

# Synthesis – CCC Part II: Asia

## ICZM progress and achievements in the CCC Asian nations and Island States

There is a lot of common ground between different countries and their coastal zones. The exponentially strong growth of population and economic development is present in most countries and particular in the coastal zones. High population density is often caused by coastal urbanisation. Poverty is being combated by strong increase in economic productivity of the Asian population.

These common developments are often accompanied by problems, especially problems in the coastal zone. Among the most general of these are coastal erosion, water and soil pollution, degradation of habitats and natural resources (unsustainable use and overexploitation) and natural hazards related to storm surges, cyclones and tsunamis. Furthermore impacts of climate change will exacerbate these challenges.

Compared with other continents, Asia has a highly valuable but also critically vulnerable coastal zone now and more over in the future. This is why the Asian continent has such a prominent place in this CCC publication.

In Asia, there is a wide variety of development stages with respect to ICZM experience, application and implementation in individual countries. These conditions relate to differences in the seriousness of threats and the potential of the country, region or community to cope with them (in terms of financial resources, technical capabilities and institutional structures).

The examples of the three island states, show that all are quite different in nature, but all three are highly vulnerable to the effects of storm surges and tsunamis. The three island states, each in their own way, have taken steps to reduce their vulnerability to these hazards.

All countries wish to increase their knowledge in coastal and hydraulic engineering, sediment transport mechanisms, bio-geosciences, water quality, integrated ecosystem modelling and the development of decision support systems, and data management. Capacity building, awareness raising and education have been adopted as essential elements in ICZM development programmes in all countries.

The potential for educating children at primary school by involving teachers merits particular attention. Data collection, monitoring and dissemination are also critical factors in ICZM application. As was shown in the Vietnam example, the use of Remote Sensing techniques at a local level is a particularly powerful and promising tool. These common needs in ICZM development thus provide a large potential of sharing knowledge among countries.

All countries considered here have adopted the ICZM approach as a guiding principle for the planning and management of coastal resources. The history and stage of ICZM development may be quite different, however. Sri Lanka and to a lesser degree also Bangladesh have a long history of experience in ICZM. Most other countries have adopted the concept more recently, particularly in the last decade. Depending on the specific situation, solutions and courses of action may be quite different. Although the application and implementation of ICZM is based on a general approach to common problems, the outcome of the process should always lead to tailor made solutions.

Generally getting ICZM to work requires continuity in coastal planning in order to ensure the implementation stage is reached. ICZM is a continuous process that needs to be embedded in planning procedures and administrative and institutional systems. This is a long-term process which may take several decades. The implementation stage has not been reached in most of the Asian countries. Even in Sri Lanka, where a Coast Conservation Act came into action as early as 1983, experience still show important weaknesses in the powers and mandates of the coastal authorities and the underlying legislation, which is also true for the other Asian countries. This seriously hampers the implementation of the steps beyond the planning stage. Consequently, institutional difficulties and the lack of national focus, effective leadership and coordination, results in many cases in the ICZM policy

and strategy directives remaining unimplemented. Lack of resources (funds and technical capabilities) reinforce these problems.

A very serious common threat comes from the unsustainable use and exploitation of coastal resources. This is manifest in the explosive growth of intensive aquaculture (shrimp farming), which began in the 1990s. The resulting boom and bust cycle in aquaculture development has caused severe damage to the coastal system and the livelihood opportunities of local communities. This illustrates the conflict between maximizing short-term profit for investors with the long-term requirements of the local population. From these experiences, important lessons have been learned but at high cost. The challenge is to prevent the same thing happening again.

An important difference in a particular country and approaches to managing the coastal zone is one of scale. China is an example of a fast growing economy that can generate the resources and skills for large-scale approaches to solving existing problems and to developing new coastal infrastructure. An example of the first of these is the successful, large-scale rehabilitation of water quality in Suzhou Creek and Lake Tai. Examples of the second are the coastal developments following the eco-city concept, which aims to avoid future problems by integrated environmental planning. There are other examples, e.g. related to flood protection structures as in Bangladesh. However, in most cases the causes of problems and the possible solutions are considered at a much smaller scale when it is important to involve local communities and organisations. In the various country cases, there are many examples, which stress the need and potential of such a local approach.

A number of country cases focus on the possibilities of reducing the vulnerability of coastal areas to natural hazards (storm surges, cyclones and tsunamis). Examples of these come from Andhra Pradesh (cyclone vulnerability) and Indonesia and Seychelles (tsunami mitigation). From these cases, it is clear that the possibilities for reducing the vulnerability of coastal regions can and should be an explicit part of ICZM planning and implementation. The Indonesia example reinforces the need for enhanced tsunami protection and preparedness. Whilst the example from the Seychelles demonstrates the enormous benefits that can be achieved if appropriate spatial planning result in successful implemented of measures (e.g. conservation of the vegetation belts).

At last, two important lessons from Vietnam are: Mix the long term, rather abstract ICZM activities with the rather down to earth activities directed at solving a number of short term coastal problems in a no regret way, and secondly plan and implement an ICZM programme simultaneously at national, provincial and local level, strengthening vertical integration enabling problem solving by (inter) national funding and handing (RS) knowledge intensive technology to local level, there where the problems are most manifest.

The commonality of the problems and the differences in ICZM approaches to overcoming them means there is an opportunity to exchange information, knowledge, data and modelling tools.