

Integrated Coastal Zone Management in Vietnam: Pattern and Perspectives

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Abstract: Vietnam's coastal zones are some of the very overexploited in the world with consequent degradation of its ecosystems and damage to public welfare. In general, the main goal of ICZM is to balance development and conservation, to ensure multi-sectoral planning and involve wide participation and conflict mediation. In the case of Vietnam, the central action will be adequate planning for development and management, whereby the development and management plans must be synchronous, efficacious by dealing with each other. That is they should be multipurpose and multifunctional with institutional structures at different levels: central, provincial and local commune.

Key words: Integrated management, pattern, sustainable development, coastal zone, Vietnam

Introduction

Sustainable development, with harmony between socio-economic development and environmental protection, is the strategic orientation of Vietnam now [2,3,6]. With the coastline/area ratio of 0.011, Vietnam can regard as a marine nation [4]. Research results show that development in the coastal zone hasn't been commensurate with its potentiality and has created many problems, forcing us to reconsider to focus on enhancing management capacity [2,4,7]. Marine and coastal zone management is an extremely difficult and complex mission for Vietnam, yet Vietnam is at present very vague in theory and confusing in practice, though this is a very pressing issue with high sociality and humanity, especially in the present context where the world is towards globalization, Vietnam is integrating, preparing to enter WTO [2,4,7,10,12].

Based on the practical performance we have carried out, together with analyses of lessons learnt from national and international integrated coastal management projects in recent years, we want to introduce the coastal management framework in Vietnam and the possibility of applying it into practice, with the aim to exchange and learn more about the wide knowledge and practical experience of national and international experts.

1. Awareness of Integrated Coastal Zone Management (ICZM)

1.1. Promoting ICZM is to meet the pressing need of development

ICZM program is designed to overcome problems caused by the inherent sectoral management. It aims at balancing socio-economic development with environmental protection, solving effectively problems concerning the utilization of resources, disaster prevention, protection and maintenance of coastal ecological functions [3,6].

The need for ICZM in the Vietnamese coastal provinces originates from practice. It relates closely with resource uses, disaster prevention, protection of coastal ecological processes and functions and promoting a multi-sectoral and multi-purpose management mechanism with wide participation of local communities. We can say that there are 4 common pressing causes for promoting ICZM in Vietnam:

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-The critical depletion of coastal resources and environment. According to Dr. Dam Duc Tien, Institute of Marine Environment and Resources, "... coral reef are mowed down, 96% of coral reef in Vietnam are at risk, of which 75% is seriously and very seriously threatened..." The Ministry of Fisheries said, marine fishing yield has reduced from 1.2 ton/HP (horsepower) in 1985 to 0.45 ton/HP in 2000. That Vietnam is preparing to enter WTO will change some key traditional industries, increase the constraint on coastal resources and environment.

-The desire, the aspirations to develop marine economy; eliminate hunger and alleviate poverty; increase economic benefits from marine- and coastal-based industries such as fishing, tourism, navigation and ports; and develop uses of the unexploited coastal and marine resources such as marine transportation, extraction of offshore petroleum and minerals, extensive mariculture... This is showed clearly by strategies for exploiting Van Phong bay (Khanh Hoa province), developing Dung Quat economic zone and Chu Lai open economic zone, promoting continental shelf oil and gas extraction.

-The third cause for promoting ICAM in Vietnam is to restrict and overcome the limitations of the stagnant, backward and sectoral administrative system, to reduce the sharply increasing conflicts during the development process.

-Finally, the integration policy is prompting Vietnam to share, to shoulder the responsibility for international vital issues and to together solve the global challenges. To carry out its commitment with international development programs, Vietnam has carried out a number of concrete actions such as working out plans for marine and coastal uses, environmental impact assessment and monitoring programs, natural and man-made disaster prevention plans, conservation and rehabilitation of important ecosystems, multi-sectoral integrated planning, national guidelines for planning and integrated development strategies in order to maintain biodiversity and productivity of marine species and ecosystems in South China Sea. Vietnam has also paid attention to introduce ecological understandings and traditional cultural and social knowledge into coastal management and encourage community participation in the decision-making process. A number of international cooperation programs on ICAM between Vietnam and Sweden, India, Netherland have been initiated [1,10].

In its policies, Vietnam is strengthening efforts to solve the questions of land-based and sea-based marine pollution. Vietnam values precautionary approach above responsive measures to prevent marine environmental degradation. Priority areas are: development planning, sewage management and control, river basin and coastal zone management, land-based pollution and chemical control, control of excessive uses such as overfishing, excessive aquaculture, overtourism [2].

1.2. Management issues in the coastal zone of Vietnam

Like other countries in Southeast Asia, in the process of ICAM, Vietnam should prioritize 4 management issues: population management, management of coastal uses and coastal ecological functions, management of those impacts which affect human and environment and administration management.

Current population of Vietnam is over 84 million, and it will increase to 130 million in year 2050 [4]. Vietnamese coast is one of the most densely populated regions in Southeast Asia. Within the next 20 years, more than 35% of Vietnamese population will inhabit at littoral areas. This is the common tendency of all developing countries: people are moving from rural to urban area, from the hinterlands to the coasts, where there are more

economic, social and recreational development opportunities. Management of urbanization explosion in the coastal zone is one of the most difficult task of planning.

Vietnam uses the coastal zone for many purposes: 1) use of resources such as land surface, water surface, fishing, forest, oil and gas, mineral mining etc.; 2) use of coastal infrastructure to develop maritime industries such as marine transportation, seaports, coastal engineering for coastal protection and national defence...; 3) for tourism, recreation; 4) to protect the coastal ecological functions, for conservation and protection of biodiversity. All these current traditional and common uses of coastal zone can conflict with each other, cause damages to resources and environment and create many social problems in the coastal zone [4,6].

Management of adverse impacts which affect human coastal uses is to manage waste, pollution, natural disasters (flood, storms, erosion, tidal flow...) and global climate changes. This is difficult because up to now, no one has “paid for disaster management activities and compensated for natural disaster damages” [4].

The last management issue is administrative management, the institutional issue. It includes questions such as law conflicts, multi-sectoral integration and coordination, international cooperation, organizational capacity, public awareness and participation, law system, land and water surface ownership, integrated planning, user conflicts, lack of alternative livelihood, equality [6].

Experience from many countries show that, most of coastal management issues can be identified by proper consultative meetings with local community and authorities, and non-governmental organizations concerned. Of course not all management issues can be solved at once, a lot of time may be required [6].

During ICZM preparations, when identifying and setting priorities for key issues, great attention must be paid to public needs for coastal goods and services, to the conflicting uses of coastal resources, to the impacts of natural disasters (coastal erosion, flood, land slide, storms, drought...) on the natural ecosystems, and to potential activities such as investment and development opportunities of private sector in aquaculture, tourism, harbour.

Identifying and setting priorities for key issues is the basis for the identification of objectives and criteria used for monitoring and assessment of ICZM program for adjustment and addition during the whole development process.

1.3. Goals and functions of ICZM program

The goals of integrated coastal management are to achieve sustainable development of coastal and marine areas, to reduce damages of natural disasters and to maintain essential ecological processes, typical ecosystems and biodiversity in the coastal and marine areas. Integrated coastal zone management is multi-purpose oriented: it analyzes implications of development, conflicting uses, and interrelationships among physical processes and human activities, and it promotes linkages and harmonization between coastal and ocean activities of different sectors and localities.

In principle, integrated management differs much from sectoral management. Integrated management is designed based on the principle of ensuring that the decisions of all economic sectors and all levels of government are harmonized and consistent with the national coastal policies [5].

From experiences of several countries [5], the major functions of ICZM in Vietnam are identified as follows:

- *Area planning* with the primary objective of optimizing the economic and social development opportunities that the marine and coastal ecosystems can support, proposing plans for present and future uses of coastal and marine areas, with a long-term vision.
- *Promoting economic development*: promote appropriate uses of coastal and marine areas, e.g. aquaculture, ecotourism, port development.
- *Management of resources*: protect the coastal and marine ecosystems, preserve biodiversity and ensure sustainable uses of coastal and marine resources.
- *Conflict resolution*: harmonize and balance existing uses and resolve conflicts among uses of coastal and marine resources.
- *Protection of public safety*: protect public safety in coastal and marine areas from natural and man-made disasters.
- *Ownership of public submerged lands and waters*: manage government-held areas and resources wisely and with good public economic returns.

2. ICZM framework in Vietnam

2.1. Geographical scale of management in ICM program

To establish the appropriate inland and offshore boundaries for integrated coastal management is a very difficult question. At present there are many ideas and opinions of it. Theoretically, the extent of coastal area to be managed must encompass 3 element groups: fundamental environment process; administrative units; and activities affected or depended on marine and coastal resources [5].

Integrated coastal management must include coastal lands and coastal waters and islands. Five main sub-zones can be identified in the coastal zone: *inland areas*, which affect the ocean mainly via rivers and non-point pollution sources; *coastal lands* such as wetlands, marshes etc., where human activity is concentrated and directly affects adjacent waters; *coastal waters* like estuaries, lagoons and shallow waters, where the impacts from land-based activities are great; *offshore waters*, mainly the waters extend to 200 nautical miles offshore within the national jurisdiction; and Vietnam also has to consider to join in the management of *high seas*, which is beyond the national jurisdiction.

Although the natural processes in these 5 sub-zones intertwine highly with each other, it is difficult to integrate management regimes across these zones because the nature of property, of government interests and institutions differ much in these zones. In terms of the nature of property, it is a continuum of ownership: in the inland, private property is dominant; in the coastal lands, there is a mix of public and private property; and in coastal and offshore waters, it is mainly the public property. As to the nature of government interests, it is chiefly the local or provincial interests in inland areas, whereas local, provincial and national interests are mixed in coastal lands and waters. Further to offshore waters and high seas, national and international interests become most important. The government institutions also vary from zone to zone. On the coastal and offshore waters, there is usually only single-purpose provincial or national authorities operating, each concerns principally with a single use of the ocean, such as fisheries or tourism activities, oil and gas extraction, marine transportation. Because of these differences, management of

these 5 sub-zones may require integrated and complementary approaches and institutions, with more or less variations for each specific locality.

In Vietnam, experts say that the landward boundary for ICZM should be the non tidal-affected areas further inland or where the salinity is 1‰, and the seaward boundary should extend up to the 200 m deep, depending on the local management capacity. In the short term, ICZM in Vietnam will be implemented based mainly on the administrative hierarchy which is composed of 3 levels: central, province, district/quarter and commune.

2.2. Management activities

Coastal management activity is an integrated solution, encompassing 3 categories: institutional and organizational arrangements, control and guidance, and direct investment for the community [6].

With regard to institutional and organizational arrangements, Vietnam should promulgate coastal laws towards the establishment of a law network necessary for coastal development and management. Moreover, it is necessary to promulgate and clarify governmental laws and policies in order to promote sustainable development in inland areas, coastal lands and waters, to protect the right of territorial uses, biodiversity, coastal biotopes and water quality. Management-related activities include: identifying and clarifying legal interests and obligations; identifying the jurisdiction and responsibilities of management agencies, strengthening coercive capacity and carrying out monitoring and assessment.

Concerning control and guidance, it is necessary to set up incentives such as tax exemption, government subsidization and technical support; or other measures such as no high tax or new tax, permission cost, crop restriction, limitation of uses of typical resources; and some other compulsory regulatory measures to promote environmental protection or prevent pollution and destructive activities. Associated management activities are: application of new regulatory measures, strengthening of existing regulatory measures, establishment and application of criteria for water quality and waste, together with incentives.

As to direct investment for the community: the government should invest directly to change public awareness, to provide the fundamental infrastructure, to carry out research and investigation, to build coastal management capacity, and to create opportunities for solving coastal development issues. Management activities in this field are: research and development; education and training; public awareness and information dissemination; construction of public infrastructure such as roads, dikes, waste collection and treatment facilities; technical support.

2.3. ICZM framework in Vietnam

Integrated coastal management is an iterative process, with information feedback and plan review cycle [5,6]. This process aims at identifying and finding solutions for management issues. Management issues are often divided in groups and concentrated in specific management action plan such as control of resource uses, disaster prevention activities, management of ecosystems and their functions, water quality maintenance, reserve management etc.

ICZM is to manage human uses, and human and natural activities of a very complex system, hence it requires specific requirements. Firstly, there must be adequate understandings of utilization process and its impacts, e.g, impact history and status and scale of each use; scale of impact and possible impacts of future uses based on user

development plans; interactions between present and future uses; possibility of sustainable uses of coastal and marine ecosystems; and management measures selected for each use. The second requirement is to convince the community - the user – that their long-term interests is closely connected with the management of marine and coastal environment and resources. Experiences from several countries show that the implementation of integrated management will either be failed or costly if the coastal inhabitants disagree with or financial unable to accept the management [5,6].

Most of governmental organizations in the world have inherited administrative structures which reflect the single sectoral management [5]. Governmental ministries, departments and sectors such as industry, agriculture, rural development, fisheries, tourism etc. have attempted to gain sectoral maximum economic growth and benefits by many ways. Those management systems based on sectoral benefits, with the participation of only one governmental level, without substantive and meaningful participation of community and related stakeholders, can not reach the integrated management goals of sustainable development. The setoral management model is outdated because of stagnancy and interest conflicts among the sectors [5].

ICZM framework in Vietnam should point out the goals and objectives so that all stakeholders can understand, offer ideas and suggestions and agree to participate. With regards to the goals of the management program, the overall, final goals should be denoted, whereas in terms of objectives, we just outline the attainable and measurable outcomes of a certain field in a certain management time. Management objectives should be set clearly and with priorities. The objectives of ICZM framework in Vietnam have firstly to address on following fields: strengthening multi-sectoral planning and management; promoting rational uses of marine and coastal resources and disaster prevention; maintainance of coastal ecological functions, biodiversity and productivity of coastal and marine species and habitats.

Coastal management activities must firstly address on 3 categories: 1) institutional and organizational arrangements to facilitate the implementation of management activities; 2) encourage public participation in changing human behavior and awareness, deliver policy tools, regulations and incentives according to the market mechanism; and 3) direct participation or investment of the government.

Making decisions for coastal management issues will involve many stakeholders, thus a number of major organizational problems should be tackle to reach integrated coastal management. The organization has to ensure a mechanism to co-ordinate and integrate different sectors and governmental levels; allow the participation of local communities; optimize resource uses for the benefits of the whole society in the short-term and long-term, with a strategic, holistic, integrated, multi-sectoral approach in order to balance between socio-economic development and environment protection.

To be convincible and feasible, management policies, strategies and programs need to be carried out within the national legal and administrative framework. Government committment and participation are necessary during ICZM establishment and implementation. Furthermore, an effective co-ordinating mechanism among institutions and government authorities must be designed and established. This is a very difficult work, if organized unscientifically, this mechanism will be prolix, overlapping, time- and money-consuming. The ICZM framework will deliver this coordinating mechanism, establish and maintain an effective communication system among institutions, governmental authorities and levels. Management system will operate through national, provincial and local governmental authorities. Its structure is an integrated system of governmental authorities

of all levels, from central to local, to guide the ICZM process, allow the vertical integration of planning activities of different governmental levels, and ensure public participation. It is tasked and able to settle conflicts and supervise the ICZM plan. All these must be carefully consider and well prepared, otherwise reformation will be counteractive in the short-term because the administrative system is usually very sensitive to the “violation” and “division” (decentralization) of power and of functions. However, this management system is new and limited by the lack of information and appropriate professional staff.

Lessons learnt from several countries recommended not to establish a new administrative system, not to separate the coastal zone into a part of itself, but to promote co-ordination and cooperation among institutions through agreements with national coastal management agency. This agency comprises representatives of national and local governments and local community, with support from a secretariat and a national consultative council, which consists of consultants selected for their ability to contribute in the settlement of technical and professional issues. The national coastal management agency will be responsible to the Government and for the approval of the principles and objectives of coastal management.

The ICZM framework with a management system coordinated 3 management levels: central, provincial, and local would be suitable for the current political, economic and social contexts of Vietnam. Through an operation systems of commune, hamlet, people’s and social organizations and local community, district level is the governmental unit directly steering the management interventions of local coastal environment and development issues under the leadership of the central and provincial levels. ICM centres in the locality are not responsible units, but just co-ordinating centres to together manage and resolve coastal environment issues. The concrete outcomes of ICZM program depend largely on the operation of district level, especially on the coordination and cooperation among functional units of all levels and their capacity to deal with problems. The district level is the principal authority which creates development stability and effective coastal protection. Its most important tasks are to consult, prepare and officially approve documents which define functions and tasks, give detailed instructions for development and management, receive and provide information..., all that must be suitable to the context of each locality. The manual handbook must instruct detailedly the functions of each level, organization and individual, popularize and give guidances how to use the manual “Instructions for sustainable coastal development” to all organizations, stakeholders and coastal communities.

3. Conclusion: ICZM is the challenge on management awareness and management mechanism in Vietnam

The most important factor in all efforts to achieve ICZM is the political will of the government. This can only attain when the top-ranking politicians and managers - the decision makers – are aware of and realize the long-term economic and social benefits of ICZM process.

Besides, we should invest significantly in research and study to get more understandings and knowledge on the strategic value of Vietnam coastal zone; and in building human resources to better apply planning and management tools.

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Biography

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