INTERNATIONAL WATERS EXPERIENCE NOTES

Guidance on the Production of GEF IW Experience Notes

WHAT IS A GEF IW EXPERIENCE NOTE?

An Experience Note is a three-to-six page case study of a given project experience or innovation. Experiences include successful practices, approaches, strategies, lessons, and methodologies, that emerge in the context of Ridge to Reef implementation. It includes a brief project description, the issue faced, a description of how it was addressed (including challenges faced), the results of the intervention, how the intervention can be replicated by other projects and finally what is significant about it. References to related materials are also included. A catalogue of R2R Experience Notes will be made available at the Programme website www.pacific-r2r.org

OBJECTIVE

Experience Notes are intended to facilitate the community of GEF Pacific R2R projects and partners improve R2R implementation through the replication of its own practical experiences & results.

JUSTIFICATION

The importance of Experience Notes lies in the fact that they offer greater detail and reference to given project activities than the average conference presentation and are simultaneously shorter & more accessible than more technical documents (evaluations, implementation reports, et.al.). The Experience Notes offer a solution, being in a sense, the "written version" of a presentation.

SUBJECT AREAS

Subject areas include: Process, Participation, Performance, M&E Process Indicators, M&E Stress Reduction Indicators and M&E Environmental Status Indicators.

Process
- Development and tracking of indicators
- Knowledge management database and IT
- Financing mechanisms
- Public/private partnerships

Participation
- National/regional/local participation
- Leveraging of local funds (public and private)
- NGO participation
- Workshops, training and education programs
- Public relations/outreach/visibility

Performance
- TDA/SAP approval
- NAP development and approval
- Regulatory development and enforcement
- Engineering/investment project completion
- Measurable environmental improvement
- Public private partnerships & market based mechanisms
- Applied scientific research
- Water quality monitoring program implementation
- Species, habitat and ecosystem protection/rehabilitation
- Sustainability issues (post-GEF investment)

Technical
- Wetland restoration practices
- Optimization of wetlands as nutrient sinks
- Primary and secondary wastewater treatment
- Tertiary wastewater treatment
- Cleaner industrial production
- Nutrient management in Agricultural practices

M&E Process Indicators
- Establishment of country-specific inter-ministerial committees
- Completion of a country endorsed TDA
- Documentation of stakeholder involvement in stakeholder involvement plan
- Completion of a country-endorsed SAP
- High-level political commitment to follow up joint actions
- Adoption of a science advisory panel
- Adoption of an M&E plan

M&E Stress Reduction Indicators
- Point source pollution reduction
- Non-point source pollution programs implemented

- Coastal zone or wetlands placed into protection
- Reduced releases of pollution to groundwater recharge zones

M&E Environmental Status Indicators
- Improved (measurable) ecological or biological indices
- Improved (measurable) chemical, physical (including flow regimes), or biological parameters
- Demonstrable reduction of persistent organic pollutants (POPs) in the food chain

Other Areas
- Pollution and water use tariffs
- Economic instruments for water resources management (taxes, tradeable permits, etc.)
- Economic valuation of water-related environmental assets
- Sustainable fisheries management
- Structuring and operation of transboundary waters institutions

PROCESS

Projects and partners should prepare an experience note for submission using the template and guidance as outlined in the following pages. The draft note should be sent to fonongam@spc.int for publication. After an initial review and conversion to the publication template, the note will be reviewed and subsequently posted to the Programme website (the note will also occasionally be disseminated in print form at key events).

Spatial Prioritization and Planning Procedures – Planning Trials in several PICs
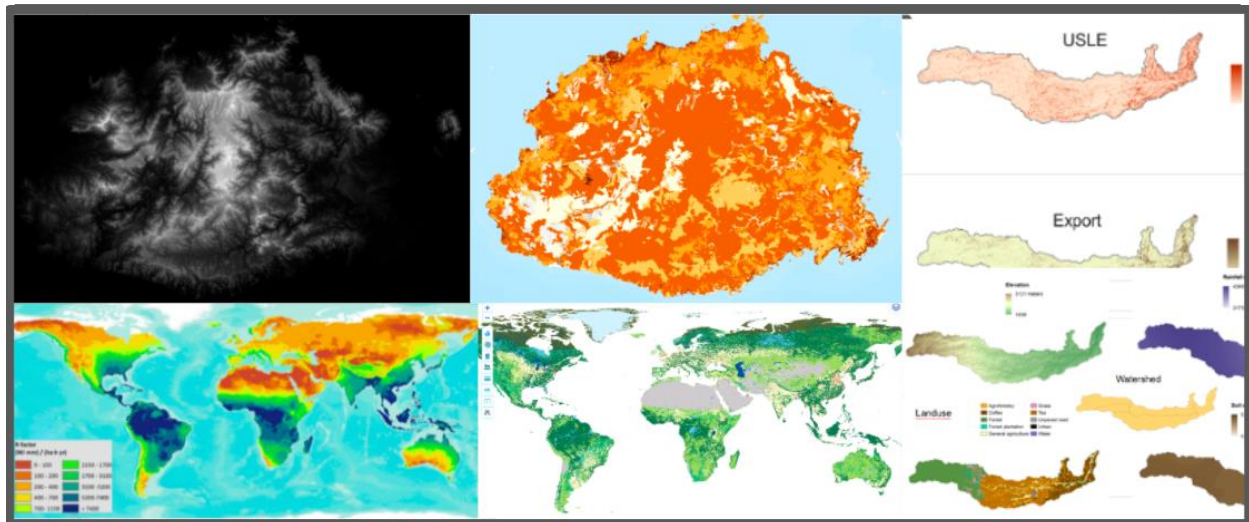
Abstract:

The resourcing and capacity to collect field data and conduct environmental monitoring watersheds and coastal areas throughout an entire catchment and country is limited. Spatial prioritisation and environmental modelling using global dataset inputs can help fill data gaps, earmark specific priority catchments and spatial zones for environmental monitoring and model various future scenarios. The results of the study found that the approach could have significant potential to shed light on IW R2R program contexts. However, the replication of this method may not be particularly this method requires significant groundwork to research, download and process all data inputs into the model.

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Spatial Prioritization and Planning Procedures – Planning Trials in several PICs

Experience of the GEF - sponsored

GEF/SPC: GEF International Waters Pacific R2R
GEFID: XX, [[GEF Agency Project ID]]: XXX

PROJECT DESCRIPTION

The project's objective is for the Consultancy to support delivery of the Science Workplan for the Regional International Waters Ridge to Reef (IW R2R) Project. The timeframe from the project contract document states a project commencement in December 2020 with the aim for completion by September 2021.

The specific project activity is output of milestone 3: Spatial prioritization procedures. This work includes making inputs into local & national scale modelling & trials; packaged models and maps. This will also include data collection for model calibration including:
- Inputs into terrestrial and marine models calibrated with national data
- Inputs into local & national scale reporting

THE EXPERIENCE

Issue: ridge-to-reef ecosystems are increasingly vulnerable to expanding settlements, land use change, point and non-point source pollution, distorted sediment and nutrient transport cycles and the associated changes to water chemistry. This increasing exposure threatens various ecosystem services, biodiversity and livelihoods. The resourcing and capacity to collect field data and conduct environmental monitoring watersheds and coastal areas throughout an entire catchment and country is limited.

The project activity of spatial prioritisation is proposed to mitigate the problem by providing a robust and quantifiable scientific evidence base to earmark specific priority catchments and spatial zones for environmental monitoring.

Addressing the Issue: within ridge-to-reef monitoring, spatial prioritization aims to provide scientific evidence base as a decision-making tool. Spatial prioritization and modelling includes two main components:

1) a tool to highlight the priority areas for further environmental monitoring
2) a method for modelling outcomes under various scenarios of land use change (e.g. conservation vs further land clearing).

The specific actions undertaken in this work includes the following:
1) Review of reports on past examples of IW R2R GIS spatial prioritization and the environmental modelling land-sea framework.
2) Review of peer-reviewed scientific journal articles on the GIS spatial prioritization and the environmental modelling land-sea framework.
3) Stocktake and drafting checklist of existing and required datasets
4) Downloading relevant datasets
5) Processing datasets
6) Trialling InVEST Sediment Delivery Ratio Model for Solomon Islands / Fiji depending on data availability for volcanic island case study.
7) Trialling InVEST coastal vulnerability model for low-lying atoll country case study.
8) Troubleshooting with Dr Delevaux and Natural Capital Project support team, Stanford University.
9) Seeking first round inputs, feedback and verification from SPC Science Team including Dr Sauni.
10) Seeking inputs, feedback and verification from Dr Delevaux and Natural Capital Project support team, Stanford University.
11) Seeking final inputs, feedback and verification from SPC Science Team including Dr Sauni.

RESULTS AND LEARNING

As a result of the research into spatial prioritisation, it was found that the case studies undertaken have significant potential to shed light on IW R2R program contexts. However, this method requires significant groundwork to research, download and process all data inputs into the model.

REPLICATION

Due to the significant groundwater to research, download and process all data inputs into the model, this will not always be a user-friendly nor and accessible method to follow. Adequate time and training will be required including multi-day capacity building workshops if partner country staff are seeking to replicate these methods.

The software required is all open-access so there is no pay barrier for this software. However, the processing can be aided with an optional ArcGIS subscription as this is more accessible and efficient than the open-source QGIS option.

SIGNIFICANCE

Spatial prioritisation and environmental modelling have the potential to support decision making. The use of remote sensing global, national-scale data inputs has the potential to fill many data gaps. This becomes increasingly important during a global pandemic with associated travel restrictions that limit the ability to capture field data and conduct environmental monitoring.

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KEYWORDS

- GIS
- modelling
- Forest
- Water basin
- Monitoring