

# **ICM Solutions**

Enhancing Accountability in Environmental Governance through the State of the Coasts Reporting System

- The State of the Coasts (SOC) reporting system is designed to assist local governments implementing integrated coastal management (ICM). It serves as a scorecard for local governments to measure progress toward their sustainable development targets.
- The SOC prescribes the use of 35 core indicators covering the six elements of governance (i.e., policy, strategies and plans; institutional arrangement; legislation; capacity development; and financing mechanisms) and five issue-specific management programs (natural and man-made hazard prevention and management; habitat protection, restoration, and management; water use and supply management; food security and livelihood management; and pollution reduction and waste management).
- SOC reporting triggers planning and management actions. The SOC report summarizes progress, trends, and shortcomings in ICM programs in a straightforward, visual manner, clearly indicating to policymakers, managers, and the general public where actions have been successful and where further work is required.









### Context

While environmental profiles and reports were being prepared at local and national levels and covered specific sector/s, there was no integrated monitoring, evaluation, and reporting tool that was specifically intended for local governments implementing ICM programs.

As such, local governments implementing ICM programs across the EAS region were using different parameters, indicators, time frames, and processes for monitoring and reporting progress and achievements of their respective ICM programs. This made it difficult not only to consistently assess progress at the site, but also to compare and assess progress across the various sites implementing ICM and their collective contribution to sustainable development of coastal and marine areas.

Data accessibility was another challenge. Data were not being collected, stored, or analyzed in a systematic manner at the ICM sites, making it difficult to access and compare current data with historical data, and thus constraining analysis of the trends and changes occurring in the area. His Excellency Say Samal, Cambodia's Minister of **Environment** has expressed his appreciation for the value of the SOC report of Preah Sihanouk Province, not only for the Province but for the entire country, in understanding the conditions and addressing the challenges of coastal and marine management. Minister Samal concluded that, "the SOC provides a comprehensive analysis of the coastal and marine management problems, solutions undertaken and the challenges encountered in the process. The report provides a simple format in assessing the efforts on ICM over the past 10 years (1998–2009) and identifies areas for improvement. The State of the Coasts of Preah Sihanouk Province complements and builds on existing provincial and national reports such as the State of the Environment and Socioeconomy."

| Category  | SOC<br>Code                     | Indicator  | Trend *<br>(1990–2007) | Category  | SOC<br>Code | Indicator   | Trend *<br>(1990–2007) |
|---|---------------------------------|--|------------------------|---|-------------|---|------------------------|
| Governance  |                                 |  |                        | Sustainable Development Aspects                   |             |   |                        |
| Policy, strategies and plans                                | 001                             | Coastal profile/Environmental risk assessment                            | <u></u>                | Habitat protection, restoration<br>and management | 018         | Habitat management plan and implementation        | <u>e</u>               |
|   | 002                             | Coastal strategy and action plans  | <u></u>                |   | 019         | Areal extent of habitats                          | <b>(22)</b>            |
|   | 003                             | Local government development plan, including<br>coastal and marine areas | <u></u>                |   | 020         | Protected areas for coastal habitats and heritage | <u></u>                |
| Institutional arrangements                                  | 004                             | Coordinating mechanism   | <u></u>                |   | 021         | Reclamation and conversion                        | (2)                    |
|   | 005                             | Participation of stakeholders in the coordinating<br>mechanism           | <u></u>                | Water use and supply<br>management                | 022         | Water conservation and management                 | <u>••</u>              |
| Legislation   | 006                             | ICM enabling legislation   | <u></u>                |   | 023         | Access to improved water source                   | <u>••</u>              |
|   | 007                             | Administration and monitoring of compliance<br>to legislation            | <u>••</u>              |   | 024         | Incidences/deaths due to waterborne<br>diseases   | <u>••</u>              |
|   | 008                             | Environmental cases filed/resolved                                       | <u>••</u>              | Food security and<br>livelihood management        | 025         | Fishery management plan and implementation        | <u>••</u>              |
| Information and public awareness                            | 009                             | Public education and awareness   | <u></u>                |   | 026         | Fisheries Production                              | <u>••</u>              |
|   | 010                             | Stakeholder participation and mobilization                               | <u></u>                |   | 027         | Malnutrition rate                                 | <u>e</u>               |
| Conseito development  | 011                             | Availability/accessibility   | <u></u>                |   | 028         | Poverty, education and employment                 | <u>••</u>              |
| Capacity development  | 012                             | Human resource capacity  | <u>••</u>              |   | 029         | Livelihood programs                               | <u>••</u>              |
| Financing mechanisms  | 013                             | Budget for ICM   | <u>••</u>              |   | 030         | Management plans                                  | <u></u>                |
|   | 014                             | Sustainable financing mechanisms   | <u></u>                |   | 031         | Water quality                                     | <u>••</u>              |
| Sustainable Development Aspects                             | Sustainable Development Aspects |  |                        | Pollution and waste                               | 032         | Air quality                                       |                        |
| Natural and man-made<br>hazard prevention and<br>management | 015                             | Level of preparedness for disasters                                      | <u></u>                | management  | 033         | Sanitation and domestic sewerage                  | <u></u>                |
|   | 016                             | Degree of vulnerability to disasters                                     | <u>••</u>              |   | 034         | Municipal solid waste                             |                        |
|   | 017                             | Social and economic losses due to disasters                              | <u>••</u>              |   | 035         | Industrial, agricultural and hazardous wastes     |                        |
|   |                                 |  |                        | * Lagand: 💮 Improving                             | Dotorio     | ration  | - No dete              |

#### Core Indicators for SOC Reporting for Batangas

Figure 1. Summary of results for the core indicators (Batangas Province).

# Solutions

Use the SOC to guide the gathering of information on baseline conditions at a new ICM site. At the start of an ICM program, the SOC provides a framework for collecting and collating baseline information. The key categories of information requirements included in the SOC cover the socioeconomic, biophysical, and ecological situation within the ICM site, as well as legal and institutional mechanisms and ongoing programs of a local government in addressing priority environmental concerns. The baseline information provides managers with a good indication of priority issues, challenges, and gaps in coastal management, along with a sense of key stakeholder players and their ongoing activities. The indicators being measured in the SOC baseline are given in figure 1. Details about the indicators, including description, rationale, and data requirements, are described in the Guidebook on the State of the Coasts Reporting <a href="http://www.pemsea.org/publications/guidebook-state-coasts-reporting">http://www.pemsea.org/publications/guidebook-state-coasts-reporting</a>>.

**Follow the stage-wise process of developing the SOC report.** The development of the SOC report follows a stage-wise process that is outlined in the Guidebook on the State of the Coasts Reporting <http://www.pemsea.org/publications/guidebook-state-coasts-reporting>. The three major stages in preparing the SOC report are indicated in figure 2, including: (1) SOC inception or the initiation of SOC implementation; (2) data gathering, analysis, and validation; and (3) report preparation and dissemination.



Figure 2. General steps in SOC development and implementation.

## Results

I. The case of Batangas Province, Philippines (PG-Batangas and PEMSEA 2008) (http://www.pemsea.org/ publications/state-coasts-batangas-province)

The State of the Coast report of Batangas Province was the first comprehensive assessment of the Province's progress with regard to its adopted coastal management strategy, objectives, and actions. The initial SOC report indicated four areas that required attention, indicating that the Province needed to prioritize its management efforts in these areas, namely: reclamation and conversion; air quality; municipal solid waste; and industrial, agricultural, and hazardous wastes.

The following management actions resulted from the Batangas SOC.

a. Expanding the coverage of environmental quality monitoring. The limited data sets for air quality indicated concern terms of total suspended in particulates, which exceeded the Philippine National Ambient Air Quality Guideline (NAAQ) value of 90  $\mu$ g/Nm<sup>3</sup>. The data, however, are indicative only of the pollution levels within the vicinity of the monitoring station and not reflective of the extent of air quality issue in the province. In order to have a better assessment, the Province through the Batangas Environment Laboratory has since initiated air quality monitoring as part of its regular environmental monitoring program.

> The results of water quality also indicated insufficient or sporadic monitoring results making it difficult to have a clear assessment of the



Province's bays and rivers. Batangas has since expanded its water quality monitoring program both spatially, covering the three bays and major river systems, and in terms of parameters being analyzed.

**b.** Management of agricultural wastes. Taking off from the results of the SOC and with the recognition that agricultural wastes contribute largely to the deteriorating condition of the Batangas Bay watershed, the Province has initiated the project on the rehabilitation of the Batangas Bay watershed that addresses the issue on agricultural wastes.

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- c. Operationalizing the Batangas IIMS database. One of the major challenges encountered during the development of the SOC report of Batangas was data gathering. Data were not systematically stored, and only recent data were readily accessible. Thus, trend analysis can not be performed with some of the indicators. Batangas has since undertaken efforts to re-establish the integrated information management system (IIMS) database of the province in partnership with De La Salle Lipa, one of the partner local institutions of the Province, to facilitate storage and access of data/information. The re-establishment of the Batangas IIMS will also facilitate the updating of the SOC report, which the Province has currently embarked on.
- 2. The case of Guimaras Province, Philippines (PG-Guimaras and PEMSEA 2012) (http://www.pemsea.org/ publications/state-coasts-guimaras-province)

The following are the major outcomes of the Guimaras SOC.

- a. Platform for integrated information gathering and sharing. Stakeholders acknowledged the need to organize and consolidate data/information from the various sectors in order to have a comprehensive assessment of the social, economic, and ecological conditions of the area, including management interventions and implementing arrangements. With such recognition, stakeholders appreciated the SOC as a platform to share data and information, and consolidate the efforts of the different sectors on environmental management. The Province has since regularly consolidated information from the different sectors for monitoring. The Province also maintains its IIMS database to facilitate data storage, retrieval, and access.
- **b.** Addressing data gaps. The lack of data on the extent of habitat resources as reflected in the SOC report resulted



in the conduct of habitat resources assessment by the Guimaras Environment and Natural Resources Office. With the assistance of a US Peace Corps volunteer, habitat monitoring is being undertaken in selected sites in the province.

Air quality is currently not being monitored in Guimaras as indicated in the SOC results. While it is not yet a concern, it was taken upfront and is currently being proposed in the Executive Legislative Agenda (ELA) such that an airshed in the province can be designated and an air quality monitoring program can be initiated.

| Category  | SOC<br>Code | Indicator  | Trend *<br>(2000-2009) | Category  | SOC<br>Code                      | Indicator   | Trend *<br>(2000-2009) |
|---|-------------|--|------------------------|---|----------------------------------|---|------------------------|
| Governance  |             |  |                        | Sustainable Development Aspects   |                                  |   |                        |
| Policy, strategies and plans<br>Institutional arrangements  | 001         | Coastal profile and environmental risk assessment                        | <u></u>                | -<br>Habitat protection, restoration<br>and management  | 018                              | Habitat management plan and implementation        | <u>••</u>              |
|   | 002         | Coastal strategy and action plans  | <u>••</u>              |   | 019                              | Areal extent of habitats                          | <u>••</u>              |
|   | 003         | Local government development plan, including<br>coastal and marine areas | <u></u>                |   | 020                              | Protected areas for coastal habitats and heritage | <u></u>                |
|   | 004         | Coordinating mechanism   | <u>.</u>               |   | 021                              | Reclamation and conversion                        | <u>••</u>              |
|   | 005         | Participation of stakeholders in the coordinating                        | <u>.</u>               | Water use and supply management   Food security and livelihood management   Pollution and waste | 022                              | Water conservation and management                 | <u>••</u>              |
| Legislation   | 006         | ICM enabling legislation   |                        |   | 023                              | Access to improved water source                   | <u>.</u>               |
|   | 007         | Administration and monitoring of compliance                              |                        |   | 024                              | Incidences/deaths due to waterborne<br>diseases   | <u></u>                |
|   |             | to legislation   |                        |   | 025                              | Fishery management plan and implementation        | <u>••</u>              |
|   | 008         | Environmental cases filed/resolved                                       | <u> </u>               |   | 026                              | Fisheries Production                              | <u></u>                |
| Information and public awareness                            | 009         | Public education and awareness   | <u> </u>               |   | 027                              | Malnutrition rate                                 | <u></u>                |
|   | 010         | Stakeholder participation and mobilization                               | <u>.</u>               |   | 028                              | Poverty, education and employment                 | •••                    |
| Capacity development  | 011         | Availability/accessibility   | <u>••</u>              |   | 029                              | Livelihood programs                               | <u></u>                |
|   | 012         | Human resource capacity  | <u>••</u>              |   | 030                              | Management plans                                  | <u>••</u>              |
| Financing mechanisms  | 013         | Budget for ICM   | ••                     |   | 031                              | Water quality                                     | <u>••</u>              |
|   | 014         | Sustainable financing mechanisms   | <u>••</u>              |   | 032                              | Air quality                                       | _                      |
| Sustainable Development Aspects                             |             |  | management             | 033   | Sanitation and domestic sewerage | <u></u>   |                        |
| Natural and man-made<br>hazard prevention and<br>management | 015         | Level of preparedness for disasters                                      | ••                     |   | 034                              | Municipal solid waste                             | <u></u>                |
|   | 016         | Degree of vulnerability to disasters                                     | <u></u>                |   | 035                              | Industrial, agricultural and hazardous wastes     | <u>••</u>              |
|   | 017         | Social and economic losses due to disasters                              | <u>••</u>              | * Legend: 🕐 Improving   | Deterior                         | ating 😐 Baseline data only or data not conclusive | — No data              |

Figure 3. Summary of results for the core indicators (Guimaras Province).

### 3. The case of Preah Sihanouk Province, Cambodia (PG-Preah Sihanouk and PEMSEA, n.d.)

The SOC report of Preah Sihanouk Province is the first comprehensive assessment of the coastal and marine environment in the Province.

a. Promoting integrated information gathering and sharing. The process of SOC development promoted information sharing, and better cooperation and commitment among the different departments and sectors in the province. As such, information are compiled in order to have a comprehensive assessment of the socioeconomic and ecological conditions of the area, and used as basis for planning and management. Prior to SOC development, there was limited and/or consolidated data/information available on the marine and coastal areas of the province.

**Governor Sbong Sarath of Preah Sihanouk Province** encouraged the concerned departments and agencies to use the SOC report as a guiding document in identifying measures to further promote sustainable development of coastal and marine areas in the province.



| Category  | SOC<br>Code | Indicator   | Trend *<br>(1998–2010) | Category   | SOC<br>Code | Indicator  | Trend *<br>(1998–2010) |
|---|-------------|---|------------------------|--|-------------|--|------------------------|
| Governance  |             |   |                        | Sustainable Development Aspects  |             |  |                        |
| Policy, strategies and plans                                | 001         | Coastal profile and environmental risk assessment                     | <u></u>                | Habitat protection, restoration<br>and management                                | 018         | Habitat management plan and implementation           | <u>e</u>               |
|   | 002         | Coastal strategy and action plans                                     | <u></u>                |  | 019         | Areal extent of habitats                             | <u></u>                |
|   | 003         | Local government development plan, including coastal and marine areas | <u>••</u>              |  | 020         | Protected areas for coastal habitats and heritage    | <u>••</u>              |
| Institutional arrangements                                  | 004         | Coordinating mechanism  | <u>••</u>              |  | 021         | Reclamation and conversion                           | (2)                    |
| Institutional arrangements                                  | 005         | Participation of stakeholders in the coordinating<br>mechanism        | <u></u>                | Water use and supply<br>management<br>Food security and<br>livelihood management | 022         | Water conservation and management                    | <u>••</u>              |
| Legislation   | 006         | ICM enabling legislation  | <u></u>                |  | 023         | Access to improved water source                      | <u>e</u>               |
|   | 007         | Administration and monitoring of compliance to legislation            | <u>•</u>               |  | 024         | Incidences/deaths due to waterborne<br>diseases      | <u></u>                |
|   | 008         | Environmental cases filed/resolved                                    | <u>.</u>               |  | 025         | Fishery management plan and implementation           | <u></u>                |
| Information and public awareness                            | 009         | Public education and awareness  | <u>.</u>               |  | 026         | Fisheries production                                 | <u></u>                |
|   | 010         | Stakeholder participation and mobilization                            | <u></u>                |  | 027         | Malnutrition rate                                    | <u>••</u>              |
| Capacity development  | 011         | Availability/accessibility  | <u>••</u>              |  | 028         | Poverty, education and employment                    | <u>.</u>               |
|   | 012         | Human resource capacity   | 0                      |  | 029         | Livelihood programs                                  | <u>e</u>               |
|   | 013         | Budget for Integrated Coastal Management                              | <u> </u>               |  | 030         | Management plans                                     | <u></u>                |
| Financing mechanisms  | 014         | Suetainable financing mechanisms                                      |                        |  |             | Water quality  | <u>.</u>               |
|   |             |   |                        | Pollution and waste  | 032         | Air quality  | <u>••</u>              |
| Sustainable Development Aspects                             |             |   |                        | management   |             | Sanitation and domestic sewerage                     | <u></u>                |
| Natural and man-made<br>hazard prevention and<br>management | 015         | Level of preparedness for disasters                                   |                        |  |             | Municipal solid waste                                | <u></u>                |
|   | 016         | Degree of vulnerability to disasters                                  | <u> </u>               |  |             | Industrial, agricultural and hazardous wastes        | <u></u>                |
|   | 017         | Social and economic losses due to disasters                           | <u>••</u>              |  |             |  |                        |
|   |             |   |                        | * Legend: 😳 Improving 🦉  | Deterio     | rating 🛛 😬 Baseline data only or data not conclusive | — No data              |

Figure 4. Summary of results for the core indicators (Preah Sihanouk Province).

### **Lessons Learned**

- 1. By following a step-wise, multisectoral, consultative, and consensus building process of preparing the SOC report, the SOC serves as a platform for consolidating the different sectoral efforts and promotes ownership of the report by the different stakeholders.
- 2. The active engagement of the different sectors to facilitate the SOC development and implementation process addresses the broad requirements of the SOC covering multiple disciplines and the different sectors.
- 3. Establishing a computerized database and information management system, such as PEMSEA's IIMS, helps to facilitate data accessibility, storage, and retrieval in a consistent and systematic manner.
- 4. The results of the SOC have proven useful in strengthening management programs and addressing specific aspects of sustainable development.
- 5. The SOC reporting system has also proven useful in transferring information on coastal and marine management to Local Chief Executives (LCEs), Ministers, policymakers, managers, planners, and the general public in order to improve planning and management of coastal and marine areas.

- Chan Won Lee, Hong Pyo Jeon, Sung Jin Lee, Seon Young Lee, Yong Chang Jang. 2012. State of the Coasts of Masan Bay, Coastal Resources and Environmental Research Center, Changwon, South Korea.
- Ocean and Fishery Bureau of Dongying Municipality. 2010. State of the Coasts Report of Dongying. Municipality of Dongying, PR China: Ocean and Fishery Bureau of Dongying Municipality.

PEMSEA. 2011. Guidebook on the State of the Coasts Reporting for Local Governments Implementing Integrated Coastal Management in the East Asian Seas Region. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Quezon City, Philippines.

Provincial Government of Batangas, Philippines and PEMSEA. 2008. State of the Coasts of Batangas Province. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Quezon City, Philippines. 119p.

Provincial Government of Guimaras, Philippines and PEMSEA. 2012. State of the Coasts of Guimaras Province. Quezon City, Philippines: Partnerships in Environmental Management for the Seas of East Asia (PEMSEA).

Provincial Government of Preah Sihanouk, Cambodia and PEMSEA. 2013. State of the Coasts of Preah Sihanouk Province. Quezon City, Philippines: Partnerships in Environmental Management for the Seas of East Asia (PEMSEA).

#### Keywords

State of the Coasts, SOC, monitoring and evaluation, ICM, sustainable development framework, indicators, Batangas, Guimaras, Preah Sihanouk

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"ICM Solutions" is a digest of some of the contributions to an ICM case studies publication currently being prepared by PEMSEA, Coastal Management Center (CMC) and the World Bank (publication pending).



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