Useful worksheets to guide the planning of a SocMon assessment or monitoring programme

An addendum to the Global Coral Reef Monitoring Network (GCRMN) Socio-economic Manual for Coral Reef Management



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This addendum, Useful worksheets to guide the planning of a SocMon assessment or monitoring programme, is an update to the Global Coral Reef Monitoring Network (GCRMN) Socio-economic Manual for Coral Reef Management (Bunce et al. 2000). These worksheets were developed by the Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies, Cave Hill Campus, Barbados – the regional SocMon node for the Caribbean. The worksheets have been used in numerous SocMon trainings facilitated by CERMES to guide SocMon practitioners in the thorough development of a site-specific socio-economic monitoring plan for initiating a SocMon assessment. The worksheets can be adapted to global SocMon region as required.

Technical advice and guidance

The Global SocMon initiative (www.socmon.org) can provide technical advice, guidance and share experiences on initiating SocMon. Contact Peter Edwards at <u>peter.edwards@noaa.gov</u> for further information.

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Copies of Useful worksheets to guide the planning of a SocMon assessment or monitoring programme can be downloaded from the global SocMon website (<u>www.socmon.org</u>).

Comments and feedback

Comments on this addendum and feedback on how it was applied would be most appreciated. Please send to Maria Pena at <u>maria.pena@cavehill.uwi.edu</u>.

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<u>Cover images</u>: SocMon Caribbean trainings. Clockwise: Determination of study area, ECMMAN SocMon Caribbean training workshop, Praslin, 2016 (Photo credit: M. Pena); Launch of the SocMon Brazil node, 2014 (Photo credit: M. Pena); Secondary data listing, ECMMAN SocMon Caribbean training workshop, Northeast Marine Management Area, Antigua, 2016 (Photo credit: M. Pena); and GCRMN Caribbean SocMon training, Discovery Bay Laboratory, UWI Mona, Jamaica, 2016 (Photo credit: J. Wood).

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1 Introduction

These worksheets are *guides* to organizing preparatory, planning, data collection and communication activities for a socio-economic assessment or monitoring programme, and are essentially meant to represent an ecosystem-based Socio-economic Monitoring for Coastal Management (SocMon) site monitoring plan for the site of interest. They are organized primarily according to the preparatory activities phase of the SocMon and *SocMon Spatial* approaches but also include components of the planning and data collection phases of these approaches. A monitoring plan must take into account the local reality - available funds, human resource capacity and the demands of decisions. It has to prioritize particular variables to monitor, with good reasoning behind choices.

These worksheets will allow SocMon practitioners to develop site monitoring plans in a clear and consistent manner. Each section of the worksheets builds logically on the one before as reflected in the SocMon process (see Bunce et al. 2000). The worksheets provide an understanding both of the process and the information required to develop SocMon site assessments and monitoring programmes. They can be modified in any way found to be useful. Other worksheets are in the Global Coral Reef Monitoring Network (GCRMN) Socio-economic Monitoring for Coral Reef Management (SocMon) manual - see Bunce et al. 2000, pages 245-251 - but are less comprehensive than this set. These worksheets have been used during SocMon training workshops in the Caribbean to aid SocMon teams in the development of their assessments and monitoring programmes. Workshop participants have found them useful to the SocMon planning and implementation phases as they aid in providing a reference for managing a SocMon assessment.

These worksheets are meant to be completed with reference to the GCRMN SocMon manual (Bunce et al. 2000), the regional SocMon guidelines, the climate change addendum (Wongbusarakum and Loper 2011) and the SocMon Spatial guidelines (Wood et al. 2018) as guidance. Practitioners are also encouraged to refer to the integrated monitoring guide (Wongbusarkum and Heenan 2018) and the climate vulnerability assessment guide (Wongbusarakum 2018) when specifically planning for integrated ecological and social monitoring and social assessment of climate vulnerability. Read this SocMon literature as well as relevant literature on the study area or site of interest and adjacent areas from which useful information on what should be monitored, how, when and where can be gathered. Feel free to provide explanations, where applicable, for your choices in each of the section notes. The worksheets should be completed by a group of 5-7 persons reflecting a SocMon team. The tables are not static. Feel free to edit them to your meet your needs. Spreadsheets are often more convenient than word processing applications for working with tables of all types.

These worksheets may be downloaded from the global SocMon website (<u>www.socmon.org</u>) and printed or may be completed digitally according to preference. Feedback on the structure of these worksheets is always welcome and useful to SocMon training facilitators. Please send comments to Maria Pena at <u>maria.pena@cavehill.uwi.edu</u>.

2 Goals and objectives guiding socio-economic monitoring

Monitoring must have a goal and specific objectives for being undertaken. These are often based on management plans (e.g. fisheries, MPA, tourism), management questions and decisions to be made or other expressions of policy.

* SMART objectives are <u>specific</u>, <u>measurable</u>, <u>a</u>chievable, <u>r</u>ealistic and <u>t</u>ime-bound. Keep these characteristics in mind when designing and developing the monitoring objectives.

Monitoring goal	Monitoring objectives (up to three SMART* ones)
	1.
	2.
	3.

Notes:

GCRMN Manual: Pages 19-20, 36-40

3 Defining the study area

Using the information on issues and stakeholders, define the geographic area appropriate for the study area (contains all or most critical activities/issues and stakeholders). Document the specific selection criteria that you used, i.e. the reasons for choosing the extent of the study area. The study area description should include north to south and east to west boundaries, distance inland and seaward etc. Clearly identifying the study area is important in identifying use patterns and potential threats to resources. The study area should include where the stakeholders live and work.

Study area selection criteria	Study area description (or attach area map)

Notes:

GCRMN Manual: Pages 26-28

4 Stakeholder identification

Stakeholder identification and selecting the boundaries for the study area and study sites are iterative processes. Start by identifying the activities in the area and then determine who the likely stakeholders are. Name their organization, if any.

Remember

<u>Primary</u> stakeholders are people who depend directly on coastal and marine resources for their livelihoods and make direct use of associated ecosystems and their resources (GCRMN SocMon Manual, page 21).

<u>Secondary</u> stakeholders do not use the coastal and marine resources directly but make use of its products and services, or whose actions may affect the resources (GCRMN SocMon Manual page 21)

Study area activity or issue	Primary stakeholder [and organization]	Secondary stakeholder [and organization]

Notes:

GCRMN Manual: Pages 21-25

5 Stakeholder locations and key informants

The communities where SocMon will take place will depend primarily on the stakeholders involved in coastal management or who may be affected by it. Suggest key persons who can talk about the larger population. Provide the actual names of the key informants. There may be more than one key informant per stakeholder group. Keep the number of key informants to between 10-15.

Stakeholders (1° and 2°)	Location of stakeholder	Key informants for stakeholders

Notes:

GCRMN Manual: Pages 21-25

6 SocMon Spatial reconnaissance checklist

Good reconnaissance is critical in SocMon process and particularly in the initial phases of the SocMon Spatial process. In this phase, researchers gain an understanding of on-the-ground spatial interactions which guide future monitoring activities. A checklist should be created to guide reconnaissance observations. Information of importance is "What are we looking for?", "Where is it?" and "Who can tell us?." These questions are related to the monitoring objectives, and later to the specific variables selected for monitoring (see Section 9).

Feature (What are we looking for?)	Location (Where is it?, What is it close to?)	Key informants (Who can tell us about it?, Who uses this space?)		
Activities				
Resources				
Key infrastructure				

SocMon Spatial Guidelines: Pages 11-15

7 SocMon leader and team

Although an initial study or monitoring program can be done by a single person (e.g. MSc student), the process is intended to be undertaken by an interdisciplinary team, the size and the required talents of which partly depend on the goal and objectives of the study or monitoring program. What types of expertise do you need and where from? A SocMon team is a multi-disciplinary group of 5-7 people.

Skill requirement or role on team	Names and affiliations of team leader and members

Notes:

8 Secondary data sources

One of the first steps in SocMon is to consult secondary data sources that can be used for guiding the investigation and interpreting the results. Use this table to identify the sources of secondary data based on the objectives set for your SocMon. When completing the table also think about secondary spatial data. In future monitoring you can check if additional sources of information on the objectives become available. One row is added for general types of information. Where possible make notes about the suitability, quality, method(s) of collecting the data, when it was collected, who collected, analyzed and interpreted it. When reporting, documents should also be listed in your 'References'.

Tips for scoping secondary spatial data

- Look for information that is specifically related to the area of interest.
- Information should not be restricted to GIS data and/or maps; descriptive information is important as well. For example, newspaper articles about user conflicts within a specific area.
- For GIS data:
 - 1. Look for information on data collection methodologies that can be easily replicated in your study, and
 - 2. Ensure quality by looking out for the 5 Ws: <u>What</u>, <u>Where</u>, <u>When</u>, ho<u>W</u> and by <u>Whom</u>.

SocMon objective	Sources of secondary data	Notes
1.		
2.		
3.		
Conoral turner of information		
General types of information		
Notes:		

GCRMN Manual: Pages 53-57

SocMon Spatial Guidelines: Pages 16-18

9 Key variables to be monitored

SocMon has a set of variables that are standard. This enables global comparison among SocMon projects. Based on the goal and objectives of the monitoring, you need to determine which (if not all) of the SocMon variables¹ need to be measured, sources of secondary information to consult before interviewing (key informant, household, visualization techniques), and practical considerations for each variable. The practical considerations include levels of difficulty in acquiring information, issues, error or uncertainty, challenges in implementing fieldwork, links to data sources that are desirable, etc. Refer to the relevant region-specific SocMon guidelines when selecting the variables to determine the information measured by the variable and its suitability for monitoring based on its relevance to the monitoring goal and objectives. Recently broad socio-economic parameters with links to drivers of ecological change have been developed by GCRMN-Caribbean – these may be adopted and/or adapted to any SocMon region where useful. See below.

*Since most socio-economic information can be gathered from secondary data rather than interviews (key informant) and surveys (household), rigid distinction between variables (as shown in all regional SocMon guidelines, except those for SEM-Pasifika) is unnecessary. Select your variables and choose the most appropriate data collection method.

Also remember that if a variable specific to your purposes of monitoring is not available among the suite of SocMon indicators (and GCRMN-Caribbean parameters), you can design new variables. **N.B.** the variables in the table below are SocMon Caribbean variables but these may be replaced to accommodate those from other SocMon regions.

The variable selection process for SocMon Spatial must consider the spatial relationships between features. Certain spatial representation goals may require the packaging of related variables. For example, *Use Patterns* and *Types of Impacts* if an understanding of the impacts of coastal use is being monitored. In selecting variables for monitoring, identify whether they represent a feature, an attribute or both. This will help in determining which variables must be linked as features and attributes for monitoring of spatial characteristics in this assessment.

GIS abbreviations:

- a. F = Feature: physical points and/or areas highlighted on the map)
- b. A = <u>Attributes</u>: sets of information which describe the features that they are related to

SocMon Spatial Guidelines: Pages 4-10

When selecting the variables, we recommend doing a quick first pass. We don't consider this to be the ultimate selection of variables. On the second pass, make sure you understand what the variables are measuring. Prioritize the variables according to:

- Goals and objectives of socio-economic assessment/monitoring
- Importance to data collection
- Site-specific conditions

¹ Variable is used interchangeably with indicator in this context

a) SocMon Caribbean variables

Variable to monitor (see the Caribbean Guidelines)	Obj. # 1, 2, 3	Secondary and key sources of information and comments on factors to be taken into account	Priority (high, med, or low)	Spatial info F/A	
Demographics	•		•		
K1. Study area					
K2. Population					
K3. Number of households					
K4. Migration rate					
K5/S1. Age					
K6/S2. Gender					
K7/S4. Education					
K8. Literacy					
K9/S3. Ethnicity					
K10/S5. Religion					
K11/S6. Language					
K12/S7. Occupation					
S8. Household size					
S9. Household income					
Community infrastructure and business development					

Variable to monitor (see the Caribbean Guidelines)	Obj. # 1, 2, 3	Secondary and key sources of information and comments on factors to be taken into account	Priority (high, med, or low)	Spatial info F/A		
K13. Community infrastructure and business development						
Coastal and marine ac	ctivities					
K14/S10. Activities Household Activities						
K 15/S11. Goods and services (from activities)/ Household goods and services						
K16/S12 Types of use (of good/service) /Types of household uses						
K17. Value of goods and services						
K18/S13. Goods and services market orientation/Househol d market orientation						
K19. Use patterns						
K20. Levels and types of impact						
K21. Level of use by outsiders						
K22/S14 Household use(s)						
K23. Stakeholders						
K24. Tourist profile						
Governance						

Variable to monitor (see the Caribbean Guidelines)	Obj. # 1, 2, 3	Secondary and key sources of information and comments on factors to be taken into account	Priority (high, med, or low)	Spatial info F/A
K25. Management body				
K26. Management plan				
K27. Enabling legislation				
K28. Management resources				
K29. Formal tenure and rules				
K30. Informal tenure, rules, customs and traditions				
K31. Stakeholder participation				
K32. Community and stakeholder organizations				
Attitudes and perceptio	ns			
S15. Non-market and non-use values				
S16. Perceptions of resource conditions				
S17. Perceived threats				
S18. Awareness of rules and regulations				
S19. Compliance				
S20. Enforcement				

Variable to monitor (see the Caribbean Guidelines)	Obj. # 1, 2, 3	Secondary and key sources of information and comments on factors to be taken into account	Priority (high, med, or low)	Spatial info F/A
S21. Participation in decision-making				
S22. Membership in stakeholder organizations				
S23. Perceived coastal management problems				
S24. Perceived coastal management solutions				
S25. Perceived community problems				
S26. Successes in coastal management				
S27. Challenges in coastal management				
Material style of life				
S28. Material style of life				

See SocMon Caribbean Guidelines: Bunce and Pomeroy (2003); Pages 18-23, 29 – 68

Notes:

b) GCRMN-Caribbean parameters

These recently developed Global Coral Reef Monitoring Network (GCRMN)-Caribbean variables provide the framework for integrated monitoring. They represent key drivers of coastal ecosystem change and can be linked to major industries such as tourism, fisheries and agriculture. For detailed information on these variables, see <u>GCRMN-Caribbean Integrated Coral Reef Monitoring Socio-</u><u>economic Indicators and Links to Drivers of Ecological Change</u>.

N.B. Although developed for the Caribbean, these variables may be adopted and/or adapted to other SocMon regions.

Parameter to monitor (see the GCRMN- Caribbean Guidelines)	Obj. # 1, 2, 3	Secondary and key sources of information and comments on factors to be taken into account	Priority (high, med, or low)	Spatial info F/A
Tourism arrivals				
Tourism recreation				
Tourism infrastructure				
Fishing infrastructure				
Fishing pressure				
Agriculture (large-scale)				
Other point sources pollution				

See GCRMN-Caribbean Socio-economic Guidelines

10 Variables associated with climate change

The following are a minimum set of variables related to climate change. They can be included in a socio-economic assessment of any site for which climate change impacts are an important issue and for which an understanding of social vulnerability and adaptive capacity are critical for the management of marine systems in the face of climate change. For detailed information on these variables see <u>Indicators to Assess Community-level Social Vulnerability to Climate Change: An Addendum to SocMon and SEM-Pasifika Regional Socio-economic Monitoring Guidelines</u> (Wongbusarakum and Loper 2011).

Abbreviations are used for data collecting methods:

- a. BM = Biological monitoring
- b. FG = Focus group interview/survey
- c. HH = Household survey
- d. KI = Key informant interview/survey
- e. M = Mapping
- f. O = Observation
- g. S = Secondary data (referenced from the SEM-Pasifika Guidelines)

Area and variable number	Indicator and data collecting methods	Obj. # 1, 2, 3	How information might be used	Priority (high, med, or low)	Spatial info F/A
Exposure					
CC1	Demographically vulnerable groups KI, S, HH				
Sensitivity	1				
CC2	Dependence on resources and services vulnerable to climate change impacts S, M, BM, KI, HH				
Existing SocMon and SEM- Pasifika	Perception of resource conditions HH				
	Current liveliheed				
	and income diversity of household HH, KI, seasonal calendar				

Area and variable number	Indicator and data collecting methods	Obj. # 1, 2, 3	How information might be used	Priority (high, med, or low)	Spatial info F/A
CC4	Perceived alternative and supplemental livelihoods HH, KI				
CC5	Awareness of household vulnerability to climate hazards HH (S, KI)				
CC6	Access to, and use of, climate related knowledge KI, HH				
CC7	Formal and informal networks supporting climate hazard reduction and adaptation KI				
CC8	Ability of community to reorganise KI, HH				
CC9	Leadership and governance KI, HH				
CC10	Equitable access to resources HH				

Notes:

See Climate Change Addendum Guidelines, Wongbusarakum and Loper (2011)

11 Organizing SocMon Spatial variable packages

What features must be visualized?

Depending on your management objectives, feature variables can sometimes be closely linked. For example, if you are monitoring fishing pressure on coral reef resources, you may want to show both where coral reef habitat is located and where fishing pressure is greatest. As a result, you may be required to represent both *Goods and Services* and *Use Patterns* as features.

How do you want features and attributes to interact within your database? In the space provided on the following page, show which attributes are used to describe which features. Remember that attribute variables will be used to provide descriptive information about the features you are highlighting. Draw diagrams (flow charts, matrices etc.) as outlined below, which show how your feature and attribute variables are linked.



SocMon Spatial Guidelines: Pages 8-10

Draw your variable packages here

12 Interview sample design

Depending on many factors ranging from the objectives of monitoring to area demographics, you need to determine 'how' and 'how many' for selection of key informants and households. For statistically representative survey samples, it is recommended that a statistician be engaged to assist with the calculation of sample sizes. If statistically representative sample sizes are not practical based on the resources available and logistical considerations, the statistician can reduce them to more manageable sizes or you can be guided by recommendations provided in the SocMon Caribbean guidelines on page 14.

a. Key informants	b. Households
Critical information areas	Estimated number of households in study area and means of obtaining estimate
No. of informants:	Approx. sample size:
Selection process:	Sample selection method:

GCRMN Manual: Pages 72-73, 229-234

13 Draft interview (key informant and household) questions

There are many ways of asking the same question (content) and many types of question layout (structure). Rules apply. Select variables in your study and draft questions per variable to get information from respondents. If using a survey, demonstrate that you can craft questions well using a variety of layouts. For both key informant and survey questions, ensure that each question is designed to provide data related to one or more of the objectives.

	Questions (for key informant or household survey). Try a mix of both open and closed-ended questions				
Var.	Var. name	Question			
No.					

	Questions (for key informant or household survey). Try a mix of both open and closed-ended questions				
Var. No.	Var. name	Question			

GCRMN Manual: Pages 96-100, 109-112

14 Visualization techniques

The GCRMN manual describes several visualization techniques that are useful for collecting, displaying and communicating socio-economic data informatively to document or assist decision-making. Many methods may be used simultaneously or sequentially. The means of presenting socio-economic monitoring results is critical in showing relationships among the data. Which methods will you use?

Technique and page in manual	Variable and objective nos.	Notes on application of the technique to the variable and objectives (e.g. for all or some stakeholders? Issues?)
Maps – 113		
Transects - 119		
Timelines - 121		
Seasonal calendars - 125		
Historical transects - 129		
Decision trees - 131		
Venn diagrams - 133		
Flow charts – 136		
Ranking - 138		

GCRMN Manual: Pages 113-145

15 Communication plan

Communication of results and key learning is often done in terminal workshops, but other means are used to supplement this and ensure that various audiences receive the outputs. Think carefully about who you are targeting, what your main message(s) will be, the most appropriate communication product(s) for your target as well as the means of conveying the product.

Target audience	Main message	Communication product + pathway

Notes:

16 Determining spatial outputs

Using a "bottom-up" approach, complete the diagram below. Start by identifying the major spatial issues and work your way up. **SocMon Spatial Guidelines: Pages 39-45**



Major Spatial Issues



17 Work plan schedule

A SocMon study should take no more than one month (at most 6 weeks), so you need to schedule your work accordingly, remembering the SocMon stages including validation. For the purposes of this training workshop, set out tasks under each heading for the implementation of the SocMon assessment at your site. Provide an estimate of the number of days/weeks required for each task.

Activity / task Week →	1	2	3	4	5	6
Preparatory activities						
Secondary data collection						
Primary data collection and observation						
Data analysis and interpretation						
Validation, communication, adaptation						

Notes:

18 Critical research resources required (budget and non-budget)

Many resources will be used in the research, but there are usually just a few that are so critical, the assessment may not be able to proceed without them. You must know early what these are.

Resource description	Use of resource	Comments on availability

19 Budget

The SocMon methodology is intended to be affordable so that monitoring can be sustained. Pay close attention to what are realistic costs, including in-kind contributions that may be available.

Description of expense	No. of units	Unit cost*	Total cost*
	Sum total of	SocMon costs	

* = currency used []

Budget explanatory notes (use if needed to explain calculations/estimations)