

Policy Document

ICZM Framework Development: Proposal for SIDS

Soonil Rughooputh, Camilla Jeetoo, and Deolall Daby
Faculty of Science, University of Mauritius, Mauritius
Tel 230 454 1041 Ext 1481; Fax: 230 454 9642; sdr@uom.ac.mu

Outline the critical issues/challenges within the spectrum of your topic that call for policy decisions.

Coastal systems extend beyond jurisdictional boundaries and are affected by impacts of many local users and by decisions made by different levels of government.

There is a growing awareness of the problems experienced in coastal areas, their linkage to economic development, and increasing population pressure. The unsustainable management of the coastal zone is reflected in the increasing pollution in coastal areas, in the physical degradation of coastal environments, and in the deterioration of coastal habitats and resources.

Current management of coastal zones in many SIDS is not subjected to any specific or holistic management programme. No broad vision and management principles exist for the coast as a whole as a result of fragmented, uncoordinated and to a degree reactive management approach. In most cases, the latter is driven by the existence of a number of departments with isolated responsibilities.

Summarize your analysis of the policy options (based on your in-depth analyses of the options). Discuss alternative approaches and the factors considered in arriving at these approaches.

What is needed is an institutional management framework that recognises the coastal zone as a specific entity requiring a coherent holistic management based on an integrated, continuous and iterative approach to correct and steer future policies at national level in line with the requirements of various relevant Conventions and Protocols of which the islands are party to. The institutional policy framework must establish goals, authorise and guide the ICZM Programme; accomplished by executive and/or legislative action.

Very few small islands have been able to set up their Integrated Coastal Zone Management (ICZM) framework; most small islands are facing major impediments, like Mauritius. In Mauritius, the Ministry of Environment has already created an ICZM Division. However, this division is currently not fully operational and is inadequately staffed and equipped and lacks the guidance of an ICZM strategy and a working plan.

Identify the theoretical underpinnings of your policy options. What are the implications of your policy options on other topic areas?

The protection of coastal environments to ensure sustainable use of natural resources was at the top of the Agenda 21 for action at the UNCED in Rio de Janeiro, Brazil (1992). Whilst ICZM is not a new endeavour, the concept and practice of ICZM remains an area of poor development. A model is presented for designing an effective, comprehensive ICZM Framework for the small islands, including coastal profiles, with the goal of promoting ecologically sustainable use and development of the coastal zone. The model is the basis for strategy and plan to be formulated will contribute to ICZM strategies at national and regional levels. It will enable exchange of knowledge and experience in such management within the region, and assist in addressing coastal and marine resources management problems and their trans-boundary effects. The model relies on active participation (as opposed to passive models) of all stakeholders based on the principle of coastal zone management units built around 4 level approach: the ICZM committee work in consultation with an ICZM Advisory Committee which in turn is supported by thematic-driven Task Forces that are led by Expert Groups.

The ICZM Plan shall provide the basis for protecting, restoring and preserving the coastal zones important and diverse coastal resources. The ICZM plan will set a number of objectives that shall be achieved in order to fulfil its aim. The objectives will then divided into several measurable and achievable targets. The Plan will outline the resources that will be targeted, who are responsible for actions, what actions are needed, how they will be managed and how to implement them, in order that sustainability is achieved and the available resources can benefit the future generations.

The ICZM Strategy Planning explores the potential impacts of the ICZM policy action – on resources and resources users, on income and jobs, on social and cultural well-being), where the benefits are evaluated, where a wide array of data is accumulated, and where a general strategy is created and recommendations are made for organization and administration of the ICZM programme. Once policy makers accept the ICZM Strategy Plan, development of the ICZM Programme can begin and a detailed Master Plan for its implementation can be created. Once the Master Plan is approved and a budget and staff are authorised, the Implementation can begin.

Policy recommendations of the ICZM framework

To come up with a systematic Plan-of-Action that ensures:

- Sustainable economic and ecological potential;
- Sustainable Management of the Coastal Zone;
- Establishment of Coherent and Integrated Management and Policies for the Coastal Zone;
- Raised Awareness & increased Public Participation in Coastal Management; and
- Strengthened Enforcement of Regulations for Coastal Zone Development.

Policy Document

**Small Island Challenges in Educational Reforms:
The Case of Mauritius**

**Soonil D. Rughooputh
Faculty of Science, University of Mauritius, Mauritius
Tel 230 454 1041 Ext 1481; Fax: 230 454 9642; sdr@uom.ac.mu**

The new millennium calls for higher-level challenges - knowledge-driven transformations - as a result of the fiercer competition for greater market share. It is thus an imperative challenge for small islands to develop their national capabilities to meet the global challenge. Knowledge-driven transformations simply translate to a competition of brains. Our educational system should then be developed to the fullest - commensurate with the requirements of emerging and future economic challenges. We need a system that is realistic, simple and stress-free. Reforms are carried out with the wishful vision of creating such an ideal system. Quite often, the proposed solution to a problem itself generates new problems that were sometimes unforeseen. For example decentralisation, at the top of the agenda in many countries being regarded by many as a panacea, leads to reduced accountability; regionalization process has not really abolished the cut-throat competition that prevails for several decades in Mauritius simply because parents still want the best access to education for their wards. The concept of star schools has been simply translated from an island-level to a regional level.

Educational reforms can be crudely categorised into two main categories: those that target quantitative aspects and those that target quality aspects. The shift from quantity to quality are normally driven by interrelated reasons such as the introduction of nine-year compulsory education (world-wide trend) with students guaranteed access to schooling to Grade 9, the growing dissatisfaction from both employers and higher education bodies with student and teacher performance (call for higher standards, increased accountability and for greater economic competitiveness), the perceived need to secure stability and prosperity for all citizens following government changes, and the quest for quality education in other countries influences small island policy makers and

subsequent calls for reform. This paper deals with ways to enhance the current education framework now set on a regional focus in Mauritius. The rotating cluster system, based on a significant improvement in widening the access, is proposed as a solution to emerging challenges. The demarcation of the regions, on the basis of the student population in the regions targeted, proximity of the schools, and the transport network, is carried out on a geographical basis.

The new system proposed, based on a more widened access, provides new opportunities for major resource optimisation, enhancing the quality of education, specialization teachers/schools, justified construction of schools, and reintroduction of a new type of competition commensurate with the requirements of global competition. The state of the quality of education can be continually checked by cross-national comparative studies.

Policy recommendations

SIDS

- To increase access to schools with due provisions to curriculum differentiation for normal, weak, and talented and gifted students
- To adopt incremental decentralisation policies with flexible implementation but observing a strategic balance between the autonomy and the characteristics of its beneficiaries
- To develop cross-national comparative studies on the quality of education with a view to not only improve on the quality of education in schools but also towards creating more equitable systems
- To develop a common examinations board
- To develop e-learning as teaching aid and to expand access to quality education
- To make science and mathematics compulsory up to Grade 11.
- To develop regulatory framework for education at all levels

Policy Document

SIDS and Climate Change Indicators

Soonil D. Rughooputh and R Booneady
Faculty of Science, University of Mauritius, Mauritius
Tel 230 454 1041 Ext 1481; Fax: 230 454 9642; sdr@uom.ac.mu

There is no doubt that our climate is evolving and continues to change. The last two millennia have witnessed an unprecedented change in the climate. Climate change is also affecting our natural world, society and economy. The clear message from the scientific community is that the current warming is due, at least in part, to the increasing concentrations of greenhouse gases in the atmosphere. The global average temperature is projected to increase by 1.4 to 5.8 °C over the period 1990-2100 with an associated increase in the mean sea level. Such rapid rate of change will leave the ecosystems less time to adapt, making them more vulnerable to the phenomenon of climate change. Extreme weather events such as very intense tropical cyclones, flash floods, severe drought, heat and cold waves are becoming more frequent around the world. Being in the tropics, Mauritius is constantly experiencing these phenomena. It is predicted that changes in the climate patterns will increase the frequency of these events thereby threatening the lives and properties of many people worldwide and even in this part of the world. SIDS, particularly at risk, have all the environmental problems and challenges of the coastal zone concentrated in a limited land area. They are thus considered extremely vulnerable to global warming and sea level rise, with certain small low-lying islands facing the increasing threat of the loss of their entire national territories. Most tropical islands are also now experiencing the more immediate impacts of increasing frequency of extreme weather events such as very intense tropical cyclones, flash floods, severe droughts and heat/cold waves associated with climate change. These are causing major set-backs to their socio-economic development.

Few countries have addressed climate change impacts on different sectors of the economy that are particularly of interest to SIDS. In order to track these changes as they happen, SIDS are encouraged to gather together a set of indicators that are influencing

their climate. These indicators will be important to assess whether signs of change already emerging develop into important trends that affects our daily lives. Within the next decade or so, the first things to change may be subtle aspects of the behaviour of plants, animals and people. These indicators cover meteorological parameters such as temperature and rainfall but also include environmental and economic pointers such as risk of flooding and droughts, frequency of cyclones, abundance of butterflies, tourist population. This set of indicators may be seen in the context of broader initiatives. The Organization for Economic Cooperation and Development (OECD) produces a twice-yearly set of 33 environmental indicators for its 23 member states in Western Europe, North America and Asia. Similar work is ongoing within Europe, led by Eurostat (the Statistical Office of the European Union) and the European Environment Agency. In the UK, the Department for Environment, Food and Rural Affairs (DEFRA) and the Government Statistical Service have published a consultative document listing over 120 Indicators of Sustainable Development for the United Kingdom (DETR, 1996) including climate change.

The set of indicators will help to raise awareness of how our climate is changing, the pace of change and how it is altering the fabric of our natural and man-made world forever and it will instill a sense of urgency in responding to it. The best indication can be obtained by the analysis of long-term data. The key indicators of climate change will basically allow us to know how far the climate in our region has changed so far and will also allow us to assess the sensitiveness of different economic sectors to climate change. Other players such as scientists, students and other experts can find the data very useful for their work.

Policy recommendations

- In the medium-term, efforts should be made to extract important sectoral climate change indicators that flash out the vulnerability of small islands developing states.

- Based on precautionary and anticipatory approaches, SIDS should design and implement rational response strategies to address the environmental, social and economic impacts of climate change, and prepare appropriate contingency plans.

Policy Document

Towards Introducing The Blue Flag Eco-Label In SIDS: The Case Of Mauritius

by

Salim Aliraja and Soonil D. Rughooputh

Faculty of Science, University of Mauritius, Reduit, Mauritius.
Tel 230 454 1041 Ext 1481; Fax: 230 454 9642; sdr@uom.ac.mu

The Blue Flag is an international quality and standards grading system for beaches with good environmental governance. Blue Flag is fundamentally a tourism initiative and due to tourism constituting one of the biggest industries in Small Island Developing States, especially Mauritius, it is imperative that small island beaches achieve Blue Flag Status. The beaches have to satisfy 27 criteria covering water quality, beach management, safety, services and facilities, environmental education and information.

The existence of sufficient standards, regulations and plans for the protection of coastal areas in terms of effluent discharge, bathing water quality, fresh water supply, solid waste management, protection of wild life as well as protected areas and emergency plans cannot be denied. There are laws in force in Mauritius regarding protection and conservation of the environment, especially marine environment. Enforcing agencies however are not playing an active role. Some institutions like Beach Authority are not fully operational as a result of a lack of qualified staff. The problem of total enforcement of these regulations therefore remains a challenging problem. On the other hand, the NGOs are playing an active role in the protection, conservation and environmental education, especially to coastal environment. Nevertheless, there is still the question of the lack of emphasis put upon the fact that defending public interest is too passive. Insufficient priority is given to collection and management of relevant data, resulting in a severe lack of information regarding coastal processes in the local environment (e.g. wave data, current data, shoreline dynamics, etc.) to make informed planning and management decisions. Scientific information is needed to guide the wise use of coastal resources, to protect the environment, and to improve the quality of life at a national scale. This need is becoming more evident as the complexity of the relationships among

the environment, resources, and the economic and social well being of people become fully recognised, and changes and long-term threats are discovered. The sustainable development of small islands is often hampered by the lack of appropriate data collection and management systems. However, currently, in the absence of adequate data, decisions are made that may have irreversible consequences and that threaten the resource base over the medium to long term. There is thus a need to implement measures that will result in a change of attitude among management authorities and decision-makers about the importance of collection and management of data, as well as the importance of using these data to guide planning and management decisions. Incorporation of general environmental issues into the formal education system has been slow, but ongoing. Currently, very little is offered in this context at Primary and Secondary levels. There is a need to reach the wider public and bring general coastal zone management issues to the forefront. Often public education, awareness and sensitization programmes are short term and target a narrow audience; but to succeed at effective management of resources within the coastal zone, such programmes need to be wide spread and long term, with an aim to alter people's perceptions of limitless natural resources and changing attitudes from one of 'living just for today' to one of 'ensuring sustainable livelihoods'. There are numerous pieces of legislation dealing with planning and environmental issues; however, the establishment of these has been brought about through a reactive approach rather than a proactive one. Hence, the existing legislation does not assist in facilitating a coordinated approach to planning and development in an environmentally sustainable manner, and has led to overlaps and gaps in the system, which often create conflict and/or confusion over the precise jurisdiction of distinct agencies.

POLICY RECOMMENDATIONS

There is a need for an Independent National Blue Flag Council (with a goal of awarding Blue Flag status to at least two beaches every year) that will focus on how the Blue Flag eco-label can be instrumental in improving existing functions, compliance at local level with regulations, and in sustainable management of coastal resources. At the same time, such a starting point for a Blue Flag campaign offers an opportunity to strengthen existing capacities with a concomitant development of coastal zone resource management

and environmental education. In the medium-term, efforts should be made to develop common Blue Flag criteria applicable to small islands developing states.