Cambodia, Koh Kong, Sihanoukville, Kampot, and Kep, are no exceptions to the current economic development situation of the country. The large town on the coast is Sihanoukville, which is being developed as a deep seaport and considered as one of the economic growth centres of the country.

1.1 Population Pressures

Statistic from the 1998 National Census indicate that 31% of the coastal population had their previous residence outside the place of remuneration and of these, full 56% came from some other province or municipality in which they are currently living. Three percent of the population of Kep province moved there from another province or municipality in Cambodia, while 45% of the residents of Koh Kong are from another province. Furthermore, 84% of the respondents stated that they moved to their current place residence for economic or security reasons. Coastal Cambodia, therefore, is populated by great many inhabitants who may not have experience in the economic activities of the coastal zone.

1.2 Coastal Economic development

The Royal Government’s goals for Sihanoukville municipality originally planned for economic development in Cambodia through the rebuilding of urban growth, tourism, port expansion and industry.

- Urbanisation

Investment in Sihanoukville municipality will lead to increased urban growth, as population from the rural areas move to tourism and associated services for increased economic opportunities. The Urban environment infrastructure is current insufficient to meet the requirement of even the current urban population. Without appropriate investments, the environmental quality of this town will degrade.
Tourism development
Coastal Sihanoukville is a matter of great importance to the future of Cambodia, both in terms of economical and environmental considerations. This development is expected to lead the way for Sihanoukville to develop as commercial center, which would substantially increase its population. The impact from this development may be affected to coastal inland resources, coastal water resources.

The number of tourists in the three coastal provinces has been estimated at 10,206. An approximately 9% growth in tourism arrivals in Cambodia is Japanese, Taiwan, and Chinese. This indicated that the positive growth in the potential tourism development sector in the country.

Port development
Coastal Sihanoukville port expansion development can make a contribution to the economy as a main hub for growth of maritime transport, which should, in turn, attract manufacturing entries, but may also have an adverse impact on the surrounding environment. These effects of new expansion port can be focused upon location, port construction and port operation. These lead to impacts on water quality, coastal hydrology, bottom contamination, marine ecology, air noise, waste management and visual quality.

Industrial development
The industrial development zone was established in Sihanoukville called “Stung Hav-Sihanoukville Industrial Zone”. This industrial zone include petrochemical production, to exploit recently confirmed oil and gas reserves in the gulf of Thailand, food processing based on the local fisheries in the area, timber processing, and re-manufacturing. However, these industries pose potential damage to the environment.

1.3 Coastal Poverty Issues
Villagers in 75% of coastal villages met food shortages. The mainly attribute this to natural disasters such as insects, storms, high winds, and a dry season that lasted longer in recent years. On the other hand, coastal communities are also lack of infrastructure as many of them lack such facilities as schools, hospitals, and paths in the village, and lack of electricity. The shortage of drinking waters along the coast is related to this problem of inadequate rural infrastructure.

Many households in Cambodia’s coastal villages are lack of regular and stable income. Many fishers are unable to fish more than 10-15 days/month because of the lack of security at sea and the incidence of natural disasters such as storm.

In addition many villages indicated the lack of stable prices and markets for products because of a lack of access for many coastal households to markets beyond their local village. Involved in marine harvesting the people keep little of the marine catch for domestic consumption and most of their catch is sold to local traders who then transport the products for sale at markets outside the villages.

1.4 Coastal Environmental Issues
- Pollution
Sihanoukville urban locality of coastal city, solid and liquid wastes are discharged into the river and carried into the sea directly. In addition, many agriculture and agro-industrial plants in the suburbs of the coastal city discharge organic residues into the coastal waterways that run into the sea. These substances are toxic to the marine plants and hazardous to fisheries.

Facilities to provide water, electricity, and sewage treatment have not kept pace with the increase in population in the coastal region. Therefore, the sea has been used for untreated sewage disposal. This practice has resulted in water bodies becoming a potential hazard to human health and marine life.

Coastal waters have been polluted by agricultural activities. The main causes are the release of pesticides and insecticides into the water. Increases in agriculture yields have been accompanied by the increase in the use of artificial fertilisers and a variety of pesticides and insecticides. This has resulted in surface and ground water contamination in this region and during periods of rainfall result in direct run-off into the inland and coastal waters.

Pollution of coastal area from the industrial sector is relatively small in scale and magnitude compared to the problems of neighbour- ing nations. Most of the small-scale industries and handiwork are usually found situated along the shoreline of Tumnoh Rolok Sihanoukville and along streams. The direct disposal of industrial waste, particularly liquid waste from Sihanoukville’s brewery, into the coastal environment is viewed as a serious issue that needs to be addressed.

Degradation of natural resources
Fisheries: the fish stocks inshore waters may be over-exploited. Fish stock depletion is indirectly evidenced by fishermen selling their vessels, which were shown that it is no longer economically viable to earn a living from fishing in inshore areas.

Another reason for stock depletion is likely related to the fishermen using gear, such as dynamite fish poisons or intoxicants, in sea grass areas which depletes the stocks of juvenile fish and destroys the sea grass ecosystem which is so vital to the existence of many fish species.

The degradation of juvenile fish stocks has a direct impact both on the future inshore and offshore mature stocks.

Use of harmful traditional methods: the use of harmful traditional methods for fishing, such as dynamite, fish poisons or intoxicants, has also affected fisheries production. The uses of these methods in the inshore areas have resulted in the destruction of coral, mangrove, and wetland areas. These methods can destroy the important breeding grounds for the fish as well as the entire ecosystem needed to support the entire life cycle.

Mangroves: the total mangrove forest covers approximately 83,700 hectares in the coastal areas. Current studies indicate that through habitat degradation, the mangrove forests have been reduced by roughly 35-40% in Sihanoukville area. These mangrove forests are now still being depleted due to uncontrolled exploitation for firewood and charcoal and reclamation for rice fields.

The main causes of degradation are driven by local economic activities. Some of the factors contributing to destruction of mangrove forests are related to agriculture activities where people are clearing land by using the burning method. In addition to this mangroves are cut for wood and charcoal production.

Beach and shoreline erosion occurs as a result of mining or removal of sand (silica sand) and this aggravates the effects of natural processes related to wind, currents and waves. The removal of sand and the resulting beach erosion is remarkable in the Tuk Sap (20 km, ESE of Sihanoukville), O Tris (15 km of SSE of Sihanoukville), and O Chru (East of Tuk Sap) regions.

Wildlife: wildlife habitats have also been destroyed by the war by the filling of mangrove areas for housing accommodation, by pollution of marine environment and by some fishing and hunting activities. A large wildlife market exists including clouded leopard, sun bears,
and species of primates, deer, snakes, and turtles taken from the parks.

Destructive fishing practices, collection of corals for trade, declining water quality due to unsustainable logging practices, and domestic and industrial waste disposal under threat Cambodia’s coral reefs.

Seagrasses: seagrasses are under threatened by destructive fishing practices including motorised push nets, shallow water trawling, and weighted bottom nets which rip up and destroy seagrass meadows.

The depletion of natural resources such as forests, fish, mangroves, and wildlife, coral reef, seagrass, which are the main coastal and marine resources within the coastal area, has led to an overall decrease in socio-economic conditions.

1.5 Coastal and marine protected areas

The present system of coastal and marine protected areas in Cambodia comprises six reserves such national park, wildlife sanctuaries, protected landscapes, multiple use areas. However, the major issues with respect to these protected areas are degradation of biodiversity resources; lack of facilities and absent of infrastructure; no regulations specifying the process of protected area boundary determination and delineation; and the current system has not developed from a consistent physical, biological, and socio-economic information base with an objective of ensuring representative ecosystem coverage.

2. ADMINISTRATIVE AND MANAGEMENT ISSUES

2.1 Enforcement of existing laws

The environmental protection and natural resources management law is not adequately enforced. This is largely because of lack of human and financial resources. The fisheries law has many good provisions for the protection of marine habitats and fisheries resources. For instance, dynamite fishing, trawling in coastal water, pushing netting and cutting mangrove occurs daily, but are rarely prosecuted.

2.2 Decision-making processes

The decision-making process relating the development in the coastal zone is poorly defined, vague and ambiguous. It appears that, whatever the official mechanisms are high-ranking individuals can make decisions without consultation and participation. On the other hand, it appears to be conflict between provincial and national decision-makers with plans and policies developed independently by the two levels of government.

2.3 Legal framework

A legal framework does exist for management of the coastal zone. There are laws on protected areas, fishing, industrial development, land use, forestry, environmental protection and natural resources management, environmental impact assessment, water pollution control, and other important coastal zone issues. All governors and departments in all provinces and municipalities identified the lack of a legal and policy framework for coastal zone management and administrative structure to implement it as a major constraint on coastal zone management in Cambodia.

2.4 Lack of coastal zone planning

All provinces and municipalities are required to prepare Master plans. Planning has not occurred in the coastal zone. However, the plan prepared by provincial authorise specifies industrial, tourism, and residential zones but does not suggest any guidelines for development, standards or further plans.

Unplanned and uncoordinated development is occurring all along the coast, but is not yet viewed as a major problem because the rate of development is slow. However, it is envisaged that this lack of planning result in haphazard development and will be a source of serious conflicts in the near future.

2.5 Lack of information about distribution and status of natural resources

Information on marine habitats such as coral reefs, seagrasses and endangered species are still limited. The distribution of such these information and data both national and provincial levels are limited. Without information about what people are catching, it is not possible to estimate where the fisheries are overfishing.

2.6 Lack of public awareness and participation and capacity

Many problems related to public and participation could be addresses. And actions to these should strengthen laws, raising public awareness and doing research. Associated with this concern is a serious lack of technical capacity among government staff and minimal resources to prepare and disseminate information. Participation is still low priority for most government officials, may be reflecting the historical lack of community participation in decision-making in Cambodia. The lack of participatory planning and management has meant that some solutions to environmental problems are unsatisfactory.

3. CAMBODIA’S EMERGING COASTAL POLICY FRAMEWORK

The basic emphasis the Cambodian government at present is to attempt to clarify the lines of responsibility for activities that currently transcend local, regional and national interests the intent is to manage and co-ordinate government actions, to clarify ministry attributions, and to ensure administrative effectiveness and propriety. The existing restructuring of administrative tasks is directed reshaping the civil service, reforming the organisational framework for effective management, and reforming the regulatory mechanisms. The effectiveness and efficiency of organising and managing planned coastal development and resources use is depending upon this successful re-structuring of the state (reformed administration).

3.1 Legal, Policy and Administrative Frameworks

The Royal Government of Cambodia is being emerging to develop Cambodia become a state with a functional legal and administrative system. Many Royal decrees, laws, sub-decrees and other legal instruments have been issued and are being developed. At the present, a process of making policy and law are done by a combination of national and international experts. These are law on Environmental Protection and Natural Resources Management, land law, Royal decree on the Creation and Designation of Protected Areas, Sub-decree on Environmental Impact Assessment and Water control Pollution, Fisheries and Forestry laws, and Law on Land Management, Urbanization and construction. On the other hand, Cambodia became a member of the Coordinating Body of the Seas of East Asia (1995), Association

3.2 Institutional Frameworks

The numerous institutions with statutory power or interests in coastal and marine areas give rise to the problems of overlap, gaps in responsibilities and lack of co-ordination. The government has set up some organisational institutions in order to ensure overall co-ordination and co-operation of the different policies and measures taken by ministry levels of administration. Apart from the existing coastal and marine co-ordination consists of the Ministry of Environment, Ministry of Agriculture, Forestry and Fisheries Coastal Co-ordinating Unit and the National Coastal Steering Committee.

The Ministry of Environment (MoE) was established in 1993 to address issues of environmental management in the country, hold a number of responsibilities with respect to the coastal zone, the most obvious being the general protection of the environment in the coastal zone. More specific duties include the planning and management of the protected area system in the coastal zone. And its strategy is based on the execution of sole and joint responsibilities in conjunction with other ministries concerned with specific aspects of natural resources and infrastructure management.

The Ministry of Agriculture, Forestry and Fisheries (MAFF) is the main ministry responsible for managing Cambodia’s forests, including nature protected areas, mangroves as well as wildlife and fisheries. Two departments of MAFF are directly relevant to biodiversity management and protection in Cambodia. It is clear from the responsibilities of MAFF and MoE that close co-ordination between the ministries and departments involved in nature conservation is essential to avoid conflicts and promote complementary activities towards implementing the coastal protected area plans.

National Coastal Steering Committee (NCSC) is an attempt to deal with the multi-sectoral natural of coastal resource issues. This committee was established in 1997 and meet on a quarterly basis. Members of this Committee include the Minister of Environment (Chairman), Under Secretaries of State from Ministry of Agricultural Forestry and Fisheries (vice Chair), Ministry of Tourism ; Industry, Mines and Energy ; Public Works and Transport, Rural Development, Women’s Affairs, Planning, Council of Development for Cambodia, Governors of coastal provinces and others donors, NGOs and related coastal projects are observers. The NCSC is responsible for the overall direction of coastal projects and activities. All members are asked to ensure the co-operation of their line ministries and provincial authorities. The committee assisted by secretariat calls Coastal Co-ordinating Unit (CCU) was created 1996 in the Ministry of Environment and is responsible for co-ordination of activities by international organisations, governmental agencies, and the private sectors in the coastal area in Cambodia. Provincial working groups have been formed at the provinces and municipalities, these working groups are supported by Danida coastal zone project in its ongoing technical assistance activities in the coastal zone.

3.3 Coastal zone management Cambodia-Danida project (2000-2002)

The Danish International development Assistance (Danida) under the Environmental and Disaster Relief (EDRF) initiated its support to the Project environmental Management in the Coastal Zone.

Phase 1 was started in May 1997 and its outputs were trained provincial staff, initiated the development of information base in support of management, conducted socio-economic studies and issue-specific case studies in the coastal zone and considered longer term Danida support to coastal zone management.

Phase 2 was started in March 2000 and focused on three components: policy, legal and institutional framework; planning and environmental management; and pilot project on community based resources management. These three components are ongoing to prepare laws and regulations source book in the coastal zone, user’s manual guide to the source book and coastal policy recommendations. Planning and environmental management component is under producing physical framework plan and environmental profile for provinces and municipalities. There are 8 pilot projects will implement to Cambodia’s coast. Two have been testing with communities along the coastal zone, one is in Ream National Park at Sihanoukville municipality and other in Peam Kraop Wildlife Sanctuary in Koh Kong province, they are both based on natural resources management and alternative livelihood activities.

CONCLUSION

The Royal Government’s goals directly place the major priority on the coastal areas for economic development. The new plans for economic development through the rebuilding of infrastructure, tourism, industrial development and expansion of port, and oil and gas explorations and exploitations. The impact of development conflicts will become evident, given the existing and potential planned coastal economic activities due to the lack of development policy and legal framework guidelines, the lack of coastal zone planning, the lack of law enforcement, poor decision-making process, the lack of information and participation and capacity.

In order to start the coastal resources management process moving in sustainable direction in Cambodia, firm political and institutional commitment at national, provincial and local levels will be important to the development of integrated coastal resources management policy and management planning to focus on sustainable resources use. On the other hand, Cambodia has to maintain basic human needs, and provide the possibility to satisfy the aspirations of its people for a better life; should ensure economic growth and development are possible, without causing adverse changes to coastal and marine ecosystems.

Cambodian should design integrated coastal management approach is the key to promote sustainable use of its resources, it is the key to sustain critically important coastal ecological processes, and the overall quality of the marine environment; it is the key to preserve Cambodia’s biological diversity and ensure the quality of life for its people of present and future generations.