



Nauru International Waters Ridge to Reef Project

By: Republic of Nauru Department of Commerce,
Industry and Environment

Final Report

May 2016 – June 2021



Prepared by: Bryan Star & Shonadeen Dowabobo
April 2022



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Preface

The Lead Agency for the GEF Pacific Ridge to Reef (R2R) demonstration project in Nauru is the Department of Commerce, Industry and Environment (DCIE). To implement this project, a Memorandum of Agreement (MOA) was signed between The Pacific Community (SPC) and DCIE on 26th June 2016.

A Final Project report is specified in the MOA, and it provides a project summary and an account of successive efforts delivering on goals and outcomes covering the period May 2016 to June 2021. This report produces results and achievements, a financial summary, implementation progress ratings and lessons learnt. Moreover, this report will also discuss Nauru's national demonstration contributions to the GEF Focal Areas.

Nauru will benefit from the lessons learned and the results of the trial demonstration IW R2R project, particularly in the integration and mainstreaming of R2R for sustainable development in the country.



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Ms Berilyn Jeremiah

Secretary, DCIE

Acronyms

| | |
|-------|--|
| DCIE | Department of Commerce, Industry and Environment |
| FAO | Food and Agriculture Organization |
| GEF | Global Environmental Facility |
| GEM | Geoscience, Energy and Maritime Division |
| ICM | Integrated Coastal Management |
| IW | International Waters |
| IWRM | Integrated Water Resource Management |
| M&E | Monitoring and Evaluation |
| MOA | Memorandum of Agreement |
| MYCWP | Multi-Year Costed Workplan |
| PCC | Project Coordinating Committee |
| PICs | Pacific Island Countries |
| PSC | Project Steering Committee |
| R2R | Ridge to Reef |
| RSC | Regional Project Steering Committee |
| RPCU | Regional Programme Coordination Unit |
| SDG | Sustainable Development Goals |
| SOE | State-Owned Enterprises |
| SPC | Pacific Community |
| STAR | Systems for Transparent Allocation of Resource |
| UNDP | United Nations Development Programme |
| UNE | United Nations Environment |
| WFP | Work and Financial Plan |

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Basic Project Data

| | |
|-------------------------------|---|
| Project Title | Implementing a Ridge to Reef Approach to protecting biodiversity and ecosystem in Nauru. |
| Project Site/ Location | Anabar, Ijuw, Anibare, Meneng Districts, Nauru |
| Project Objectives | To preserve biodiversity, ecosystem services, improve climate resilience and sustain livelihoods in Nauru using a Ridge to Reef Approach. |

| | | |
|-----------------------------|---|---|
| Contract Information | Contract number | MoA 16/175 |
| | Original Project Duration | 26 May 2016 – 31 December 2019 |
| | Contract Extension (if applicable) | 30 th of June 2021 |
| | Contracting Party | Department of Commerce, Industry and Environment (DCIE) |
| | Contracting Party Signatory | Secretary of DCIE Ms Berilyn Jeremiah |
| | Contract Amount (SPC-R2R) | USD 200,000 |
| | Counterpart (Agency, Department) | USD 50,000 |
| | Counterpart of other partners (e.g., development partners, NGOs, CSO, Academic, etc.) | N/A |

Executive Summary

This final report provides an account on the Global Environment Facility (GEF) Nauru International Waters Ridge to Reef (R2R) Project: *R2R testing the Integrations of Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries Project*.

The focus was channelled to achieve environmental stress reduction priority measures and milestone targets. The identified stress reduction priority measures for Nauru, which are then determined to be the basis of the national demonstration project are, Municipal Waste Pollution Reduction and Restored Habitat

The original key components were revised after the midterm review, from four (4) main objectives down to two (2) objectives. This revision provides more realistic measures of output level and thus results in anticipated outcomes, ensuring targets are reached by end of the project period. These two project components are the management of waste pollution, through building successful waste management systems. These septic-sand filter systems were previously demonstrated in IWRM Project to safeguard groundwater and lagoon water quality. The other project component is the rehabilitation of degraded coastal habitats, by building coastal resilience to potential impacts of climate change.

Planned outputs for the management of waste pollution are to establish the lining of a municipal waste tip and produce an assessment report with recommendations on proper management of solid wastes that contributes to the reduction of municipal. The report is also expected to provide sustainable options for more effective waste management of domestic pig pens.

Similarly, the planned outputs for the rehabilitation of degraded coastal habitats included carrying out an assessment and highlighting coastline areas that are vulnerable to sea and weather erosion. The assessment would identify the most eroded geographic locations suitable for re-vegetation, identify salt and drought-tolerant plant species and launch a re-vegetation program along the coastline.

The outputs would have delivered on expected project outcomes like an improved understanding of the vulnerability of Nauru's coastline to erosion and sea-level rise and accomplishing a coastal resilience to changes in sea level and erosion built through a participatory re-vegetation program.

Project implementation and the timeliness of project outputs and action plans were delayed due to administration issues, funding constraints, personnel capacity and availability of people involved.

Financial contribution and project countries' allocations through SPC and the Regional IW R2R project was US\$200,000. Funds were not fully utilized due to delays in activity output due to multiple challenges experienced including those outlined in this report. Co-funding was only in-kind contributions of US\$50,000 by the DCIE Office.

Input delivery for this project was highly inadequate from inception date to project end. Project administrative related issues were the major contributing factors that caused delays in executing project plans, which included personnel capacity, technical equipment, technical expertise, and financial support. Most planned outputs were not met and minimal support from the host agency was observed. The status of the lining of the municipal tip was completed under a different project, and a technical assessment report with recommendations for effective waste management was not accomplished. Planned outputs for rehabilitation of degraded coastal habitats, were also not entirely accomplished but had better progress.

The outcomes to improve municipal waste operations and to improve on-site management of domestic pig pens were not achieved. Despite efforts, the project did not get the required technical assistance and expertise to progressively achieve the outcomes. The remedial measure recommended is to employ the required technical assistance to do groundwork assessments and provide recommendations and guidance. The outcome to build coastal resilience to changes in sea level and erosion built through a participatory re-vegetation program was successfully completed. Though completed, this activity needs to continue to ensure the sustainability of coastal resilience.

Approximately 25% of the overall project outcomes were accomplished throughout the project life. Therefore, the overall development objectives and implementation progress were unsatisfactory. Strengthened coordination and communication bridge is required for a better success rate for this project. Refer to the Overall Implementation Progress Rating table in the Final Narrative Annotated Template.

There has not been much progress in terms of project contribution to regional / GEF Focal Areas. National demonstration to support R2R ICM/ IWRM approaches for island resilience and sustainability is successfully accomplished through the restored habitat project. Other areas require further attention of technical expertise. With the global lockdown, it was difficult to progress much of the objectives for this project.

Communication throughout the organisational channels needs to be strengthened. This is the communication of project goals from the strategic level trickling down to the operational level and vice versa up the communication chain. Sectoral communication of the same level, between partner projects: - STAR, IW R2R. Operational communication within regional partners: - RPCU/ SPC and national partners. From the strategic perspective of the programmatic approach, there was a huge gap in translating global strategies into regional and national level strategies. At the national level, the programmatic approach was viewed to be too broad, and too ambitious, thus too unrealistic to be expected to be accomplished within the timeframe given.

Even though the planning of this regional program was to provide some synergy and complement the STAR Project, implementation of this did not eventuate due to the high turnover of people in the Project Coordinator's position in-country and the high turnover of RPCU Staff, including the Project Manager position. A nationwide effort was expected, however, the funding for such an ambitious project was not properly assessed. The cooperation between implementing partners requires better coordination. The high turnover of staff both within the regional team and the national team is evident that poor communication and thus coordination was highly inadequate. Subsequently processes also suffered numerous delays. The lack of communication and support resulted in delays in financial and administrative processes. Strengthened communication and coordination only occurred after MTR, resulting in improved steer of project processes to achieving objectives. However, time constraints and global lockdown became new challenges in accomplishing project goals.

The Nauru IW R2R demonstration project, despite its operational challenges, has provided useful insights and lessons learned replicating and upscaling efforts to address waste management and building coastal resilience toward the impact of climate change.

Introduction

This final report provides an account of Nauru's part of the Global Environment Facility (GEF), Pacific Ridge to Reef (R2R) Project: *R2R testing the Integrations of Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries Project*.

GEF's funding initiatives are particularly addressing global environmental threats in the developing world. These initiatives advocate and support efforts to achieve United Nations Sustainable Development Goals (SDGs), which are adopted by many developing countries, including Nauru.

The Nauru International Waters Ridge to Reef (IW R2R) demonstration is part of the GEF Pacific Regional IW R2R project, which along with 14-child projects constitutes the GEF Pacific R2R Programme. Specifically, the IW R2R project is administered through the United Nations Development Program (UNDP) as the Implementing Agency, and the Pacific Community (SPC), as the Executing Agency, and in collaboration with 14-national demonstrations.

The Nauru IW R2R project is hosted and implemented by the Department of Commerce, Industry and Environment (DCIE), through a Memorandum of Agreement signed with the SPC. The common objective amongst others is to further SDGs through Ridge to Reef Integrated Management. This is a joint effort with other Pacific Island Countries (PICs), as a regional approach to combat common environmental threats, initiated through the GEF Pacific Programme Framework Document.

At the national level, DCIE provides the leading and supervisory roles and oversight to this project as part of its contribution to the Regional International Waters Ridge to Reef (IW R2R).

Situational Analysis, Project Issues & Needs

In recognition of the global and regional approaches to addressing environmental challenges, DCIE, with the assistance and guidance of the regional R2R team, identified priority areas that required attention. These priority areas were determined through learning from past environmental management studies and experiences. Previous environmental management covered waste pollution, degradation of coastal and marine ecosystems and climate change impacts.

There was no standard way of addressing these environmental challenges, therefore pilot projects were conducted to trial run innovative technologies to minimise such threats. Such pilot projects were the trialling of dry-litter eco-sanitation compost toilets and dry-litter piggery. These projects were conducted to minimise the impact of waste pollution on the underground water system and the close-by coastal-marine areas. The project was not able to achieve testing and exploring the dry-litter technology (DLT) and a piggery project. Therefore, the DLT had remained just an innovative conceptual idea.

However, testing on the application and use of the dry-litter eco-sanitation compost toilet was successful and initially accepted, which was later launched for scaling up implementation. However, through further consultation and reflection, several portions of the local population felt that the DLT compost toilet utility was not practical in Nauru. Instead, there was a wider preference for flushed toilet systems. It is uncertain if the promotion and awareness of its users were not followed through, which suggests the need for further testing and stakeholder consultations.

The lessons learnt from these pilot projects resulted in more focus on re-strategize and building on these experiences to continue addressing the ongoing environmental threats. This is done through the provision of more feasible methods for tests and trialling on integrated resources management.

The focus was channelled to achieve environmental stress reduction priority measures and milestone targets. The identified stress reduction priority measures for Nauru, which were then determined to be the basis of the national demonstration project are Municipal Waste Pollution Reduction (749 TN kg/year), and Restored Habitat (10 ha). The original milestone targets for each of the priority measures were revised after the midterm review of the project to ensure targets are reached by end of the project period. The municipal waste pollution reduction work was removed and therefore its stress reduction target changed to zero (0) TN/kg/year and continue work on the restored habitat with the same stress reduction target of 10 ha.

Generally, the milestone for the municipal waste pollution reduction is to conduct a technical and policy analysis to determine the source and degree of waste pollution, which also involves wastewater from pig pens. Technical recommendations with legislative measures are additional indicators to reduce water contamination and improve waste management of pig pens.

As explained earlier, the waste pollution target was dropped, and the project continued with a stress reduction target of 10 ha revegetation habitats. The milestone for restored habitat is to provide informative reports on local and national planning and regulation mechanisms on the impact of climate change that directly affects communities living around the coastline. This is to enhance community knowledge and awareness of the impact of climate change. An additional indicator is to revegetate the coastline to minimise the impact of climate change.

Project Scope, Components & Anticipated Results

To further assist in ensuring stress reduction priority measures obtain consistent focus, an assessment table, the logical framework, is constructed to provide specified guidance. It consists of:

- 1. Key components:** listed goals stemmed from the identified stress reduction priority measures. These are determined from a scope analysis to identify currently available resources, or lack of resources to achieve the priority goals. Resources explored include natural structures, man-made infrastructure and human capacity and expertise. The result of this analysis is listed as a Baseline within the logical framework.
- 2. Expected outputs:** milestone targets are translated as Indicators to measure the work progress towards achieving set goals. These are to be kept track of through a suggested list of sources of verification, which are through the provision of assessment and feasibility reports, recordings of consultation meetings, meeting minutes and other sources.
- 3. Anticipated Outcomes:** number of listed outcomes for each key component. Comprise of more than one outcome, separately assessed for better focus on each impacting problem, which when solutions are achieved, will together provide better-anticipated outcomes for the overarching key components.

The original key components were revised after the midterm review, from four (4) main objectives down to two (2) objectives. This is to provide, given the ongoing challenges to progress implementation, more realistic measures of output level and thus result in anticipated outcomes, ensuring targets are reached by end of the project period.

A summary table of the logical framework is provided below, showing the listed key components and corresponding expected outputs, which have been refined for a more measurable output level, and thus result in anticipated outcomes.

Table 1: Summary of Logical Framework

| Key Components | Expected Outputs | Anticipated Outcomes |
|--|---|--|
| <p>Building on successful waste management systems approaches demonstrated in IWRM Project to safeguard groundwater and lagoon water quality</p> <p><u>(Municipal waste pollution reduction)</u></p> | <p>By June 2020, a technical and policy analysis on municipal waste pollution undertaken to determine sources and degree of pollution, and recommend relevant technical and legislative measures to reduce water contamination</p> <p>Technical recommendations for on-site management of domestic pipens identified and improvement promoted.</p> | <p>1.1 Improved municipal waste operations catalyzed through the development of technical and policy frameworks for appropriate leachate management to reduce water contamination in Nauru.</p> <p>1.2 Options for improved on-site waste management of domestic pig pens.</p> |
| <p>Building coastal resilience to potential impacts of climate change</p> <p><u>(Rehabilitation of degraded coastal habitats)</u></p> | <p>Information and reports on local and national planning and regulation mechanisms collected and used as building blocks in assessing the status of and measures to adapt to climate change impacts of communities living on the coastline</p> <p>Enhanced understanding of communities about the impacts of climate change.</p> <p>By December 2020, at least 800 salt and drought-tolerant species/ seedlings were planted with a survival rate of at least 75%.</p> | <p>2.1 Improved understanding of the vulnerability of Nauru’s coastline to erosion and sea-level rise.</p> <p>2.2 Coastal resilience to changes in sea level and erosion built through participatory re-vegetation program.</p> |

The logical framework is transformed into an operation matrix or the Multi-Year Costed Workplan (MYCWP) which then serves as a basis for crafting the quarterly workplan, that lists numbered activity details. These are specified tasks to effectively monitor output levels.

Project Organization and Management

DCIE is accountable to the Project Coordinating Committee (PCC), the Regional Project Steering Committee (RSC), and the Pacific Community (SPC) to produce outputs for the achievement of the GEF IW National R2R Project outcomes.

As the Lead Agency, DCIE implements its national development plan in accordance with the Guiding Principles of the R2R Approach in Pacific PICs. These are such as acknowledgement of inter-connections of Land, Water, Coastal Systems; promotion of R2R and Community to Cabinet Approaches; catalysing community actions through locally-driven solutions; encouraging gender mainstreaming; effectively communicating the benefits of integration and lessons learned. View Annex 5 for the list of projects for this National Demonstration project.

Project Stakeholders and Engagement

The project scoping included going through exercises to identify key stakeholders, that would be best to promote the project mission. At the regional level, DCIE planned for a Joint Project Steering Committee (PSC) with the System for Transparent Allocation of Resource (STAR), as part of a wider selection of Stakeholders. However, it did not come to fruition. At the national level, the selection range of identified stakeholders included representatives from Government Agencies, State-Owned Enterprises (SOEs), Statutory Authorities, Civil Societies and Landowners.

Table 2: List of National Key Stakeholders

| Representatives of | Type of Operation/ Organization | Responsibilities in relation to this Project |
|---|---------------------------------|--|
| Nauru Fisheries & Marine Resource Authority (NFMRA) | Statutory Authority | Safety and Protection of Ocean and Marine Life |
| Nauru Utilities Corporation (NUC) | State-Owned Enterprise (SOE) | Water access, water quality, geographical location of power poles on the coastal areas |
| Women Affairs & Culture Department | Government Agency | Women's participation; tradition and culture issues relating to usage and treatment of |
| Taiwan Embassy Mission: | Government Agency | Piggery farming; Aquaculture technology; Vegetation gardens |
| Land Survey Department | Government Agency | Map of Nauru |
| People with Disabilities Department | Government Agency | Equal opportunity to participate |
| Youth Affairs | Government Agency | Equal opportunity to participate |
| Nauru Youth Council | Civil Society | Equal opportunity to participate |
| Local Farmers | Civil Society | Waste management for poultry farms |
| Local Gardeners | Civil Society | Local expertise in farming |
| DCIE Agriculture Sector | Government Agency | Local expertise in farming |
| Community Leaders | Civil Society | Local People engagement |
| District Representatives | Landowners | Land Usage and Management |

The key stakeholders and the local population showed interest to learn or participate in project activities as demonstrated through participation in community meetings. The community outreaches about the project were successfully accepted by local communities. Annex 1 provides a list of project events that took place throughout the duration of this project life.

Gender is relatively new to Nauru recognising it is not yet a common practice to advocate for gender equity in the workplace. Technical expertise was required to guide project efforts and processes for adapting gender selection initiatives and ensure the collection and recording of sex segregation data in all project work.

Project Results and Achievements

Generally, the Nauru IW R2R project was not as successful as initially expected. The project was almost stagnant, experiencing numerous challenges throughout implementation, which led to long delays in rolling out project activities following timelines. The revised project has 2 components, 4 outcomes (2 completed) and 9 outputs (6 completed), and therefore rated successful in its achievements.

Upon reflection and review, it appears that the project objectives and key components were too broad and unrealistic to achieve within the given timeframe. Consequently, after post-midterm review, the project components were revised down to two (2) for a better and more realistic chance of delivering targets at end of the project term, namely:

1. Management of waste pollution, through building successful waste management systems approaches demonstrated in IWRM Project to safeguard groundwater and lagoon water quality; and

Planned outputs for the management of waste pollution are to establish the lining of the municipal tip, produce an assessment report with recommendations on proper management of solid wastes that contributes to the reduction of municipal, and additionally to provide sustainable options for more effective waste management of domestic pigpens. The expected outcomes from these outputs are to accomplish an improved municipal waste operation catalysed through the development of technical and policy frameworks for appropriate leachate management to reduce water contamination, and to accomplish sustainable options for on-site waste management of domestic pig pens, in Nauru.

In terms of actual outputs, action plans were not executed effectively due to capacity restraints. Consultancy and guidance of a Technical Assistance (TA) were required to effectively accomplish the planned outputs and their corresponding outcomes. The TA was required to undertake an on-island assignment to scope, assess, make recommendations, and provide guidance on how to successfully build a waste management system. The Nauru IW R2R project commissioned a consultancy but no consultants were hired. This work was subsumed by another larger parallel project funded externally by other donors.

This work was dropped and there was no stress reduction target.

2. Rehabilitation of degraded coastal habitats, through building coastal resilience to potential impacts of climate change (see Annex 4).

Planned outputs for the rehabilitation of degraded coastal habitats are to make an assessment and highlight coastline areas that are vulnerable to sea and weather erosion; to identify the most eroded geographic locations suitable for re-vegetation; to identify salt and drought-tolerant plant species; and, to launch a re-vegetation program along with the chosen coastline areas. The expected outcomes from these outputs are to gain an improved understanding of the vulnerability of Nauru's coastline to erosion and sea-level rise and to accomplish a coastal resilience to changes in sea level and erosion built through a participatory re-vegetation program.

In terms of actual outputs, this line project was more successful than the former line project. Community outreaches were successful, gaining an understanding with the public of the need for a re-vegetation program. Coastal land areas were identified, a list of salt and drought-tolerant plants were identified, and participants for the re-vegetation program were identified.

In terms of timeliness of project outputs, action plans were delayed due to administration issues, funding constraints, personnel capacity and availability of people involved. During the post-Mid-term Review, most of the issues and constraints were remedied through the strengthening of the team working group. Actions undertaken involved on-island technical assistance, assessing the cause of delays and other constraints. However, with the global lockdown due to the pandemic Covid-19, efforts to progress project objectives caused further delays. Technical Assistance could not travel in-country for the required physical assignments. Meetings and assistance are limited through online platforms.

The project achieves its stress reduction target of 10-ha restored habitat.

A summary table consisting of meetings conducted throughout project life (May 2016- June 2021) is provided as Annex 6.

On the document, a total of seven (7) Project Events had taken place. Only One (1) around May 2016, another one (1) in the first quarter of 2018, and a total of five (5) events in 2019, spanning from around late June to mid-December 2019. There are no documents on any Project Event for 2017. There have not been any face-to-face sitting arrangement meetings for 2020 due to the global lockdown. Meeting events conducted from 2020 to the present date is done through virtual online platforms.

Of the project events, three (3) were conducted for community outreaches, and four (4) were consultation workshops with a wider group of Stakeholders. There were more individuals in attendance for community outreach meeting workshops than there were for consultation workshops. This does not indicate a lack of interest in participation nationally. Rather, the consultation workshops cater more for stakeholder representatives, whereas community outreaches cater more for landowners and the public.

Other planned participatory meetings did not take place due to the global lockdown, a result of the Covid-19 pandemic outbreak, that started around February – March 2020. Correspondences with the regional teams also became difficult until the proper set up of online meeting conferences through the software application: zoom, which provides a cloud-based video conferencing service.

Table 3: Project Results and Achievements

| Component/ Outcomes/ Outputs | Indicate the appropriate name of the component, the desired outputs, and activities | Indicate the Status of implementation (choose from the following: Completed or not completed indicate the reason |
|------------------------------------|---|---|
| Component 1 | Building on successful waste management systems approaches demonstrated in IWRM Project to safeguard groundwater and lagoon water quality (Waste pollution) | |
| Outcome 1.1 | Improved municipal waste operations catalyzed through the development of technical and policy frameworks for appropriate leachate management to reduce water contamination in Nauru | <i>*Completed (Implemented under a different project)</i> |
| Output 1.1.1 | Status of the lining of a municipal tip established | <i>*Completed (Implemented under a different project)</i> |
| Output 1.1.2 | Recommendations indicated in the Assessment Report implemented | <i>*Completed (Implemented under a different project)</i> |
| <i>Outcome 1.2</i> | <i>Options for improved on-site waste management of domestic pig pens</i> | <i>Not completed:</i> |
| Output 1.2.1 | Options for sustainable on-site waste management of domestic pig pens identified | Not completed: |
| Component 2 | Building coastal resilience to potential impacts of climate change (Rehabilitation of degraded coastal habitats) | |
| Outcome 2.1 | Improved understanding of the vulnerability of Nauru's coastline to erosion and sea-level rise | <i>Not completed:</i> |
| Output 2.1.1 | An assessment of the coastal areas against their vulnerability to erosion and sea-level rise conducted | Not completed: |
| Output 2.1.2 | Communication plan (e.g., IEC materials) highlighting the vulnerable coastlines to erosion and sea-level rise prepared and implemented | Joint activities with STAR R2R |
| <i>Outcome 2.2</i> | <i>Coastal resilience to changes in sea level and erosion built through participatory re-vegetation program</i> | <i>Completed</i> |
| Output 2.2.1 | Suitable areas (target of 10 hectares) to be revegetated with salt and drought-tolerant species are identified | Completed |
| Output 2.2.2 | Endemic salt and drought-tolerant plants/ species available | Completed |
| Output 2.2.3 | Based on output 2.2.1, salt and drought tolerant crops/ plants planted | Completed |
| Output 2.2.4 | Revegetation program monitored and evaluated | Completed |

Financial Summary

Table 4 Finance: SPC-R2R Financial Contribution

| Amount | Total Amount Spent | Utilization Rate ¹ (Percentage) |
|---------|--------------------|---|
| 200,000 | 42,171 | 21% |

Materialized Co-Financing

There are only in-kind contributions by the DCIE Office throughout the duration of this project. Contributions included undertaking a supervisory role on managerial issues, mediating with identified Stakeholders, and exercising good governance to ensure contractual terms are being met. Other contributions included the provision of office space, access to the utility, internet connectivity and other administration needs. The value of assistance by DCIE was not quantified for a better measure, regardless of the continuous support given.

Apparently, there was weak financial and administrative support at the beginning of the project. This is only one of the factors that may contribute to delays and moderately successful outcomes of the Nauru IW R2R project.

Table 5: Co-Financing

| Name of Co-financer | Type of Co-financing ² | Amount ³ (USD) |
|---|---|------------------------------|
| Department of Commerce, Industry and Environment (DCEP) | Supervisory and project governance, office space, utilities (water and electricity), printing and photocopying, and project administration. | 50,000 |

Implementation Progress Ratings

1. Inputs: To what extent have the planned inputs been supplied?

Input delivery for this project was highly inadequate from inception date to project end. Administration issues were the major contributing factors that caused delays in executing project plans. This included personnel capacity, technical equipment, technical expertise, and financial support.

Regarding personnel capacity, this project has gone through four (4) National Project Managers within the span of five (5) years of project life. Close evaluation of this problem leads to the conclusion that previous Project Managers lacked the appropriate administrative, financial, and technical skills required for the position. There was not a lot of choice given the capacity issues in-country. Consequently, there was expectation of support from the host agency and RPCU assisting the Project Manager.

In consideration of the limited capacity within Nauru and the lack of support from the RPCU, the project had a high turnover of project managers. This was clearly articulated by the Country representatives attending the Projects' Steering Committee annual meetings. Even though this problem was raised to the RPCU on numerous occasions, it was not properly addressed until the very last year of the Project when Mr Samasoni Sauni and Mr Jose Antonio joined the RPCU improving their support significantly.

During the regional project steering committee meetings, it was also learned that the lack of communication and support from the RPCU regional office was solely due to the deteriorating illness of the initial Regional Project Coordinator Mr. Marc Wilson who was later replaced after a couple of years by Mr. Peter Cusack and

¹ Amount spent divided by amount budgeted/planned multiply by 100.

² Grant or In-kind

³ Total cash and monetized in-kind contributions.

then Mr. Samasoni Sauni for the remaining 1.5 years. A consequence of this instability in the regional office resulted in the confusion on the project logframe for the country as they presented a diverse logframe in which the funding of \$200,000 was not insufficient for the country to implement the whole logframe making it difficult for the managers to develop a suitable workplan that is aligned to the logframe to which a suitable workplan was not approved by the RPCU until the remaining 1.5 years. Furthermore, the global lockdown due to the pandemic Covid-19 added to the cause of delays.

Post MTR, a strengthened joint effort between RPCU and National IW R2R worked with a revised and clearer logical framework along with a more specified workplan. However, with the shorter time constraint, efforts to conduct a feasibility study for the management of waste pollution were suspended. This exercise was too technical and required more scientific analysis, thus requiring technical expertise in-country to effectively do a proper assessment. At the point of suspension, the assessment of current pig management systems, and the scope of current water quality were conducted. The absence of technical expertise on the ground has made this impossible to continue in the short term.

Notably, the RPCU aided in the MYCWP, drafting of the progress and financial reports and implementation guides for revegetation for the implementation of the project overall and especially on the component for the coastal rehabilitation.

The focus was channelled to accomplish rehabilitation of degraded coastal habitats. This component also required technical expertise on the ground. Advice and guidance became limited through online correspondences, which provided moderate satisfaction in obtaining the required technical expertise to undertake activities.

Input deliverables included analysis of coastlines vulnerable to weather erosion and rising sea level, conducting stakeholder and community meetings for informational and educational purposes on the impact of climate change along the coastlines, and undergoing a re-vegetation participatory programme. The re-vegetation programme involved identifying endemic salt and drought-tolerant plants, identifying coastal areas most vulnerable to climate change impact, encouraging participants to plant seedlings and then transplant them at the designated coastal sites, then monitoring the survival rates of re-vegetated areas.

2. Outputs: To what extent have the planned outputs been produced?

The assessment of the status of lining to the municipal tip report with recommendations for improvement of waste management at the dumpsite has been completed under a different project. Initially, Nauru requested this output to be completed by this project, however, due to the slow response of the RPCU and the overall implementation, the country had to allocate the output to another project. There were attempts to explore options for sustainable on-site waste management of domestic pig pens. Initial interviews were conducted to document the status of current piggery waste management systems in selected districts. Alternative systems for improvements were explored and discussed with communities. However, more elaborate assessments and studies by Technical Experts were required to progress further the work on documenting the status of piggery waste management systems and the use of piggery dry litter technology. The Nauru IW R2R stress reduction target involving municipal waste pollution reduction using constructed wetlands was dropped and focused only on the 10-ha stress reduction target for rehabilitated habitats as explained below. More importantly, this work was taken up and successfully delivered through another project.

In contrast, the planned outputs for rehabilitation of degraded coastal habitats were better planned and produced. However, the assessment of the coastal areas against their vulnerability to erosion and sea-level rise was not conducted, although there was capacity building and support, a communications plan to highlight the vulnerable coastlines to erosion and sea-level rise was not prepared by the national project or implemented. Although communications activities were jointly implemented with the STAR/national R2R project leveraging off the Eben Omo campaign. Identifying suitable areas, with a target of ten (10) hectares, to be revegetated with salt and drought tolerant plant species was accomplished. Also, the output to make available endemic salt and drought-tolerant plant species and planting them were completed. The project also completed conducting a monitoring and evaluation revegetation program. In collaboration with Lands Survey Department, 10 hectares of land were obtained for the re-vegetation program.

Geographic locations identified as most vulnerable to weather erosion were Anetan District (N), Anabar District (NNE), Ijuw District, (NEE), Anibare District (E), and Meneng District (SSE). See the relevant Annexes

to view the geographic locations. Endemic salt and drought-tolerant species identified and utilized for the revegetation program were seedlings of coconut trees, casuarina pine trees, tamanu trees, pandanus trees, sea almond trees (*Terminalia catappa*), Iren Hulik trees (*Heliotropium foertherianum*) and Emet bush (*Scaevola taccada*). The participatory revegetation program involved participants choosing which of the identified trees to nurse and then planting them in designated areas.

3. Objectives: To what extent have the outputs contributed to achieving the project objectives?

Planned outputs to build successful waste management were not accomplished, therefore the outcomes to improve municipal waste operations and to improve on-site management of domestic pig pens are not achieved. Technical assistance and expertise were required to progressively achieve the outcomes. The remedial measure recommended is to employ the required technical assistance to do groundwork assessments and provide recommendations and guidance. As explained earlier, this work was picked up by another project and is no longer relevant outcome and objective.

However, the outcome to build coastal resilience to changes in sea level and erosion built through a participatory re-vegetation program was successfully completed. Though completed, this activity needs to continue to ensure the sustainability of coastal resilience.

4. Sustainability of the project results: To what extent will the intended results of the activity be sustainable?

No methods have been explored yet as most of the main objectives were not met. However, the revegetation program if continued, can result in sustainable coastal areas.

5. Risks/Assumptions/Conditions: To what extent were the previously identified conditions, assumptions and accompanying risks addressed?

Table 6: Assumptions and Risks

| Context | Specify the identified Conditions, Assumptions and Risks | Provide your assessment in this column |
|-------------|---|---|
| Conditions | Municipal Waste Pollution | Still valid / Assessment report available for further implementation |
| | Limited information on the impact of climate change / Limited vegetation on coastal areas | Still valid / Information on climate change not dealt with. Limited vegetation has been dealt with but requires continuation. |
| Assumptions | Wastewater contamination. | Still valid / not dealt with |
| | Lack of information limits the understanding and willingness of participants to combat the impact of climate change | Still valid / Information on climate change not dealt with. Limited vegetation has been dealt with but requires continuation. |
| Risks | Groundwater contamination from leachate and pigpens. | Still valid / not dealt with |
| | Availability of technical assistance. The willingness of the community to participate. | Still valid / Information on climate change not dealt with. Limited vegetation has been dealt with but requires continuation. |

6. Overall Implementation Progress Rating

Moderately satisfactory. This rating is based on achieving a restored habitat environmental stress reduction target of 10-ha. However, if the municipal waste pollution work was not dropped and the target changed to zero (0) TN kg/ year, then the rating would be moderately unsatisfactory.

Strengthened coordination and communication bridge are required for a better success rate for this project.

Project Contributions to the Regional IW R2R Program Outputs and Outcomes

The contributions of the national IW R2R project to the Regional Ridge to Reef program components are summarized below:

1. National demonstration to support R2R ICM/IWRM approaches for island resilience and sustainability. Specifically, an account of the status of:

- 1.1 Successful pilot projects testing innovative solutions involving ICM, IWRM and CCA (linked to the STAR via larger Pacific R2R network).

MTR (July 2019): Outcome 1.1: Successful pilot projects testing innovative solutions involving linking ICM, IWRM and climate change adaptation [linked to national STAR projects via larger Pacific R2R network]

MTR Rating 3 (Moderately unsatisfactory)

Nauru's progress: Restored Habitat by 10-ha is limited to conducting a revegetation program. Required technical assistance to conduct a proper assessment and draft a communication plan to improve a wider general understanding of the vulnerability of Nauru's coastline due to weather erosion and rising sea level.

- 1.2 National Diagnostic analysis for ICM conducted for prioritizing and scaling up key ICM/IWRM reforms and investments.

MTR (July 2019): Outcome 1.2: National diagnostic analyses for ICM conducted for prioritizing and scaling-up key ICM/IWRM reforms and investments

MTR Rating 3 (Moderately unsatisfactory)

Nauru's progress: NIL

- 1.3 Multi-stakeholder leader roundtable networks established for strengthened 'community to cabinet' ICM/IWRM.

MTR (July 2019): Outcome 1.3: Community leader roundtable networks established for strengthened 'community to cabinet' ICM/IWRM

MTR Rating 3 (Moderately unsatisfactory)

Nauru's progress: NIL

2. Island-based investments in human capital and knowledge to strengthen national and local capacities for R2R ICM/IWRM approaches, incorporating climate change adaptation

- 2.1 National and local capacity for ICM and IWRM implementation build to enable best practices in integrating land, water, forest and coastal management and climate change adaptation.

MTR (July 2019): Outcome 2.1: National and local capacity for ICM and IWRM implementation built to enable best practice in integrated land, water, forest and coastal management and CC adaptation

MTR Rating 5 (Satisfactory)

Nauru's progress: The 3 participants from Nauru who applied and were accepted, did not complete the JCU Post Graduate Certificate Course.

- 2.2 Incentive structures for retention of local R2R expertise and inter-governmental dialogue on human resource needs for ICM/IWRM initiated.

MTR (July 2019): Outcome 2.2: Incentive structures for retention of local 'Ridge to Reef' expertise and intergovernmental dialogue on human resource needs for ICM/IWRM initiated
MTR Rating 3 (Moderately unsatisfactory)

Nauru's progress: NIL

3. Mainstreaming of R2R ICM/IWRM approaches into national development planning

3.1 National and regional strategic action frameworks for ICM/IWRM endorsed nationally and regionally

MTR (July 2019): Outcome 3.1: National and regional strategic action frameworks for ICM/IWRM endorsed nationally and regionally
MTR Rating 3 (Moderately unsatisfactory).

Nauru's progress: Work in progress, following the recent draft of the Environmental Bill.

3.2 Coordinate approaches for R2R integrated land, water, forests and coastal management and climate change adaption

MTR (July 2019): Outcome 3.2: Coordinated approaches for R2R integrated land, water, forest and coastal management and CC adaptation achieved in 14 PICs
MTR Rating 2 (Unsatisfactory)

Nauru's progress: Work in progress, following the recent draft of the Environmental Bill. Policies and regulations are still being determined and drafted. Once finalised, roll-out methods will be determined, and networking and collaboration between sectors will be explored and exercised.

Project contributions to the GEF Focal Areas, SDGs including Special Themes

This national demonstration project contributes to the following GEF Focal Areas: International Waters, Biodiversity Conservation, Land Degradation, Sustainable Forest Management, and Climate Change Adaptation. Out of all the focal areas that this demonstration project contributes to, only one focal area was successfully contributed to, which is the Climate Change Adaptation focal area.

GEF Focal Areas

1. Climate Change Adaptation

Nauru's Contribution: 800 drought and saltwater tolerant species were planted and rehabilitated coastal habitat area of 10-ha. Conducted a coastal revegetation program to combat coastal land degradation. The intention of this program is to reduce weather erosion in vulnerable coastal areas, that were impacted by rising sea levels.

Weather erosion in coastal areas has been identified to be the result of the impact of climate change. The revegetation of endemic salt and drought plant species can be viewed as short-, medium- and long-term adaptation methods. Another method is the building of sea walls. This method is deemed to be of short- and medium-term method to prevent the rise of sea level from drifting inland. However, further studies need to be conducted on its effect in the long term, as sand bars are already shifting, possibly because of current sea walls and wharves.

Sustainable Development Goals (SDGs)

Below is the summary of the project's contributions to the relevant Sustainable Development Goals.

| SDG | Project contributions |
|---|---|
| SDG 1 – No poverty | |
| SDG 2 – Zero hunger | Replanting of endemic and edible plants and trees or vegetation along with target areas of the coastline. |
| SDG 3 – Good health and well-being | Additional surface area from plants and trees or vegetation over 10-ha assists in decarbonization efforts |
| SDG 4 – Quality education | |
| SDG 5 – Gender equality | Equal or fair participation of men and women in consultations, meetings, and training. |
| SDG 6 – Clean water and sanitation | Despite the inability to progress DLT trialing and replication, the awareness and understanding raised during consultations, meetings and school visits contribute to policy decisions and planning to implement measures that do not contribute to contamination of underground and surface water. |
| SDG 12 – Responsible production and consumption | |
| SDG 13 – Climate change | Coastal Protection from sea level rise and erosion |
| SDG 14 – Life below water | |
| SDG 15 – Life on land | |
| SDG 17 – Partnerships for the goals | |

Special Themes

2. Gender Mainstreaming

Nauru IW R2R project circulated all invitations for meetings and related project events and covering Government Agencies and Community Leaders. This was done with no due consideration of gender aspects and initial planning to ensure somewhat equal or fair participation of men and women, youths and elderlies, persons with disabilities, church, and other civil societies. However, sufficient effort was attempted to ensure equal and fair distribution of opportunities during the project implementation phase, particularly during stakeholders' consultations.

Following the Mid-Term Review, it was agreed to record sex-disaggregated data from project activities conducted. A gender mainstreaming toolkit was provided by RPCU but was not utilized during the lifetime of the project.

Workshops and meetings conducted throughout the full project life were mostly community consultations (see Annex 6). However, it turn-outs at most of the events provided had more female participants in attendance. The outcome may be the result of either the percentage of interested people, whereas, more females were interested in environmental-related initiatives, or it may be a result of the percentage of work representatives, indicating that there are more female employees in the workforce.

Lessons Learned (Innovations and Catalytic Impacts)

- A. *High Turnover Over in Project Managers, Lack of Proper Handing Over Notes & Orientation, Lack of Oversight Support from Host Agency, and Lack of Technical Assistance from the Regional Team were key contributors to Project Failure.*

Qualification and experiences with demonstrable skills-set do matter and are expected of a Project Manager in an IW R2R project. The second-best thing to happen is to hire the second or third best candidates to fill the positions, with the expectation of on-the-job capacity building, upskilling, and mentoring to occur over time from both the supervisors, host agency and the regional project.

The following statements are extracted directly from quarterly reports by previous project managers. Statements are by the third and not the final project manager for this project. Statements are left as they are, not summarised, to demonstrate the frustrating experience of national project managers.

- Transport - While it isn't the project's role to provide transport to staff, the absence of reliable public transportation hindered the mobility of the project manager to implement planned activities. To ensure the response and participation of communities in the project, a face-to-face meeting will be necessary. Hence, transportation within the island (office to the project site) is important.
- Internet costs - Expensive internet subscriptions hindered communication between the Project manager and the RPCU/SPC. Despite the coaching session held by RPCU in Suva in May 2019, the Project Manager still requires constant guidance and technical and administrative support to ensure the compliant implementation of the agreed activities. Effectively, this suggests the capacity and relatively poor skill set of the Project Manager to carry out project work.
- Resignation - The absence of the Project Manager from October 2018 to April 2019 has greatly affected project implementation. Since October 2018 (the last technical support mission of RPCU), the multi-year costed workplan (MYCWP) was on hold and the project was unable to submit the corresponding reporting obligations as stated in the memorandum of agreement.
- Handing over - The two former project managers were not able to hand over any documents, or reports (both technical and financial) that should have been the basis for follow-up.

B. Limited Capacity & Capabilities.

Overall, the project has encountered significant implementation delays. Nauru is a small country with a small population and limited capacity that requires technical support in the implementation of this project. The country has been slowly building back after the economic development collapse of the past. The country's priorities are centred very much on development and economic growth but also cognizant of environmental and climate change commitments. Technical assistance is critically important in driving build-back efforts including priorities on waste pollution and habitat restorations. This has been clearly communicated to the RCPU during Steering Committee meetings and the response was only received at the latter half of the project lifetime.

The Nauru IW R2R project continually requested technical support including the following:

- RPCU/SPC assisted the Project Manager in complying with the preparation of needed documents for the no-cost extension, updating the logframe, finalizing the multi-year costed workplan, preparation of the workplan and budget. The regional project also allows the national project coordinator to hire vehicles on a needs basis to assist in the implementation; preparation of the technical/narrative and financial reports; and provided guidance on the technical, administrative and management aspects of the Nauru IW R2R project.
- RPCU/SPC assisted the Project Manager in complying with the preparation of needed documents for the scientific aspects of the project. For instance, the development of a National Logical Framework derived from the regional Logframe, specifically for the Nauru demonstration project, based on scientific diagnostic assessments carried out by the Science Officer of RPCU.
- RPCU/SPC assisted prepare relevant papers including an advertisement and identified a suitable expert consultant for conducting a review on the current Waste treatment in Nauru and designing a suitable one to cater for the general population.

Innovative Aspects

Communications - A good and smooth-flow command of communication internal and external to the project is paramount. Not all the time the project experience good levels of communication between and amongst relevant agencies and stakeholders. It is hard but not impossible to work through communication challenges till such are resolved. Communication throughout the organisational channels needs to be strengthened.

During project implementation, it was immediately clear that effective communication and sharing of information is a problem and there are no mandatory requirements to enforce and comply. These are the experiences sharing information between National IW and STAR child projects of the GEF Pacific R2R Programme, amongst UN Implementing Agencies and with the SPC Regional IW R2R Project. The signed Memorandum of Agreement (MoA) between SPC and Nauru provides the only legal platform that ensures the Parties implement their duties and responsibilities.

Programmatic Approach – No doubt the programmatic approach offers strategic benefits to project implementation, particularly streamlining processes of collaboration and cooperation amongst multiple agencies, sectors, disciplines, and stakeholders. However, there is a level of difficulty using the programmatic approach to translating global strategies into regional and national level strategies. Nationally, the programmatic approach was viewed to be too broad, and too ambitious, thus too unrealistic to be expected to be accomplished within a given timeframe.

Lessons in this project suggest that despite nationwide efforts to deliver on project outcomes, requires far more resources and the funding for such an ambitious project appears not properly assessed. Moreover, the cooperation between implementing partners requires better coordination. The high turnover of staff both within the regional team and the national team is evident that poor communication and thus coordination was highly inadequate.

Mid-Term Review – The Nauru IW R2R project suffered numerous delays in implementation and the reasons are mixed, both internal and external. The MTR provides an excellent opportunity to review the logframe given the uncertainties of delivering against targets and outcomes. Generally, the project experienced a lack of communication and support resulting in delays in financial and administrative processes. Strengthened communication and coordination only occurred after MTR, resulting in improved steer of project processes to achieving objectives. However, time constraints and global lockdown became new challenges in accomplishing project goals.

Periodic and regular reviews on implementation progress, of logframes and revisiting the capacity and capabilities of participating countries to implement a project offer important lessons for future R2R investments. Improvements in communications, sharing of information and support (both technical and political) are also important caveats of success in future projects.

Catalytic impacts

Whilst recognizing the challenges, the Nauru IW R2R demonstration project offers useful lessons and experiences to consider in future R2R investments tackling pollution, contamination, and degraded ecosystems. This is particularly important in ongoing catalytic efforts addressing waste management and building coastal resilience because of the impact of climate change.

A baseline assessment provides technical information about the current situation and identifies priority gaps and challenges and key actions and recommendations. For instance, the assessment identified the need for leachate management, requiring technical assistance to conduct further studies to determine the best methods to improve waste management.

However, the Nauru IW R2R project focused only on testing innovative technologies that assist with priority problems of degraded coastal areas, and contaminated groundwater from municipal wastes and from pig pens. Water contamination is key and a priority because Nauru's population relies on groundwater for daily usage.

The second priority for the project is testing revegetation of degraded coastal areas specifically with plant species that are endemic and suitable for the salty and harsh environment of salty breeze, inundation and strong wind and wave actions impacting and eroding vulnerable areas along the coastline. Experience and observation suggest that eroding coastal areas have resulted in waves crashing inland, across the island's ring road and into houses.

The planned output of the revegetation program stimulated awareness and an understanding of the catalytic consequences of external environmental pressures, and intense and frequent devastating weather patterns influenced by climate change and sea-level rise. It is not too late to support ongoing awareness-raising and consultation efforts and instils a sense of care and understanding to protect and manage ecosystem services. It requires engagement and empowering local communities to participate in programs such as this.

Another important highlight that resulted from the Nauru IW R2R project, was its contributions and active participation in the drafting, and implementation mechanisms of the national Environmental Bill.

Annex 1

Annex 1.1 - RESEARCH AND DOCUMENTATION OF AGRICULTURE PIGGERY FARM

10th June 2019

*Purpose of this survey and Interview, is to collect data on pigs and document the management of piggery waste in the Anabar district.

I interviewed Mr Rocco. D (Extension marketing officer for Agriculture DCIE).

1. Maintenance (Farm) – How often has been repaired or any maintenance action taken. (5%)
2. Experience (3 months 50% Local level)
3. Status of Pigs
-males/females/piglets/feedings and breeds.

*Males – 2 Durok Brown/ 3 Big whites

*Female – 5 Big whites

*Piglets - 26 (11 females/11 males/1 disable/3 baby pigs).

*Feedings – The pigs feed twice a day (pig grower/pig starter/vegetables and food scraps or bread from the refugee camps. Poor storage feeding location/poor deliverance of feeding product (Politic Involvement deal).
4. Piggery waste management (How does he manage the waste/compost/ Drainage system/septic tank (dump where after suction).
5. Missing/ miscounts /NO reports
6. Location – Piggery farm is too close to the coastal shoreline and the inland lagoon, and it is risky to contaminate underground water and the seashore base.

Document caption



Annex 1.2 - Survey_Anabar Piggeries data collection 2019

<https://docs.google.com/spreadsheets/d/14wPtYb5tnCFC4UZblSUmXOyfkZURSxkD/edit?usp=sharing&ouid=103713655250318686328&rtpof=true&sd=true>

Annex 1.3 - PIGGERY Info Sheet

- ETHICAL TREATMENT FOR PIGGERY
- PIGS ARE DIRTY ANIMALS
- ANIMAL CARE IS HIGH ON THE LIST
- PIGS WON'T GROW WELL IF THEY ARE NOT TAKING CARE OFF
 - WE SHOULD RECOGNISE THE IMPORTANT CARE FOR OUR PIGGERY FARMS OR MAYBE PROPER MEDICATION,
 - WE SHOULD CONSIDER ALL THE FACTORS THAT WILL IMPROVE THE PIGGERY WASTE MANAGEMENT.
 - LOW-PERFORMANCE STANDPOINTS, SUCH AS PIGGERY WASTE MAY COST A GREAT HIGH RISK OF CONTAMINATION TO OUR LANDS AND TO UNDERGROUND WATERS.

SPECIAL FACILITIES THAT ARE DESIGNED FOR SIZES AND AGES WILL HELP US IMPROVE OUR PIGGERY FARM SITES,

WE SHOULD DO THE RIGHT THING FOR ANIMALS AND FOR OUR LANDS, CONSIDERING OF WELL BEING FOR TODAY AND THE FUTURE.

WE MIGHT EVEN BENEFIT FROM THIS FACILITY.... PRODUCE HEALTHY PIGS, WHICH PRODUCE WASTE MANURE.

IN DOING SO I THINK IT'S BEST THAT THE PIGGERY FACILITY SYSTEM SHOULD BE CONSIDERED.

*TYPES OF PIGS

1. DUROK
2. BIG WHITE

*SEPERATION= MORE SURVIVABILITY =BEST CARE FOR THE ANIMALS=WE'LL KNOW HOW MUCH THE PIG EATS.

LOCAL COMPLAINTS

1. UNPLEASANT ODOR
2. WASTE DUMP
3. NUTRIENT SOIL
4. PROTECT THE LAND, WASTE LEAKAGE TOWARDS UNDERGROUND WATER(BRACKISH)

Annex 1.4 - WORLD ENVIRONMENT DAY

4 – 5.6.2019

- I. National project education awareness (POPS/UPOP'S)
Judging of school project competition on the waste management system.
- II. JUDGES: 1 health department.
2 NRC Waste management 3 IW R2R DCIE
Judging on: *waste management system(3Rs)
*Compost system



Annex 1.5 - SCHOOL AWARENESS PROJECT ACTIVITIES

IW R2R Project Manager first engagement activities with Kayser College students

3rd May 2019

Joined venture with R2R STAR (EBEN OMO) Kayser college Catholic school visitation awareness discussing piggery waste contamination.

1. School level discuss awareness on piggery waste, (how it contaminates underground waters?).
2. Quiz, (How many toes does a pig have?), awarded students with prizes such as stationaries.



All students engaged in learning, connecting what we are teaching to real life. Visible understanding and demonstration of written materials is key for students understand giving them better choices and interests.

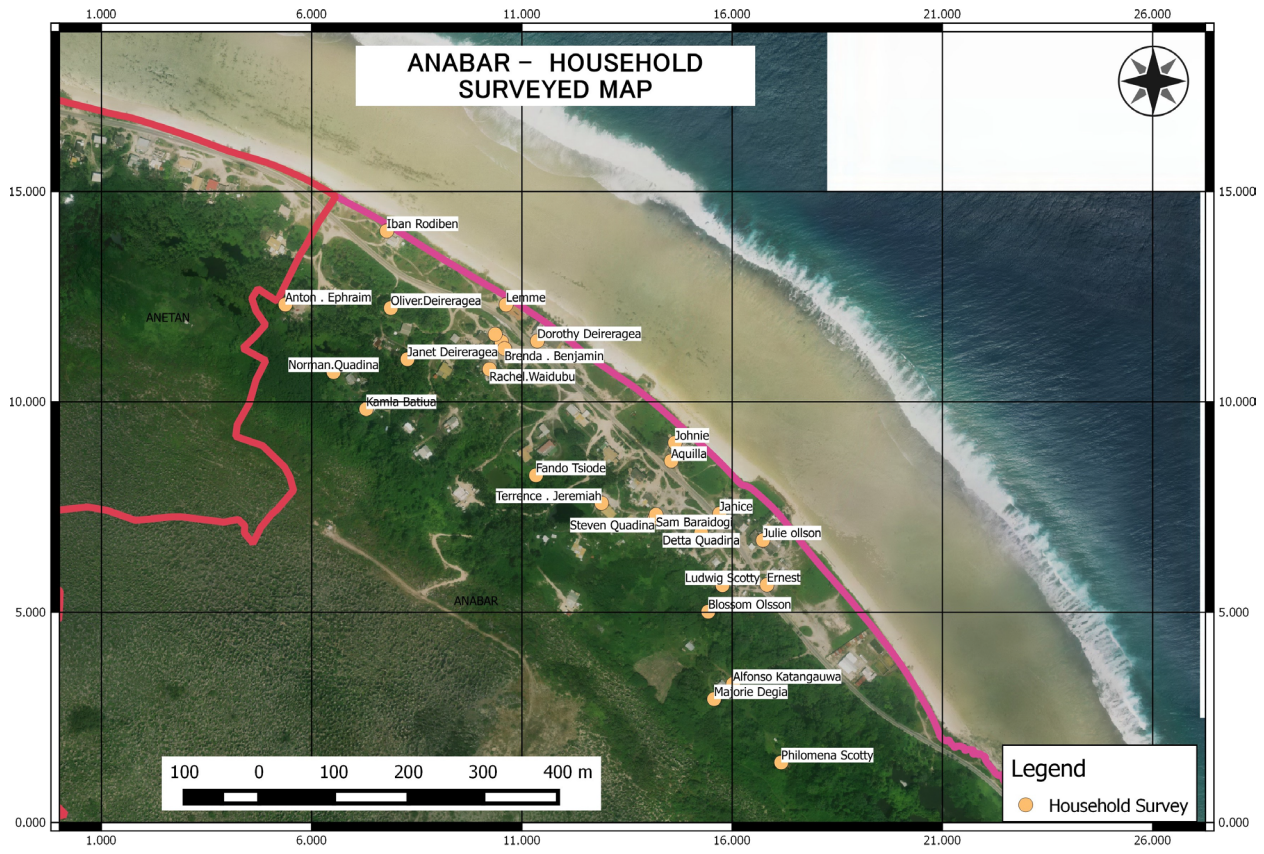


Students listen and take interest in the awareness program activity.

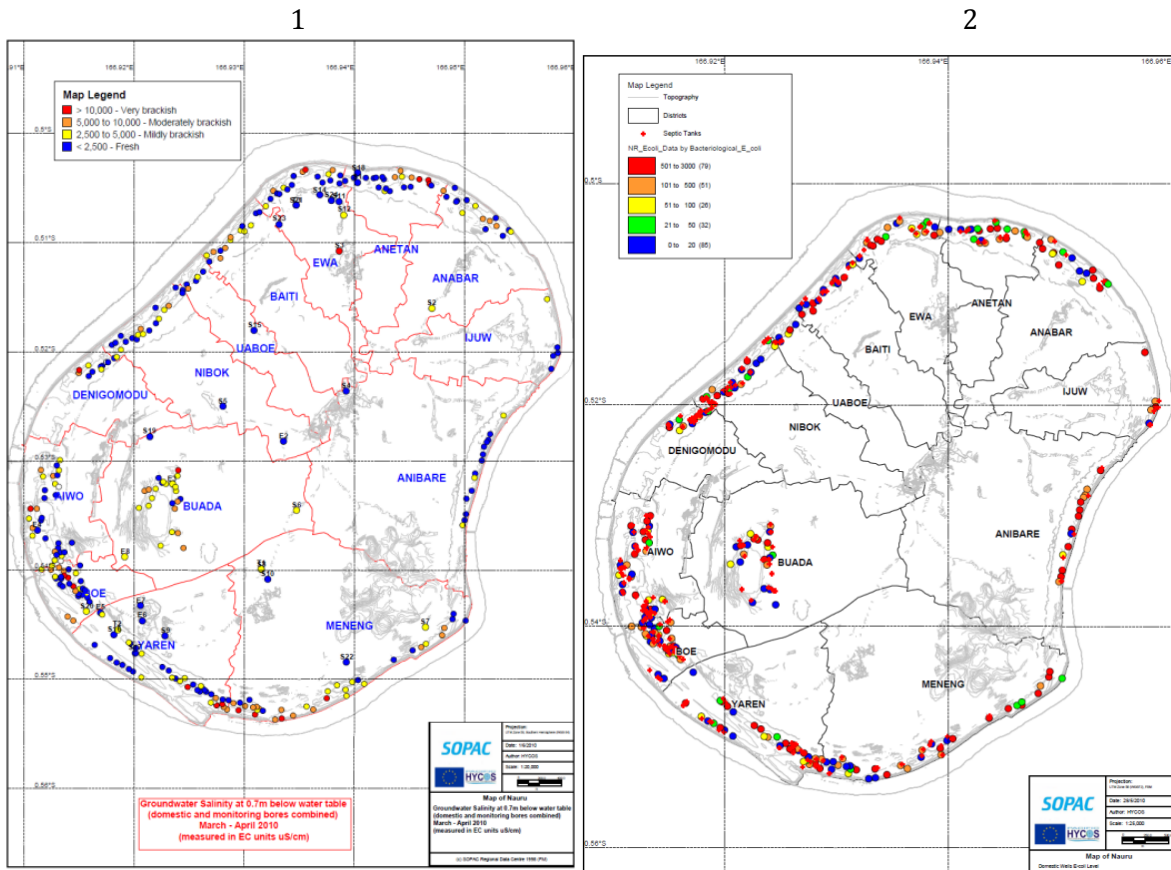


Students winning awareness prizes.

Annex 1.6 - Map Anabar Household



Annex 1.7 - Map Groundwater Wells



1 – Groundwater salinity at 0.7m below water table (domestic & monitoring bores combined)-April 2010

2- *E. coli* level of domestic wells – April 2010 (Unit: MPN/100 mg)

A review of the data indicates there is considerable risk of faecal contamination in the groundwater abstracted from the domestic wells (Map 8). This is likely to be in response to a combination of open septic pits which allow pathogens to travel freely to the groundwater, the proximity of wells to septic pits, and the relatively easy accessibility of wells to surface water ingress.

Salinity records and bacteriological (*E. coli*) levels have been collected for about 280 wells indicating that groundwater quality is a serious issue in Nauru. Salinity is highly variable, depending on rainfall and tidal mixing and can dramatically increase during extended dry periods. Whilst salinity variability will limit the beneficial use in most circumstances, the risk from faecal contamination is of particular concern and may have a more serious limiting impact on potential use. Over 63% of all the wells surveyed present an *E. coli* level greater than 20 (MPN), which using Australian guidelines (EPA 2003), would result in serious limitations of use. The main source of faecal contamination is likely to come from surface activities and in particular, onsite wastewater disposal practices.

[Citation: Bouchel, L. & P. Sinclair, 2010. Pacific HYCOS Project – Assessing vulnerability groundwater wells, Nauru. Technical Report 435, SOPAC, Suva, Fiji 103 pp.]

EBEN OMO R2R STAR

8TH May, 2019

Stakeholder's meeting

1. Utilities
2. Justice
3. R2R STAR
4. Media
5. NRC (Nauru rehabilitation cooperation)

Agenda: Environment Day Program Planning

*Event planning and agreements set up.

Annex 2

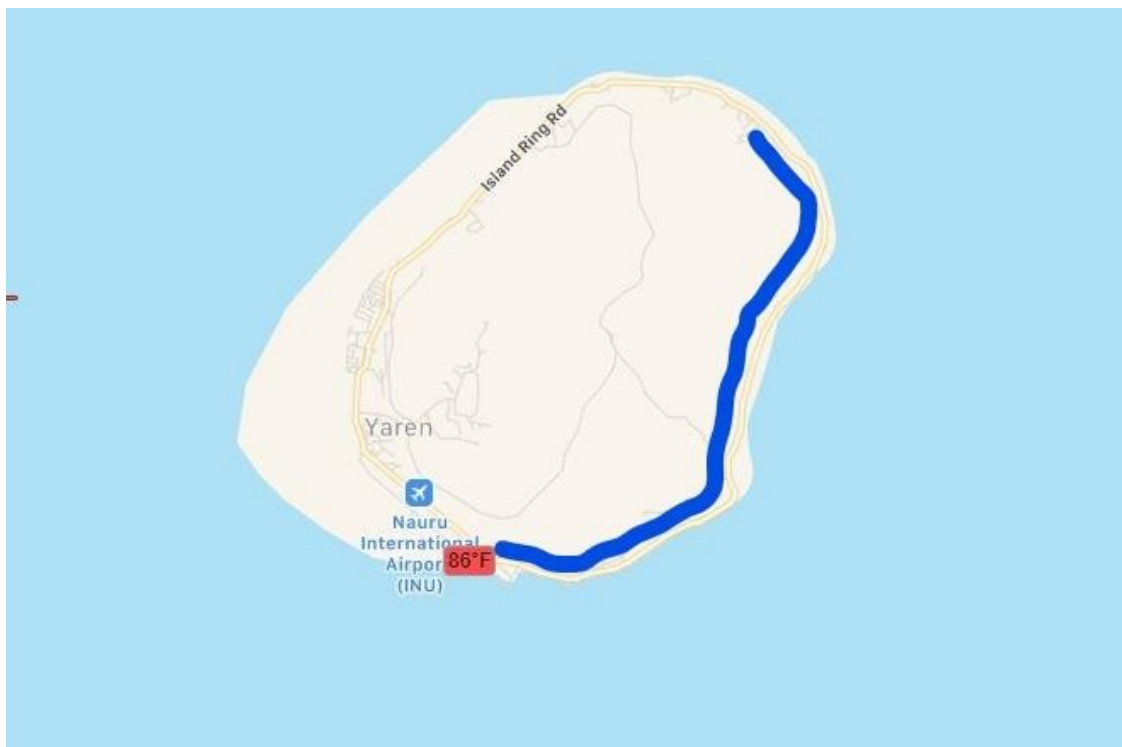
Annex 2.1 - NAURU COASTAL RE-VEGETATION TREES PROJECT DOCUMENTATION

<https://drive.google.com/file/d/1BppwtimkkB4dYOFKtNtF0CqXYo2G9Yck/view?usp=sharing>

Annex 2.2 - MAPS OF NEW RE-VEGETATION SITES

DISTRICTS:

1. Meneng
2. Anibare
3. Ijuw
4. Anabar
5. Anetan



Annex 2.3 – Capacity building in participatory monitoring and evaluation technique and communications - Most Significant Contribution (MSC). Poster produced by Nauru IW R2R project.



**Pacific R2R Programme Workshop
Most Significant Change
The GEF Pacific IW R2R Project - NAURU**



| | |
|--------------------------------|----------------------------------|
| Name of Person recording story | IW R2R PM |
| Name of storyteller | Mr. Vauili. Amoe Home affairs |

Clean and Green Project Officer

I was chosen to be a project officer in 2015 till mid this year, sometimes to take responsibility for clean and green environment officer around all 14 districts. I did train on compose waste management with Cenon (consultant). I attend R2R Project awareness and promotions which I attend to during their roadshows assisting hand to hand compose, transplanting as for environment day waste management POP/UPOPS for the past years which I'm very interested in which I'm learning and gaining knowledge on composting and coastal vegetation, recycling.



Coastal vegetation plays an important role in stabilizing the surface against wind erosions and land ground erosion

My ability and knowledge on composing and coastal vegetation got me thinking, why not? Give out training to the clean and green community and students on composting pits and coastal vegetations (but I did get them to understand through the years) but it's not that easy to communicate with the locals whom are stubborn and uninterested the value and benefit to their home land. I became to



Mr. Vauili . Amoe Nauru former clean and green project officer showing compost pit

understand more and more about how important coastal vegetations are and how they can be used to prevent erosions and wind carrying salt towards inland. Compost pit can improve soil quality and also provide compose to the community, kitchen garden growers, save environment and the trees in some districts that we see fits. People became interested on why we plant fruit trees, forest trees around the coastal area. Legislation has applied that there is a planting distance along the road-side by the government not to plant to close to the road.

Once we saw a truck just picked up a bunch of cut and trimmed trees around the coastal area in the back of their truck so we stopped them and ask them what they're going to do with the tree and plant cuts, we dump it its rubbish, oh! No this are no rubbish; we can use this to feed our coastal trees and use it for compose too. They see rubbish but we see the future. We have planted forest trees and coconut trees around 3 districts coastal area on places I've taken (me recorder) are 3-5 years old, the big change is I know that we save a little every plant we place, the effort and the changes make me feel happy and proud of the results.

Our Government is our biggest support in our project, communities and families whom becoming more interest in our project and start taking part in action to save our home land Nauru, this is another big change for the people and our country.



NATURE IS NATURAL



Mr Vauli explains some of the ethical transformation of our society how coastal vegetation plays an important role in stabilizing the surface against wind erosions and land ground erosion that provide sustainable environment is a long-term protection to our beach and front properties against coastal hazards such as:

1. Coastal and land erosion.
2. Strong winds carrying salt.
3. Coastal inundation from king tides and stormy weather.



Mr. Vauli Amoe is Nauru Clean and Green Project Officer, explaining what the project is doing and making changes for the community.

Community and clean and green workers have taken part in the project of his knowledgeteaching.

Compost pit – Daily organic waste collection along the roadside by compiling for composting purpose. Community and farmers have access to carbon composting waste and keeping Nauru clean.

Annex 2.6 - Nursery Re-visit site

IW R2R and the Government Agriculture Farm agreed on a partnership to collect and maintain the re-vegetation plants at the nursery farm. The Farm Manager is Mr Bern.

The joint team collected five (5) species of coastal plants along with the coastal areas of the island, which are considered useful and important for the re-vegetation of degraded coastal habitats.

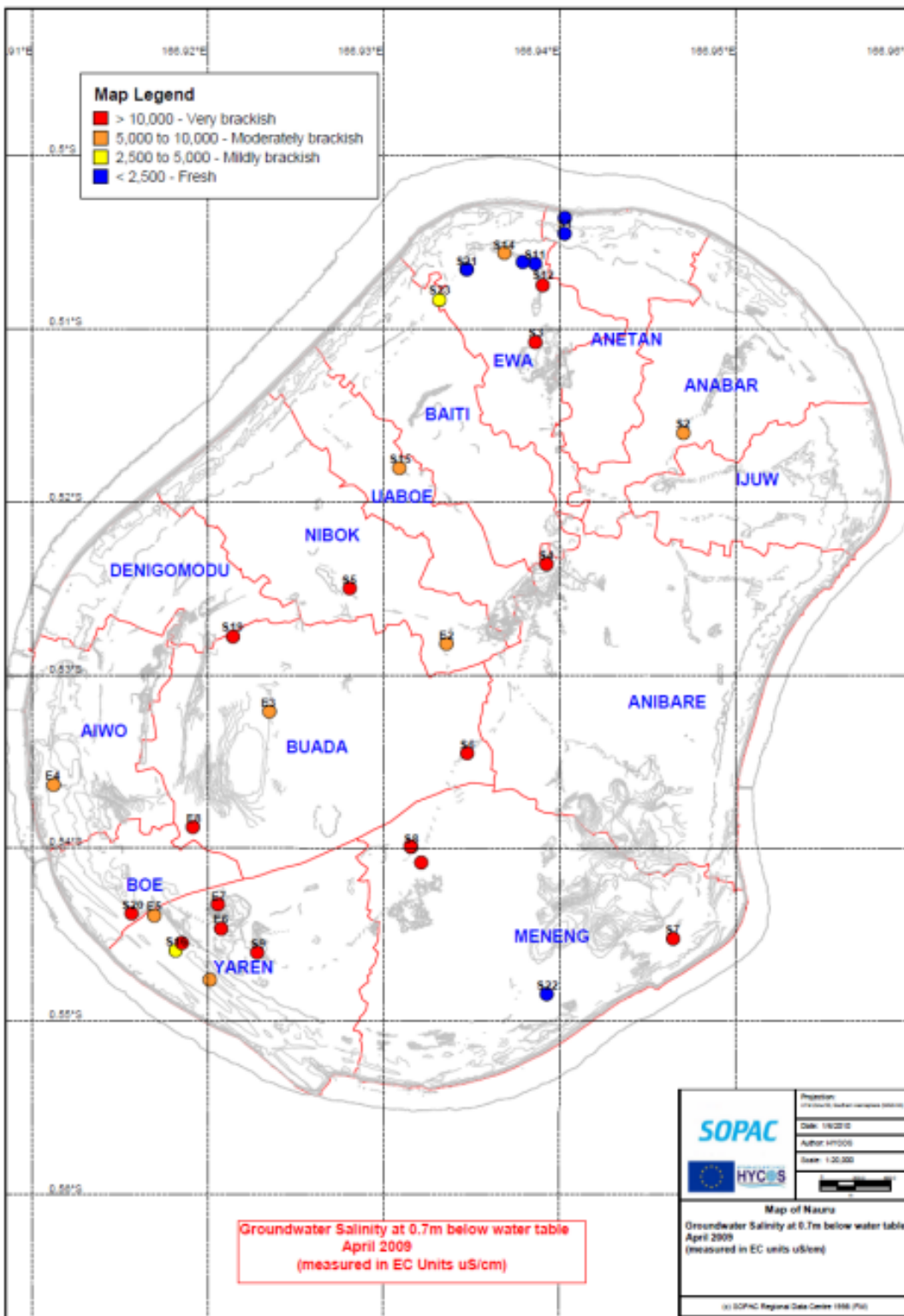
Both IW R2R and R2R STAR projects agreed to work together on rehabilitation efforts around designated coastal areas, as well other activities at the regional level. IW R2R re-visited the nursery site on 10/11/2019.





Some of the plants in this report has been mostly collected and provided by the Agriculture Department and R2R STAR project. IW R2R Project and the Farm Manager (Mr Bern) collected approximately 20% of the coastal plants 26th June 2019. These plants were placed at the Nursery for monitoring and care until the plants are ready for planting in designated coastal areas.

Annex 2.7 - Map showing brackish water sites (colour codes)



Groundwater salinity at 0.7 m below water table – April 2009

Annex 3

Annex 3.1 - Proposed COASTAL FISHERIES AND AQUACULTURE BILL

https://drive.google.com/file/d/1xLG-4uLDoLnHmi-ghcN3X30KygD5kju_/view?usp=sharing

Annex 3.2 - BUADA INTEGRATED AGRICULTURAL LAND-USE MANAGEMENT PLAN (BIALUMP) DRAFT REPORT

<https://drive.google.com/file/d/1y-lyj4dHh3R7dze5aoo-QP9eXPV56wmF/view?usp=sharing>

Annex 4

Annex 4.1 - INTEGRATED AGRICULTURAL LAND USE PLANNING - Part 1

https://drive.google.com/file/d/1tp9JUyx89Kr1BD8h36DCIivJCNsS_EzC/view?usp=sharing

Annex 4.2 - INTEGRATED AGRICULTURAL LAND USE PLANNING - Part 2

<https://drive.google.com/file/d/1PknOxohMpGpfDwJnYzOrhOGOewzQdkQ5/view?usp=sharing>

Annex 5

Annex 5.1 - TNA (Technology Needs Assessments) Workshop

<https://drive.google.com/file/d/1nVkwOizIIOaSSrmYE7LKrQfUASAt2tv-/view?usp=sharing>

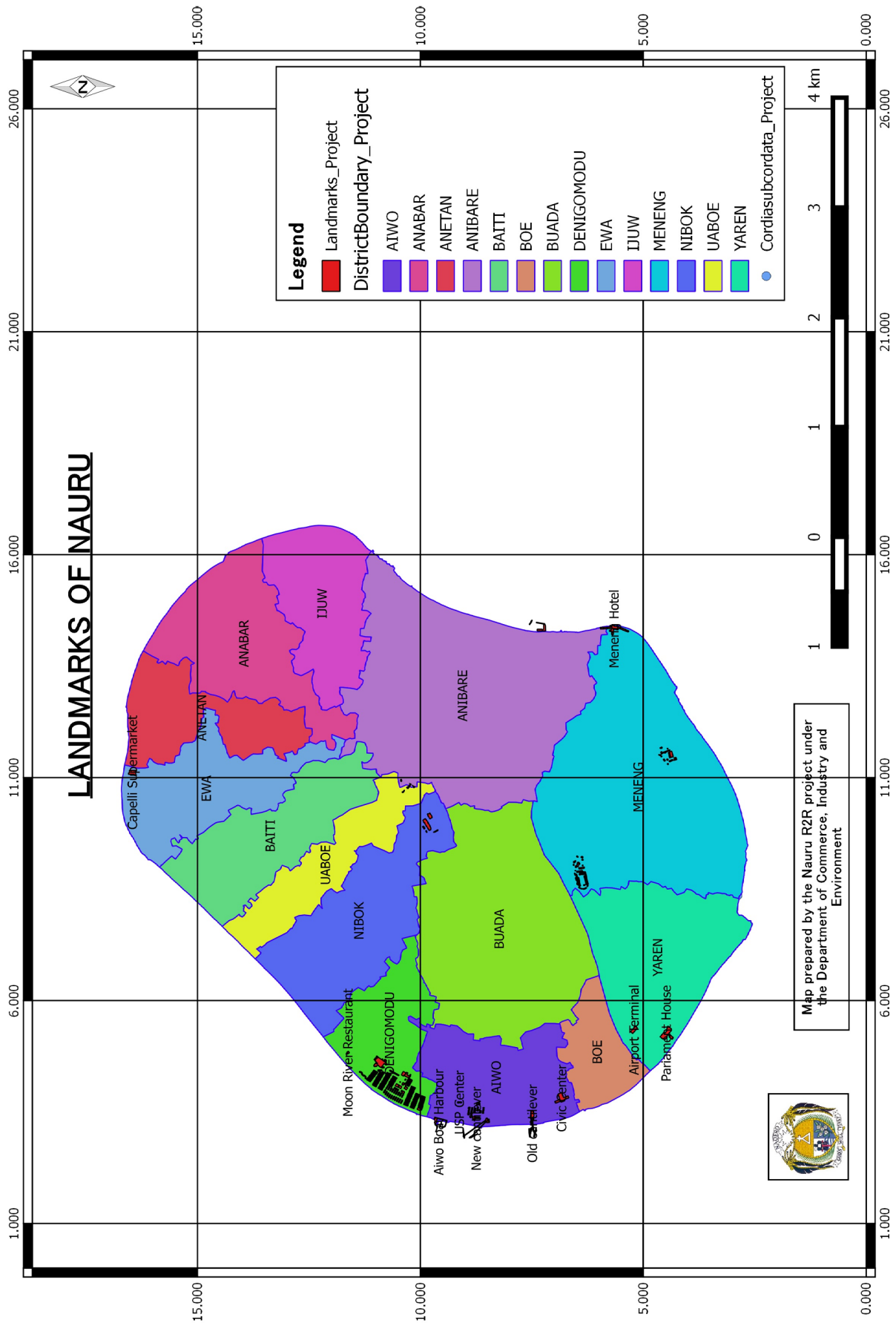
Annex 5.2 - ^{identifying} and prioritizing technologies for mitigation

<https://drive.google.com/file/d/1ajw27ksggJv1CjwXGiF-RbfVgWB0bF9I/view?usp=sharing>

Annex 5.3 - Identification and Engagement of Stakeholders in the TNA Process

<https://drive.google.com/file/d/1VMh0ADAwSNiwuCGDvEBT9l2u-bEhtbIJ/view?usp=sharing>

Annex 6 Map Landmarks of Nauru



Annex 7

SPREP GCF WORKSHOP

<https://drive.google.com/file/d/1LrU2mC-zjYIt-nvUe-7pSgpAllUgdjHm/view?usp=sharing>

Annex 8

SPREP MEA WORKSHOP

<https://drive.google.com/file/d/1BVMxwSwNRTaOYkxQkW5c8L52Qb9fpPm/view?usp=sharing>

Annex 9

WASTE MANAGEMENT SITE

https://drive.google.com/file/d/1GDu_SZFMi_7w1Cmg_ixVXrZeniTPPjxT/view?usp=sharing

Annex 10

Email from Project Aid Division Nauru re supporting documents

<https://drive.google.com/file/d/1x2hzlYWHzVb1yZNUtw77A7WfSbezo-Q9/view?usp=sharing>

Nauru IWR2R List of expenditures Signed

https://drive.google.com/file/d/1fCxq3rcikBlfYVlUR8KDE-2_J2B44VDS/view?usp=sharing

Nauru IWR2R updated logframeNov2019-cleaned_Final

https://drive.google.com/file/d/1PT2-_jTCfGDwQv85zBQ0wsXs4joGT16a/view?usp=sharing

Nauru IWR2R Workplan Q4 2019-Q1 2020

<https://drive.google.com/file/d/1MCglZsE2pFo5irO4rFWRg2p5SjS9ISDT/view?usp=sharing>

Nauru_IWR2R_Financial-Report-April-September2019_Ver2 (2)

<https://docs.google.com/spreadsheets/d/1w1NIvO1WPNiZET9eh1He63s57652DkSt/edit?usp=sharing&ouid=103713655250318686328&rtpof=true&sd=true>

Nauru_IWR2R_Oct2019_Mar2020_Workplan_Ver2

<https://docs.google.com/spreadsheets/d/1jXTMhnw9qIBgJFoJPCk8dS7epiyCWEj/edit?usp=sharing&ouid=103713655250318686328&rtpof=true&sd=true>

Nauru_IWR2R-MYCWP_VersionNov2019_Ver2

<https://docs.google.com/spreadsheets/d/1lQ00i1qgnGOWjIybFpDBeslCwzGpY1b9/edit?usp=sharing&ouid=103713655250318686328&rtpof=true&sd=true>

Nauru Letter of Variation

https://drive.google.com/file/d/1jDJGc_-mSkWdKyOyjbh5w46uMqoUFfkv/view?usp=sharing

Annex 11

Nauru IWR2R project webpage

<https://www.pacific-r2r.org/partners/member-countries/nauru>