

Tracking Progress in Coastal Management-Across the Integrated Coastal Management Cycle and Indicators

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Abstract

This paper presents the framework for assessing progress of coastal management initiatives. The framework is based on the cycle of integrated coastal management (ICM). Each step in the cycle suggests the indicators or self-assessment questions by which progress and learning can be assessed. We worked out and tested in the field self-assessment questions through participation techniques and meetings with a number of stakeholders among local coastal management projects in Thailand. The prime stakeholders comprise community members, local government officers, and coastal management managers. More senior levels of government need to be involved in the progress assessment as well, as they potentially have the capacity for making policy changes and resource allocation decisions that will aid the local stakeholders in achieving integrated coastal management.

Keywords: coastal management; integrated coastal management; project cycle; assessment

1. Introduction

For the purpose of coastal management in Thailand, ICM process has been considered with the definition of: a continuous and dynamic process that unites government and the community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the protection and development of the coastal ecosystem and resources (GESAMP, 1996). ICM is thus defined as iterative and collective process which must be coordinated using a multi-disciplinary approach, the simplified sequences linking science to the management.

The project cycle is the fundamental process of ICM, with the central idea of multiple steps broadly composing of planning, commitment, implementation and evaluation (Pernetta and Elder, 1993; Cicin-Sain and Knecht, 1998; Olsen *et al.*, 1999; Key and Alder, 1999; Department of Environmental and Natural Resources, Bureau of Fisheries and Aquatic Resources of the Department of Agriculture, and Department of Interior and Local Government, 2001; Chua 2006). Henocque and Denis (2001) proposed to enlarge the ICM process to 8 steps (Fig. 1) as follows: initialisation

conditions for a coastal management process, feasibility of implementation, socio-environmental assessment, scenarios or alternatives, preparation of action plan, decision making (institutional) arrangement, plan implementation and evaluation.

The cycle and the orders of outcome of ICM were used as the frameworks for assessing progress in coastal management initiatives (Olsen, 2003; Henocque, 2003). Satumanatpan and Juntarashote (2005), assessed progress of 40 coastal management projects in Thailand through a cycle of four main steps (initiation, planning, implementation and lessons learned). The authors summarized a number of weaknesses from their study as follows: poor assessment on the socio-economic framework in relation to environmental problems; none or unclear follow-up activities leading to weak monitoring system; and none or unclear sign of evaluation. These weaknesses reflect constraints emerging in most coastal management initiatives in Thailand over the past 15 years.

The current work offers a framework of ICM project cycle, and suggests simple indicators or self-assessment questions at each step of the cycle to help assessing progress for improving coastal management initiatives.

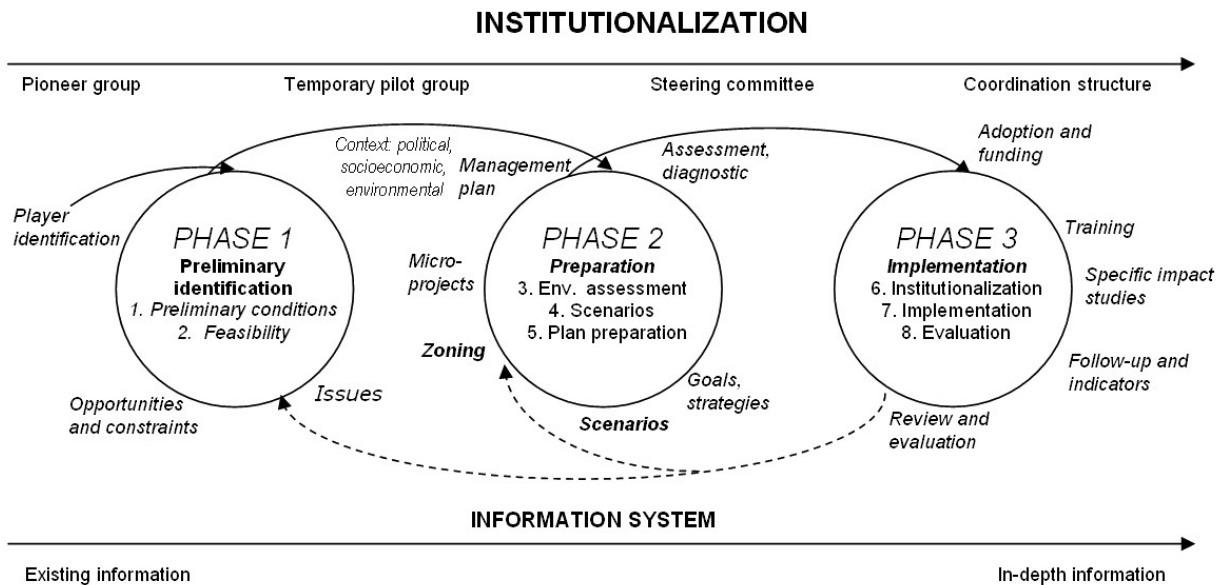


Figure 1. Phases and key steps in the ICM policy cycle (based on Henocque and Denis 2001)

2. Field testing

With regard to the previous review of coastal management projects in Thailand (Satumanatpan and Juntarashote, 2005; Satumanatpan, 2007), seven sites for visits and key informant interviewers were selected. The starting point for preparation the self assessment questions were prepared into three stages of the ICM cycle including: 1. initiation, 2. planning and 3. implementation and monitoring. Testing such questions was conducted through participation technique including key informants interviews and focus group discussion (NESDB, 2004). Also the questions were expanded testing through the 3 local meetings with related stakeholders, in Phuket, Krabi and Songkha provinces.

3. A framework of integrated coastal management cycle and self-assessment questions

Three steps of the ICM cycle, after testing was expanded to 8 steps. The larger number of steps is based on the fact that more emphasis was put on the preparation phase, with a stronger input from the social sciences. Devoting a particular attention to the initial conditions, the feasibility of implementation including socio-cultural assessment and prioritization of the problems

In summary, eight steps of the ICM process can be grouped in three phases as illustrated in Fig. 1. Phase 1 or preliminary identification contains preliminary conditions and feasibility, while socio-environment assessment, scenarios and plan preparation are in phase 2 (preparation) and the third phase (implementation) covers decision making (institutionalization), implementation and evaluation.

The assessment questions are divided into eight sections. Each of the eight sections corresponds to a step in the cycle of ICM. Under each step, a series of questions are provided (Annex 1). Each question focuses on some aspect of 'good practice' associated with the design and implementation of coastal management projects at different geographic scales. Justification for selection of the final set of self-assessment questions were clarified and discussed as follows:

Step 1: Initialization conditions for a coastal management process

The fate of this idea or initial spark will depend upon the analysis of initial conditions, the opportunities and constraints which are determined by the overall context (political, institutional, economic and social). However, it is important to realize that one of the "givens" of the problem is the territorial context; that is, an area with spatial and social dimensions. The analytical scale must be adapted to encompass all the aspects of the site or region where the project is to be started and implemented. In some cases, the national level will automatically be involved; in others, the provincial or regional scale will have a greater impact on the site and the issue concerned. In the evaluation of the overall context, the operators should be able to produce an initial identification of the various types of problems, their social framework (groups of players) and economic interest, according to the various components of the coastal zone system.

Step 2: Feasibility of implementation

Once the conditions (both positive and negative) related to the overall context have been made explicit, it is important to specify what the context covers locally. This will help define the geographical boundaries of the area concerned by the project. The

feasibility report (on environmental and socio-economic factors existing in the area), the main issues, the players concerned, and the possible solutions, in the form of economic, environmental, and land-use plans must be produced. This fact-finding report must be more than just a simple juxtaposition of knowledge and facts. It must strive to elucidate the causal system which will make it possible to reach the roots of the issues identified (the problem tree). The purpose of this report should be both to make an inventory of the resources available (human, institutional, and financial) and to evaluate the level of political determination to implement a coastal management process at various administrative levels. The feasibility report should repeatedly be submitted to all the players involved for validation in the course of workshops or meetings.

Step 3: Socio-environmental assessment

The goal of this step is not necessarily to produce an in-depth, detailed diagnostic, which might involve too much work. Instead, an overall assessment of the current state of the site focusing on the main issues identified in the previous step of the process. Its purpose is to go beyond simple sectoral approaches and to bring up the transversal problems of territorial organization. The data collected will help starting building a database and hence the information system.

Communication is a key element which includes the environmental assessment reporting, to be the subject of discussions with all stakeholders (players) and the sources which provided data for the elaboration of the evaluation. Likewise, the purpose of this phase is also to make explicit basic facts, which too often remain obscure, about the players. How does each group of players relate to the environmental problems diagnosed? Is each group suitable to participate in the improvement of the environmental situations observed? What are the dominant and secondary activities, and how are they organized? This is a matter of identifying how players operate: existing or potential conflicts, existing or latent conflicts, or potential forces for resistance or change.

Step 4: Scenarios

This step is interdependent upon the preceding one, and in some situations, may be conducted at the same time. A discussion about “what is going on” and what problems are present leads to a discussion of how the future should be. This involves the use of “social engineering” like communication, negotiation, and mediation techniques, for linking different collective or individual representations within the same area. It is important to carry out this mediation phase in a pragmatic way, adapting scenario-constructive or prospective techniques to the reality of the field and the people: it is advisable to ensure that a real debate takes place, involving the intentions and choices of

various groups of stakeholders (“validation”) on simple understanding rather than elaborate sophisticated scenarios at the expert level.

Step 5: Preparation of action plan

In this step, a detailed plan of action (with costs) to address the issues selected in the earlier step. Specific objectives, management policies and management actions are articulated for each of the issues selected. Specific studies or research is undertaken to fill knowledge gaps, to be most important to better understanding of the issues selected. Early implementation actions are vital at this stage to discover the feasibility of management techniques and strategies that are being contemplated. Validation of the plan is also required through the process of public participation. Pilot scale actions can bring attention and credibility to a project when they demonstrate that meaningful action is indeed possible. Monitoring system must be specified at this step.

The management-scheme document to be drafted should cover the following main points:

- definition of the area and its specific components based on the environmental assessment outcomes (biota, resources, activities, institutions);
- top priority issues identified and agreed upon;
- vision, goal and strategies;
- prioritized list of actions selected for the short and midterm (about five years), as well as the projects for which outside funds must be sought;
- follow-up and evaluation planned and main steps involved in plan implementation;
- institutional framework (project management and follow-up structure), funding sources, timetable for achieving the goals, and outreach policy.

Step 6: Decision making

The formal adoption of the management plan is the outcome of an approval process which began in step 2. Because of this process of negotiation and validation, the plan acts as a social contract involving the local officials from one or several territorial area, the local population, and its partners including the private sector ones. Although the contract is a local one, it should be perceived as a contribution to the national coastal strategy and hence recognized as such through the setting of institutional arrangements. If the area is not too big, it might even be advisable to “ritualize” the moral commitment by having all the plan stakeholders signing the document. In signing, partners from outside the area (higher-level local government or agencies, socio-professional organizations, etc.) recognize the legitimacy of the area (or territory) and its development project. This is also a matter of making certain that the funding sources foreseen during the elaboration stage are still available. Because outside funding (donors) is usually limited to a mid-term period

(3 to 5 years), it is important to guarantee some means of ongoing financing by internal funding sources. These may be matching funds from local governments and/or revenue generated at the local level. In this context, the management plan follow-up and adaptation is also a matter of cost that should be evaluated and integrated into the overall budget.

Step 7: Plan implementation

Implementation involves more than just the accomplishment of the activities set forth in the plan; it also provides for the organization of the means for the transformation of the concerned area(s) as well as the relationship between structures and people. Thus, it is as much a matter of organization as of planning of activities, which the steering committee must negotiate with its partners in order to formalize the ways each player concerned will participate.

In fact, implementation will test the follow-up/evaluation system, bringing about a number of adjustments to that system, based on the performance of each annual set of activity. In light of the results obtained (progress made and effects produced), combined with new events or opportunities, it will probably be necessary to re-examine, and revise, if need be, the set of activities that is to follow.

Step 8: Evaluation and adjustments

Evaluation is not an inspection. It is an ongoing process which begins with giving thought to the monitoring system which is most likely to fit the goals and strategies set. Thus, evaluation is first and foremost “a tool for refining the intelligence of the action”. In light of the results of the actions undertaken, evaluation is a means of re-examining the objectives and strategies implemented, their chronological development, the complementary nature of the actions undertaken, the structural organization and operating habits, partnership endeavors, etc.

In addition to the periodical adjustments, the plan usually has a predefined life expectancy (three to ten years), at the end of which it must be reviewed. In changing environmental, socio-economic, and institutional contexts, the relevance of the goals must

be re-examined. This does not only consist in changing them, but, again, going back to the drawing board for the elaboration of a new plan based on the preceding steps. At this stage in the iteration of the coastal management, we may consider that the first cycle of implementation of the integrated management of coastal zones has been completed.

Self-assessment questions were developed on the 8 steps of ICM cycle. A particular attention was made to the initial conditions, the feasibility of implementation including socio-cultural assessment and prioritization of the problems. This should lead the practitioners to closely consider the coherence of the resource-population-environment-development system within the coastal zone.

It is important to note that the chronology and order of the three phases can be changed suiting to individual coastal management practitioners. Practically, it is likely that most ICM initiatives may initiate the process in phase 2 or even phase 3. After that, new data is required and a backtrack is needed to the preceding steps in order to modify the context of the analyses. This will cause re-adjustment to the context of the coastal management program, and justify the flexibility of the process while ensuring that the information collected is reliable, and that all the stakeholders concerned by ICM are fully mobilized.

A total designed questions have felt to 43, which just need the simply answer of yes or no, does not explain of how the activity has been done and at which degree. It will be necessary to further develop to answering questions with the level of progress; representing low, medium and high. In this way, the initiative or the project will be able to trace what has been accomplished.

Offering self-assessment questions through the framework of ICM cycle, were provided as a broad guideline or an aid to program stakeholders in organizing program assessment activities for improvement in ICM. Additionally, the users should consider which questions are appropriate to their situations.

Annex 1. A series of questions in each step of ICM cycle

Step	Questions
Step 1 Initialization conditions for a coastal management process	1.1 What (issue) and who (group, organisation) triggered this coastal management initiative?
	1.2 Was the area boundaries defined in regard to specific issues at stake or was it pre-existing?
	1.3 Was there any identification of the external driving forces like for example, any possible impact of the international market on a specific resource?

Step	Questions
	<p>1.4 Was there any preliminary approach aiming at identifying the causes that underlie the problems, the main players and vested interest at stake?</p> <p>1.5 Were there any preliminary studies of the policies, institutions, regulatory (prohibition / authorization, monitoring, inspection) and non regulatory tools (taxation, subsidization, voluntary agreement, information system, scientific research, etc.) and effective role of local authorities?</p> <p>1.6 Was there a preliminary inventory and analysis of the institutional mechanisms that allow policies implementation from national to local level?</p>
Step 2. Feasibility of implementation	<p>2.1 Has an environmental and socio-economic assessment of existing knowledge, main issues, involved stakeholders and existing management practices, government sectoral policies, institutional arrangements, been carried out in the area?</p> <p>2.2 Has an inventory of available capacity (human, institutional and financial) that can be mobilised on the short term, been made in order to consequently adjust the project scope?</p> <p>2.3 Was there any evidence of supportive political will?</p> <p>2.4 Has the environmental and socio-economic diagnostic be shared and validated by the stakeholders?</p> <p>2.5 Are issues being prioritised?</p>
Step 3 Environmental and socio-economic assessment	<p>3.1 Was there an environmental assessment from the ecological point of view?</p> <p>3.2 Was there any kind of assessment of the population's heritage (local culture, lifestyle, institutions, socio-economic activities, customs, practices, local history, social networks, architecture, etc.)?</p> <p>3.3 Was the type of existing management, open or with potential conflicts, and vision of issues of the main stakeholder groups surveyed in one way or another?</p> <p>3.4 What attention has been given to women and youths in this process?</p> <p>3.5 Was relevant and necessary information gathered and organized as part of a functional information system?</p> <p>3.6 Was this gathered information given back in a way that it is accessible and understandable to the stakeholders concerned?</p> <p>3.7 Was there an accurate definition of the geographical boundaries looking sufficiently realistic in regard to the administrative boundaries, the main natural habitats and the identified issues?</p> <p>3.8 Were the seaward and landward boundaries sufficiently represented within the delimited area?</p> <p>3.9 At that step and to keep stakeholders' motivation, were short-term demonstration activities to remedy a well-defined problem (cleaning up of beach, restoration of levee fishing gear replacement, etc.) at low cost, prepared and implemented?</p> <p>3.10 Were the results of the diagnostic feedback validated by the stakeholders?</p>
Step 4 Scenarios	<p>4.1 Were negotiations between stakeholders carried out and did these negotiations allow the development of agreements concerning individual and collective measures prescribed to solve the identified issues?</p>

Step	Questions
	<p>4.2 Was there a construction of mid-term scenarios as means of considering the various ways of reaching long-term goals?</p> <p>4.3 Upon a specific scenario, was there a subsequent choice of goals and short- and mid-term implementation strategies?</p>
Step 5 Preparation of action plan	<p>5.1 Was the information system adequate (e.g. Geographic Information System) to allowing the use of thematic maps and the identification of possible coastal management units?</p> <p>5.2 Were there any necessary specific studies identified and carried out?</p> <p>5.3 Was the management plan submitted and validated by the stakeholders concerned?</p> <p>5.4 What overall framework has been used for the coherence of the plan? A convenient way may be the use of the logical framework but one should keep in mind that it is insufficient: to remain realistic in implementing them, selected activities may be described on “individual action files”.</p> <p>5.5 Were there some other identified activities to be submitted to other donors?</p> <p>5.6 Was a comprehensive monitoring system and its indicators defined at that stage?</p>
Step 6 Decision making (institutional) arrangement	<p>6.1 Was there any formal approval of the plan?</p> <p>6.2 Was there any specific institutional arrangement for making the plan operational and coherent with corresponding national policies and their implementation instruments (legal framework, economic incentives, etc.)?</p> <p>6.3 Do stakeholders and decision-makers (legitimate and legal) acknowledge these institutional arrangements?</p> <p>6.4 Were enough funding and incentive measures secured to allow smooth implementation of the plan?</p>
Step 7 Plan implementation	<p>7.1 Did the project/initiative put in place training and awareness-raising sessions for the partners about institutional or relational devices, regulatory devices or good-conduct codes, financial devices, and legal devices?</p> <p>7.2 Did the project/initiative try to promote inter-institutional coordination at national, regional or local level through specific activities (zoning plans, city-planning projects, housing construction, top-priority investment projects, mangrove conservation plans, protected marine areas, etc.)?</p> <p>7.3 Is there any monitoring system to assess the effectiveness of actions and make decisions needed to adjust or modify implementation?</p> <p>7.4 Is there any financial follow up with analytical presentation of expenses and revenues, to compare projected budget with real spending?</p> <p>7.5 Are there specific agreements or contracts negotiated with partners, government agencies, private organisations, NGOs, etc?</p>
Step 8 Evaluations and adjustments	<p>8.1 Is there a project/initiative relevant database (environmental, socio-economic) initially gathered during the identification and preparation phases</p>

Step	Questions
	8.2 Is there a set of functional indicators in use with impact criteria for qualifying the performance of the initiative? The impact criteria may concern the natural habitats and resources, institutions and policies, and the society (quality of life, education, gender issue, etc.).
	8.3 Does the project/initiative and stakeholder get enough feedback from the monitoring system?
	8.4 Are the mechanisms which were set up strong enough to resist the end of the initiative and obtain sustainability (financial, institutional and political aspects)?
	8.5 Was there any trial to reverse back to the initial steps for starting a new coastal management initiative in the same or another location?

4. Conclusion

This work has resulted in a set of questions setting out to assessing progress in coastal management through ICM cycle in a practical way. Tracking progress in coastal management through self-assessment questions or simple indicators is quite new in Thailand and can be useful to varieties of stakeholders such as community members, local government officers and coastal management practitioners-in other words those people who are at the key interface of coastal habitats and resources management. This paper is another step in an effort to provide simple conceptual framework, assist in tracking progress, promote learning across projects, and help make external evaluation a positive process that stimulates learning for improve coastal management.

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