



SPC/GEF-R2R/RPSC.2/13

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2nd Regional Programme Steering Committee Meeting for the GEF/SPC/UNDP Project Entitled: *“Ridge to Reef – Testing the Integration of Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries”*

Nuku'alofa, Tonga, 31st July – 4th August, 2017

RAPID ASSESSMENT OF PRIORITY COASTAL AREAS (RAPCA)

1. Process

An extensive literature survey was conducted to determine methods and indicators widely used in characterising terrestrial, freshwater and coastal ecosystems. For the R2R IW project, each country will have a Rapid Coastal Assessment (RAPCA) done at their pilot site.

There was an experts' workshop convened by SPC on June 13th & 14th to discuss methods and indicators compiled from the literature that could be used to describe the health of the different habitat types. The experts were asked to list important indicators for their area of expertise and relevant to the Pacific context. The result of this exercise was an extensive "shopping list" of indicators that was vigorously discussed. Among issues raised were:

- The need for the monitoring of data monitoring. The Government agencies charged with measuring the different parameters are notoriously under-resourced in both human and financial resources;
- The delineation of the different habitats eg. Terrestrial vs coastal when mapping vegetation
- The need to include land tenureship as an indicator for governance as it is very relevant to the Pacific Islands
- Gender and land-use pattern should also be included as an indicator as also very relevant to the Pacific
- Density of population in coastal areas is only applicable to non-atoll countries

The experts were then provided with a template that they were asked to complete for the most important indicators and the rationale for their selection. Participants were requested to identify core or minimum data sets that will sufficiently describe the location, size, special features, management issues and ecological characteristics of the sites. Indicators must be relatable to reporting requirement for SDG, Aichi, GEF and other regional frameworks.

Final list of indicators

The "shopping list" of indicators was whittled down to twenty two categories of indicators (refer to Attachment 1). The assessment of these indicators at any one site will be largely dependent on the following:

1. Data sets available locally;
2. The scope of the exercise;
3. Expertise available in country and
4. Costs involved.

2. Indicators and methods involved

There are well established methods for measuring indicators published in the literature. Some methods are easier to use in the region as they do not require specialized technical skills or equipment and can be easily taught to local personnel. The sampling design, however, still needs to be scientifically robust to draw valid conclusions.

Refer to Table 1 for specific examples of indicators and methods of measurement

Table 1: examples of indicators and methods of measurement

Indicator category	Indicator	Parameter measured	Methods available
E3 Habitat quality	Proportional cover of key benthic groups	Coral cover	Line Intercept Transect(LIT), Point Intercept Transect (PIT)
		Algal cover	LIT
	Fish diversity	Number of different species	UVC, Point counts
	Fish biomass	Abundance and length data by species	Belt transect
	Juvenile coral abundance	Abundance of coral recruits in predefined area	Quadrats along a defined transect
E6 Water quality (coast and catchment)	Water quality of coastal waters	<ul style="list-style-type: none"> ○ Physico-chemical parameters ○ Nutrient concentration (phosphate and nitrates/nitrites) ○ Faecal coliform ○ Chlorophyll a concentration ○ Incidence and duration of harmful algal bloom (coast) 	Water quality testing kit Surveys Remote sensing
SE4 Exploitation of living resources	Target species	Abundance and size	Market surveys UVC Creel surveys
	Frequency of harvest/fishing	Fishing effort	Interviews Direct observation Log books

3. RAPCA Process

The preparatory stages of a RAPCA will be done concurrently with a diagnostic analysis workshop. The demo site will be visited and data available locally will be collated. Meetings should be held with the different agencies that could assist in the RAPCA eg. Fisheries, Forestry, academic institutions, regional agencies and NGOs. Local communities should be consulted. Meetings should also be organized with personnel of projects with potential synergies with the R2R project. The diagnostic analysis will help identify at least two other priority sites for assessment.

4. Role of Project Managers in the RAPCA process

The national IW R2R Project Manager should do some groundwork before the first trip of the RAPCA team. The PM could assist as follows:

- Organise meetings with project stakeholders
- Collate all data that is available locally or know where it can be sourced

- Organise a reconnaissance trip to the demo site
- Organise community consultations
- Identify local experts who could assist

Once the first trip is done, the Science team at the PCU will be able to decide the data gaps that exist and the fieldwork required to provide that data. Survey dates need to be confirmed well in advance, a survey team assembled and logistical arrangements for the field surveys organized.

Annex 1:

Suggested List of Governance, Socio-economic & Environmental Indicators for State of the Coasts Report and Rapid Coastal Assessment

Code	Indicator	Measurement	Type/Focus					Collection Techniques	Existing Data
			D	P	S	I	R		
G1	Legislation	<ul style="list-style-type: none"> ○ Existence of legislation for R2R ○ Adequacy (matrix) of legislation (including gender assessment) ○ Ratification of MEA's and regional policies and frameworks ○ Protected areas 						<ul style="list-style-type: none"> - Document review - Interviews with NRM managers and other experts - Surveys 	-
G2	Traditional Governance	<ul style="list-style-type: none"> ○ land tenure type ○ presence of traditional governance mechanisms 						<ul style="list-style-type: none"> - Document and record review 	-
G3	Coordinating Mechanism	<ul style="list-style-type: none"> ○ Existence of coordinating mechanisms for various sectors (or cross-sectoral) and legal basis ○ Participation ○ Stakeholder representation 						<ul style="list-style-type: none"> - Document review (meeting records etc) - Interviews with NRM managers and members 	-
G4	Management plans	<ul style="list-style-type: none"> ○ Existence, characteristics, and status of NRM plans ○ Extent (percentage) area covered by NRM plans 						<ul style="list-style-type: none"> - Document review - Interviews 	-
G5	Active management	<ul style="list-style-type: none"> ○ Level of implementation of plans ○ Procedures, legal tools, and monitoring and sanctioning applied for enforcement of NRM plans/actions ○ Level of enforcement of, or compliance with, NRM plans 						<ul style="list-style-type: none"> - Document review - Interviews - Surveys 	-
G6	Monitoring and evaluation	<ul style="list-style-type: none"> ○ Monitoring programs at sites ○ Existence of an operational monitoring and evaluation system with related indicators within NRM Plans 						<ul style="list-style-type: none"> - Document and record review 	-

		<ul style="list-style-type: none"> ○ Consideration of results and adjustments in NRM initiatives 							
G7	Stakeholder Participation	<ul style="list-style-type: none"> ○ Community practice in landcare, coastal care and marine care groups (e.g. LMMA) 						<ul style="list-style-type: none"> - Interviews - Surveys - Document review 	-
G8	NGO and CBO activity	<ul style="list-style-type: none"> ○ Existence and characteristics of NGOs and community organizations active in land, coastal, marine and biodiversity conservation ○ Level of activity of NGOs and community organizations 						<ul style="list-style-type: none"> - Document reviews - Interviews 	-
G9	Knowledge and Training	<ul style="list-style-type: none"> ○ Education and training programmes that incorporating ICM/IWRM/NRM ○ Number of community receiving relevant information ○ Number and % of community practices informed by information and evidence 						<ul style="list-style-type: none"> - Document and record review - Surveys - Interviews 	-
G10	Risk Management	<ul style="list-style-type: none"> ○ Availability of hazard maps ○ Availability and coverage of emergency response plans ○ Institutional mechanism for emergency response ○ Availability and coverage of risk based urban planning 						<ul style="list-style-type: none"> - Document and record review - Interviews 	-
SE1	Demographics	<ul style="list-style-type: none"> ○ Population size, distribution ○ Levels of education (sex disaggregated) ○ Levels of employment (sex disaggregated) ○ Site specific total income 						<ul style="list-style-type: none"> - Database - Document review 	-
SE2	Human pressures on habitats	<ul style="list-style-type: none"> ○ Population density ○ Land use/land cover patterns ○ High impact fishing gear practices ○ Number and location of ports ○ Extractive resource use (sand mining, dredging, mangrove harvesting) 						<ul style="list-style-type: none"> - Monitoring programs - Databases - Interviews - Surveys 	- DEM and land use – Ministry of Ag. and Forestry

		<ul style="list-style-type: none"> ○ Number and location of waterways extraction (dredging, mining) ○ Tourism (?) 						
SE3	Pollutants and introduction	<ul style="list-style-type: none"> ○ Population % access to improved functioning sanitation ○ Number, location and estimate volume of point source discharges (coastal and surface water) ○ Non-point source nutrient loading (fertiliser imports) ○ Number and location of informal settlements 					<ul style="list-style-type: none"> - Monitoring programs - Databases - Document review - Surveys - Interviews 	-
SE4	Exploitation of living resources	<ul style="list-style-type: none"> ○ Consumption patterns (marine and terrestrial resources) ○ Economic value ○ Targeted species (fauna and flora) ○ Harvest and fishing areas ○ Frequency of harvest/fishing ○ Methods of harvest/fishing 					<ul style="list-style-type: none"> - Document review - Database - Interviews - Surveys 	-
SE5	Coastal protection	<ul style="list-style-type: none"> ○ % of shoreline with natural protection ○ % of shoreline with human-made protection (proportion adhoc or engineered) 					<ul style="list-style-type: none"> - Surveys - Document review 	-
E1	Diversity	<ul style="list-style-type: none"> ○ Occurrence of special species (marine and terrestrial) ○ Occurrence of invasive species (marine and terrestrial) ○ Richness of fish communities ○ Richness of coral communities 					<ul style="list-style-type: none"> - Species inventory - Sampling - Monitoring programs 	<ul style="list-style-type: none"> - Birdlife International for Atolls - Pacific Invasive Learning Network - PROCFISH – SPC
E2	Abundance	<ul style="list-style-type: none"> ○ Juvenile coral ○ Marine flora ○ Biomass (key fisheries) ○ Number of individuals (marine mammals) 					<ul style="list-style-type: none"> - Monitoring programs and surveys 	<ul style="list-style-type: none"> - Turtle Database – SPREP - PROCFISH

E3	Habitat quality	<ul style="list-style-type: none"> ○ Coral health ○ Habitat type (coast and catchment) ○ Habitat cover (coast and catchment) ○ Mangrove and seagrass health 					<ul style="list-style-type: none"> - Monitoring programs and surveys - Remote sensing - Databases 	<ul style="list-style-type: none"> - Vegetation of Tropical Island Pacific (book) - Art Whistler (book) - Seagrass Watch - FAME developing a methodology for seagrass
E4	Species health	<ul style="list-style-type: none"> ○ Richness of threatened and vulnerable fisheries species 					<ul style="list-style-type: none"> - Monitoring programs and surveys 	<ul style="list-style-type: none"> - PROCFISH
E5	Biodiversity hotspots (coast and catchment)	<ul style="list-style-type: none"> ○ Key biodiversity areas ○ Important bird areas ○ Protected areas ○ Recently identified priority areas (BIORAPs) ○ Nationally threatened and endemic species 					<ul style="list-style-type: none"> - Document review - Interviews - Databases - Surveys 	<ul style="list-style-type: none"> - National and Regional KBA - Birdlife International - BIOPAMA – SPREP - BIORAP – SPREP - Review of surveys, list of species (not in IUCN), NBSAP
E6	Water quality (coast and catchment)	<ul style="list-style-type: none"> ○ Physico-chemical parameters ○ Nutrient concentration (phosphate and nitrates/nitrites) ○ Faecal coliform ○ Chlorophyll a concentration ○ Incidence and duration of harmful algal bloom (coast) ○ Defined and enforced riparian zones (catchment) 					<ul style="list-style-type: none"> - Monitoring programs - Sampling 	<ul style="list-style-type: none"> - IAS - FAME
E7	Shoreline stabilisation	<ul style="list-style-type: none"> ○ Shoreline erosion ○ Shoreline accretion 					<ul style="list-style-type: none"> - Monitoring programs 	<ul style="list-style-type: none"> - GSD

