



INTERNATIONAL WATERS EXPERIENCE NOTES

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R2R Science Specialist Support consultancy – delivering on science deliverables & lessons



Abstract:

The GEF Pacific R2R IW Project aims to test the mainstreaming of 'ridge-to-reef' (R2R) and climate resilient approaches to integrate land, water, forest and coastal management in the PICs through strategic planning, capacity building and piloted local actions to sustain livelihoods and preserve ecosystem services. To achieve these objectives, each country participating in the project produced a series of reports to characterise their natural and social environments to identify drivers of change and recommend remedial measures to minimize adverse environmental, economic and livelihood impacts. These include baseline surveys (Biological Rapid Assessment, BIORAP), Rapid Coastal Assessments (RapCA), Pilot and Diagnostic Reports. Typically, local consultants were hired to carry out this work, which was delivered at different levels of competencies and timeliness according to countries. The task of the Science Team was to carry out peer reviewing of the reports from a scientific perspective, making track-changes and providing relevant comments to be circulated back to the in-country authors of the reports for correction and provide technical advice when needed. Deficiencies were found in all sections of reports, the most notable ones being deficiencies in basic English grammar, a failure to adequately apply agreed upon baseline indicators, insufficient analysis of collected data and/or inadequate collection of data, lack of sufficient recommendations and a general laxity of scientific rigour and referencing. It is suggested that countries consolidate their screening procedures in the hiring of consultants and key scientific officers in order to improve the level of expertise and credibility of reporting for the R2RIW Project and provide prior training on the methodologies, tools and reporting templates available.

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GEF/SPC: GEF International Waters Pacific R2R

GEFID: XX, [[GEF Agency Project ID]]: XXX

PROJECT DESCRIPTION

The Ridge to Reef concept aims to provide a holistic resource management approach for protecting coastal areas by targeting environmental degradation in the uplands ("ridge") or land-based activities causing waste pollution that impact aquifers, groundwater and coastal ecosystems through waste discharge and sedimentation.

The GEF Pacific R2R IW Project, referred to as the Regional Project aims to test the mainstreaming of 'ridge-to-reef' (R2R) and climate resilient approaches to integrate land, water, forest and coastal management in the PICs through strategic planning, capacity building and piloted local actions to sustain livelihoods and preserve ecosystem services.

A significant focus of the Regional IW R2R Project is on the development of national and regional Strategic Action Frameworks for ICM/IWRM and the supporting documents, and national State of the Coast Reports and Diagnostic Reports which are outputs of the this consultancy in supporting the delivery of the Science workplan. The timeframe from the project contract document states a project commencement in December 2020 with the aim for completion by September 2021.

THE EXPERIENCE

Issue

We have delivered Task 1 of our deliverables for this consultancy i.e. to review and provide technical assistance to countries in developing and finalizing the Rapid Assessment of Priority Coastal Areas (RAPCA) reports. The RapCA reports were designed to assess against the 22 R2R Environmental (7), Governance (10) and Socio-economic (5) indicators.

Seven (7) Environmental Indicators include:

Code/ Indicator	Parameters measured	Sampling Technique
E1/ Diversity/ Species Richness	<ul style="list-style-type: none"> o Occurrence of special species (marine and terrestrial) o Occurrence of invasive species (marine and terrestrial) o Richness of fish communities o Richness of coral communities o Richness of seagrasses o Richness of algae 	<ul style="list-style-type: none"> Species inventory Sampling Monitoring programs
E2/Abundance	o Juvenile coral (percentage cover or	Monitoring programs and

	<ul style="list-style-type: none"> number) o Fish species (visual census) o Marine flora (percentage cover) o Number of individuals (marine mammals) 	surveys
E3/ Habitat quality	<ul style="list-style-type: none"> o Coral health (absence of bleaching) o Habitat type (coast and catchment) o Habitat cover (coast and catchment) o Mangrove and seagrass health 	Monitoring programs and surveys Remote sensing Databases
E4/ Species health	Richness of threatened and vulnerable fisheries species	Monitoring programs and surveys
E5/ Biodiversity hotspots (coast and catchment)	<ul style="list-style-type: none"> o Key biodiversity areas o Important bird areas o Protected areas o Recently identified priority areas (BIORAPs) o Nationally threatened and endemic species o Presence of focal species (Conservation value) 	Document review Interviews Databases Surveys
E6/ Water quality (coast and catchment)	<ul style="list-style-type: none"> o Physico-chemical parameters (pH, conductivity, Dissolved Oxygen, DO, Temperature) o Nutrient concentration (phosphate and nitrates/nitrites) o Faecal coliform o Chlorophyll a concentration o Incidence and duration of harmful algal bloom (coast) o Defined and enforced riparian zones (catchment) 	Monitoring programs Sampling
E7/ Shoreline stabilization / Riparian Zone stabilization	<ul style="list-style-type: none"> o Shoreline/ riparian zone erosion o Shoreline accretion o Shoreline stabilization (mangroves, coastal trees, Vetiver grass) 	Monitoring programs

- Green fonts with new suggestions

Overall, reports did not provide standardized methodologies undertaken for flora, fauna, freshwater and marine assessments. The sampling design was not well done and documented in the reports and was not standardized across the countries. For example, in water catchment area assessments, the need to assess the representative vegetation types for example are essential to get a good representation of the environmental indicators that needs to be assessed against each indicator. The quality of data gathered was not sufficient to provide concrete and scientific support for the state of the area assessed in most cases.

In terms of finalizing reports, some of the national consultants had finished their time on the project and therefore in finalizing the reports, the team had to resort to the information available, as there was no avenue to gather any other additional / relevant field data to finalise the country reports and to better improve the reports scientifically.

The depth and quality of reporting varied widely across the countries. While a few were well written, most lacked the required quality. More specifically, from a scientific perspective the following deficiencies were noticed in each section of some of the reports that were examined:

Introduction: Generally, there was a lack of proper referencing; in many instances, factual statements on geographical or demographic data were made without citations or providing the year to which the data applied. Often a clear storyline was lacking and it was not clear what the main issues tackled in the report were. In other cases, a poor command of English grammar made reading difficult and the conveyed information was ambiguous or incomplete.

Methodology: At times, this was too succinct, with only vague statements and not enough details to allow replication. Generally, methods are very sketchy, descriptions too brief, and the language often emotive and using superlatives and qualitative assessments.

Results and Discussion: Results were sometimes presented in a colloquial, non-scientific manner with minimal use of tables and figures. Often data was reported inconsistently (different levels of accuracy or decimal places) and incorrectly interpreted. Graphs and figures, where present, sometimes lacked proper labels on axes and key features such as bar scales and legends. Another issue was that the results were not always compared to the key indicators.

Referencing: Surprisingly low number of references for comprehensive reports. Inconsistent formatting.

Addressing the Issue

Here are some recommendations:

- Ensure from the start that methodologies are developed and standardized for each i.e. vegetation, fauna, freshwater and marine assessments.
- List the seven (7) environmental indicators with the parameters to be measured against each indicator where relevant for an area i.e. either water catchment assessment or coastal/ marine assessment.
- Design standard data recording templates to assist with gathering of relevant and proper data sets for analysis including GPS locations for sampling sites (these were poorly recorded in most reports). Availability of these templates will make further monitoring efforts easier and consistent.
- The team / national consultants undertaking the assessments also need to undergo training on methodologies and tools available for R2R so all are aware of the requirements prior to fieldwork and data gathering and on report writing.
- The Science team provided to-the-point and extensive comments to the authors of the report via track changes and comments throughout the draft reports. This constructive criticism allowed the authors to improve their reporting methods, gather or analyse more data where required, and generally come up with a much more rigorous and holistic approach to their reporting, wherever feasible for those countries whose consultants were still available for the work.

REPLICATION

The peer-review process is a proven method that can be applied to the deliverables of any project. Following the rigorous scientific assessment of reports as implemented in the R2R IW project would benefit a range of regional projects and allow the dissemination of credible and comparable reporting on key environmental and social issues in the Pacific Region.

SIGNIFICANCE

Countries in the Pacific region show different levels of in-country capacity to assess their environmental and social issues, especially those linked to the exploitation of natural resources and coastal development within complex social and spatial situations. Applying a consistent and rigorous reviewing process at all stages of in-country reporting would ensure they key issues are identified at an early stage and can be communicated effectively at regional and international platforms to reach a maximum number

of stakeholders and donors, with the expectation of altering critical decision-making and financial allocations towards a timely resolution of the issues raised.

KEYWORDS

- Reporting
- Peer-Reviewing
- Coastal Assessment
- Biological Rapid Assessment
- Environmental Monitoring

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