

GEF PACIFIC
RIDGE TO REEF PROGRAMME

REPUBLIC OF THE MARSHALL ISLANDS



NATIONAL R2R PROGRAMME
DOCUMENT



GEF Pacific RIDGE TO REEF Programme

Pacific Islands Ridge-to-Reef National Priorities – Integrated Water, Land, Forest and Coastal Management to Preserve Biodiversity, Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries

FOREWORD

The Heads of States of 13 Pacific SIDS developed and in 1997 endorsed a GEF International Waters Strategic Action Programme (SAP) for Pacific Island Countries. That document identified priority areas for action in the international waters focal area as improved management of ocean and coastal fisheries, integrated watershed and coastal management, and water supply protection. On the basis of the Pacific SAP, the GEF International Waters focal area has subsequently invested in a series of regional initiatives. The first was the UNDP implemented project entitled “Implementation of the Strategic Action Program for the International Waters of the Pacific Small Island Developing States” initiated in 2000 and operated over almost 7 years to 2006.

In light of the critical water resource and sanitation issues facing Pacific SIDS, GEF support in the years following the conclusion of the IWP project has been targeted at improved coordination and planning of water resource and wastewater management to balance overuse and conflicting uses of scarce freshwater resources through the GEF Pacific IWRM Project. The latter was financed by the GEF, implemented by UNDP and UNEP, and executed regionally by the Geoscience Division of the Pacific Community (SPC) in partnership with 14 Pacific Island Countries.

The GEF Pacific IWRM Project built on achievements of previous investments via a focus on national IWRM demonstration projects aimed at providing an opportunity for participating countries to implement, and experiment with, new management models and methods. The practical on-the-ground solutions to water and sanitation issues demonstrated by the national IWRM projects acted to stimulate support at both community and national government levels for policy reform and the mainstreaming of integrated approaches as part of national sustainable development planning.

The experience and local capacity in integrated environmental and natural resource management generated through the GEF Pacific IWRM project has been recognized both regionally and within the 14 participating Pacific Island Countries as an appropriate entry point for the testing of innovative approaches and measures to integrate land, forest, water and coastal management, including climate change adaptation in Pacific SIDS. In this connection, the GEF multi-focal area, multi-GEF agency programme entitled “Pacific Islands Ridge-to-Reef National Priorities – Integrated Water, Land, Forest and Coastal Management to Preserve Biodiversity, Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods” (or the GEF Pacific R2R Programme) was developed to provide an opportunity for Pacific SIDS to develop and implement truly integrated approaches for the sustainable development of island economies and communities. Programme activities are organised under the following programme components:

- ✓ National Multi-Focal Area Ridge-to-Reef Demonstrations in all Pacific Island Countries
- ✓ Improved Governance for Integrated, Climate Resilient Land, Water, Forest and Coastal Management
- ✓ Regional and National/Local Ridge-to-Reef Indicators, Monitoring and Evaluation and Knowledge Management
- ✓ Regional Programme Coordination

This National Programme Document summarizes the development of integrated approaches to water resource and coastal management in the Republic of Marshall Islands (RMI) to date, including examples of specific results and lessons learned achieved through integrated approaches to environmental and natural resource management. Importantly, this document presents information about the interlinked GEF R2R STAR and GEF International Waters R2R Projects, including programme support activities which focus on science-based planning, human capital development, policy and strategic planning, results-based management, and knowledge sharing.

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INTRODUCTION

Given the close inter-connections between land, water and coastal systems in Small Island Developing States (SIDS), the integration of freshwater watershed management with coastal area management is considered essential to foster effective cross-sectoral coordination in the planning and management of land, water and coastal uses.

In Pacific SIDS, such integrated approaches to freshwater and coastal area management have been termed 'Ridge to Reef' to emphasise the inter-connections between the natural and social systems from the mountain 'ridges' of volcanic islands, through coastal watersheds and habitats, and across coastal lagoons to the fringing 'reef' environments associated with most Pacific SIDS.

Inherent in the approach is the philosophy of cross-sectoral coordination in the planning and management of freshwater use, sanitation, wastewater treatment and pollution control, sustainable land use and forestry practices, balancing coastal livelihoods and biodiversity conservation, hazard risk reduction, and climate variability and change.

Similarly, the integration of communities, stakeholders, and national governments within such a cross-sectoral planning framework is described by Pacific SIDS as a 'Community to Cabinet' approach.

The following sections summarize achievements to date in the development of 'Ridge to Reef' and 'Community to Cabinet' approaches to integrated natural resource and environmental management in RMI. An overview of the purpose of the Ridge to Reef Programme, its GEF R2R STAR Projects and GEF International Waters Projects is also provided.



1. RIDGE TO REEF CONTEXT

This section provides a brief background of the geography and environmental threats in RMI. This information has been used as the basis for the identification of priority activities for the testing of 'Ridge to Reef' approaches to integrated land, water, forest and coastal management in RMI.



2. COMMUNITY TO CABINET APPROACH

Community to Cabinet is a multi-stakeholder approach adopted in the Pacific Small Island Developing States to foster strengthened coordination and stakeholder involvement in the planning of investments in integrated natural resource and environmental management. This section outlines existing mechanisms for 'Community to Cabinet' coordination in RMI.



3. RIDGE TO REEF RESULTS

Pacific leaders have called for a strengthened emphasis in results-oriented sustainable development planning. This section benchmarks the main results of efforts to develop integrated management approaches in RMI to date.



4. DOING IS SEEING THE NEED

The GEF Pacific Ridge to Reef programme embraces the 'Doing is Seeing the Need' philosophy adopted by the GEF Pacific R2R Programme. A story board of images is presented to provide examples of best practices in integrated natural resource and environmental management.



5. LESSONS FROM INTEGRATION

Human resources are central to the sustainable development of Pacific SIDS. This section presents experiences and lessons learned in integrated management by practitioners and stakeholders. The focus of these lessons is on the capacity built for integrated management and the related results.



6. GEF PACIFIC R2R PROGRAMME

An overview of the "Pacific Islands Ridge-to-Reef National Priorities – Integrated Water, Land, Forest and Coastal Management to Preserve Biodiversity, Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods" (or GEF Pacific R2R Programme) is provided in this section. Information about the interlinked GEF R2R STAR and GEF International Waters R2R Projects, and Programme Coordination Unit, is also presented.



7. MARSHALL ISLANDS R2R STAR PROJECT

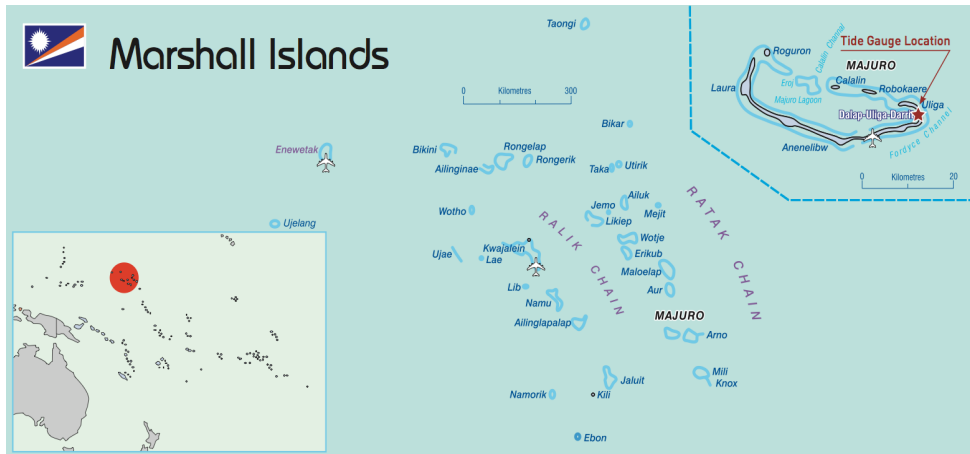
A summary of RMI's national project to be financed through the GEF System for Transparent Allocation of Resources (STAR) is provided in this section. The planned contribution of this STAR project to the achievement of the targets for the regional Ridge to Reef program is outlined. The management arrangements for this project are also provided.



8. INTERNATIONAL WATERS R2R PROJECT

Priority actions identified for testing the integration of water, land, forest and coastal management to preserve ecosystem services, store carbon, improve climate resilience and sustain livelihoods in RMI are outlined. A brief strategy for RMI IW R2R national pilot project is provided along with the logical framework matrix. Key assumptions and risks are summarized to guide planning during the project's inception period.

1. RIDGE TO REEF CONTEXT



Country:	Republic of Marshall Islands
Size:	180 km ²
Population:	68,000
Population growth:	0.7%
Density:	343/km ²
GDP:	USD 115 million
Growth Rate:	1.9%
Gross National Income:	USD 2,900

The Republic of the Marshall Islands (RMI) consists of two chains of 29 coral atolls and 5 separate atolls in the North West Pacific. The southern atolls are characterised by lush vegetation more so than the northern atolls. The majority of the population lives on the two atolls of Majuro and the island of Ebeye in Kwajalein.

Through consultative processes, Laura Village on Majuro was identified as a high priority site because of its groundwater lens. Laura is the third largest population centre and the groundwater supplies 100,000L of water per day to the capital centre of Majuro. Through years of ineffective management it now faces many threats to its quality and quantity.

For the RMI as a whole, the supply of natural freshwater is severely limited. The primary source of freshwater is rain, which due to the low elevation of the atolls and islands soaks directly into the soil and disperses into saltwater that permeates atoll subsoils. In some favourable locations some of the freshwater may accumulate in a lens which floats on the saltwater below and can be accessed with wells.

There is a significant groundwater lens at Laura Village on Majuro that is used to supply a large proportion of the capital's freshwater needs. Other sources of freshwater include community and household rainwater harvesting, desalination and importation, particularly during times of drought. Ebeye has insignificant groundwater supplies and relies almost entirely on rainwater and desalination.

Insufficient and irregular water supplies are a major concern and throughout RMI supply is not meeting demand. On Majuro the Majuro Water and Sewers Company rations water so that it is only available at certain times and on certain days, drawing water from the groundwater lens at Laura. On Ebeye, water supply is so inconsistent that households often have to resort to hand carrying jugs of water from the Kwajalein base dock across the lagoon.

Contamination is also a major threat to the critical groundwater supplies and coastal ecosystems. In recent years the Environmental Protection Agency (EPA) has increased its water quality testing and has found that a large percentage

of household catchments in both rural and urban areas are contaminated. These findings are supported by a high and increasing prevalence of water-related diseases such as dysentery, diarrhea, worms and skin and eye conditions.

Sources of contamination include unsanitary roof and guttering systems, animal and human waste and solid waste. In Laura there is increasing concern over the use of agricultural chemical and seepage of poorly constructed or maintained septic systems and piggery waste entering the groundwater lens.

Sanitation severely lags behind water with only 70% improved coverage. Despite a law mandating the use of toilets many households are without improved toilets, with a significant proportion of the population defecating in the open. Additionally both urban sewer systems on Majuro and Ebeye dispose raw sewage directly into open water adjacent to populated areas, severely impacting the environment and public health.

This trend is especially concerning in dense urban areas and in areas above freshwater groundwater lenses. In these areas there is high potential for contamination of critical resources and disease outbreak.

The above issues have begun to be addressed through the cross-sectoral planning and management initiatives of the GEF Pacific IWRM Project. Needs still exist and have been identified within a Ridge to Reef context.

These needs include refined application of locally appropriate on-site waste management systems. This needs to be combined with improved community understanding of waste management issues and increased donor support for householder uptake of on-site sanitation systems.

Needs have also been identified for the integration of targeted scientific investigation on coastal and land ecosystem processes, local knowledge and strategic partnerships to strengthen knowledge base for key evidence-based Integrated Coastal Management planning and investment.

2. COMMUNITY TO CABINET APPROACH

There is a growing recognition in the Pacific region of the need for partnerships, alignment of donor support with national priorities, and country ownership in the development of results-oriented programs and projects. The Pacific leaders recently emphasized these needs noting the well-known challenges Pacific Island communities face in fashioning sustainable futures. These include geographical isolation, high levels of dependence on natural resources for nutritional security and livelihoods, and a highly variable environment characterized by numerous coastal hazards.

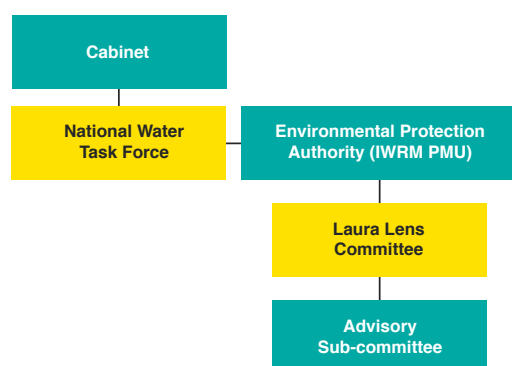
The above combined with considerable variation in island geomorphology, socio-economics and politics make locally-driven solutions to key issues influencing island sustainability and resilience a necessity. Of particular note are the complex land and marine tenure systems and institutional relationships between national and community-based governance structures. While the Pacific SIDS have largely adopted western-style constitutions and legal systems, such community-based governance and leadership arrangements remain highly influential at all levels. Accordingly, the participation of civil society organizations and community leaders in development planning is essential to increase the local relevance of management actions and their results in SIDS. The following outlines existing cross sectoral coordination arrangements and efforts to engage stakeholders in sustainable development planning.

Strengthening Cross-sectoral Coordination and Planning

For the development and advancement of water legislation the IWRM Project Unit saw the need for a functional APEX Body. In 2008 the National IWRM Taskforce had been established and this body was revitalised under the GEF Pacific IWRM Project. This was done to strengthen national coordination in the water and sanitation sector and to work towards the development of a National Water and Sanitation Policy and IWRM Plan.

The IWRM Taskforce comprised of officials from government and non-government organisations, and executive members of the Laura Integrated Water and Land Management Advisory Committee. Broad representation of all stakeholders was encouraged, particularly high level representations from each government ministry through the assistance of the Office of Chief Secretary. Once established, a key initiative of the National IWRM Task Force was the organisation and conduct of a National Water Summit from 22nd-23rd March 2011

The GEF Pacific IWRM Project on-ground demonstration activities were integral to the development of the RMI Water and Sanitation Policy. The development process included a national water summit that convened on March 2011 capturing the community needs in terms of water and sanitation. The RMI Water and Sanitation Policy was endorsed by Cabinet in early 2014.



National governance arrangements are shown for the water sector.
National committees are highlighted in yellow

Linking Local and National Coordination

A start-up committee for the GEF Pacific IWRM Project was first established in 2009 with members limited to traditional leaders, major landowners and Council officials. Following the establishment of the Project Management Unit in 2010 membership was expanded to include all community members with the aim of introducing the project goals and objectives to the wider community.

Key stakeholders raised the idea of formalising this group as the mechanism for overseeing the implementation of the RMI IWRM Project. The Laura Integrated Water and Land Management Advisory Committee, referred to locally as the Laura Lens Committee, was established in 2010. Regular engagement of traditional leaders, landowners, and Laura residents with government through the operation of the community-based Laura Lens Committee has assisted with developing a common understanding and trust between the community, with on average 12 community leaders meeting on a quarterly basis with government.

Stakeholder Engagement

RMI's national pilot project of the regional R2R IW project will work to: generate local and national support for integrated R2R approaches; establish linkages, synergies and mechanisms for learning exchange, particularly between and among community leaders and project stakeholders of the national GEF System for Transparent Allocation of Resources (STAR) projects planned under the broader Ridge to Reef programme; develop local experience in linking IWRM to coastal area management; and stimulate cross-sectoral participation in the planning of coordinated investments in land, forest, water and coastal management in the participating countries. Given the range of stakeholders identified above, the preparation phase of the regional R2R IW project in RMI has been based on a consultative process involving national government agencies, community representatives, and civil society organizations. Stakeholder inputs elicited during the preparation phase have been incorporated in the results framework for the pilot project included in the final section of this document.

Ridge to Reef stakeholders

- Traditional Leaders (Chiefs and Landowners)
- Women's Groups
- Chief Secretary's Office
- Economic Policy Planning and Statistics Office
- Majuro Atoll Local Government
- Majuro Water and Sewer Company
- Ministry of Foreign Affairs
- Ministry of Health
- Ministry of Resources and Development
- Ministry of Finance
- Office of Environmental Planning and Policy Coordination
- Women United Together in the Marshall Islands
- National Weather Service
- Majuro Atoll Waste Company
- Food Security Sustainable Livelihood Project
- Marshall Islands Conservation Society
- College of the Marshall Islands
- Environmental Protection Authority

3. RIDGE TO REEF RESULTS

The need for results-based approaches to the management of development assistance programmes and projects has received recent high-level recognition. In adopting the Paris Declaration on Aid Effectiveness in 2005, national government Ministers responsible for development from both developed and developing countries joined with Heads of multilateral and bilateral development institutions in committing to "work together in a participatory approach to strengthen country capacities and demand for results-based management".

This commitment was reaffirmed in the 2008 Accra Agenda for Action which called for accelerated progress on aid effectiveness by better demonstrating the results of development efforts and openly accounting for them. The Pacific Islands region and its development partners have responded accordingly. For example, in 2012 the Pacific Leaders considered a review of the effectiveness of development efforts in the Pacific and called for strengthened emphasis on results in planning and financing development. The following benchmarks the main results of efforts to develop integrated management approaches in RMI to date.

PROCESS

Multi sectoral APEX body established

There was no APEX body for water in the RMI. RMI's National IWRM Task Force was established by Executive Order and included membership off all relevant community and traditional leaders, national government departments, local governments, private sector and NGOs. The Task Force actively lead coordination, policy development, and planning.

Increased sectoral engagement in formal multilateral communication on water related issues

In RMI there was limited cross sectoral engagement or communication on water issues. The National IWRM Task Force established the forum for this and, with Secretariat support for this group provided through the IWRM, up to 30 different agencies from national and local government, representatives of NGOs, and community leaders met on a quarterly basis to discuss national water and sanitation policy and IWRM planning, review the status of various water related investment in the Marshall Islands, and to share information on the results of various stress reduction technologies trialed as part of the IWRM demonstration project.

Minutes of the meetings of National IWRM Task Force indicated a high level of continuity of participation by senior representatives of the participating agencies in these meetings.

Increase in community engagement with national government on water related issues

The relationship with the Laura community and national government was tenuous due to a history of dispute over water resource access and allocation. Prior to the IWRM project, only 2 community group representatives occasionally took part in government workshops.

Regular engagement of traditional leaders, landowners, and Laura residents with government through the operation of the community-based Laura Lens Committee assisted with developing a common understanding and trust between the community, with on average 12 community leaders meeting on a quarterly basis with government.

Laura Lens Integrated Water and Land Management Advisory Committee

There existed no mechanism for local community stakeholders, including landowners and traditional leaders to contribute to planning and management of water resource use and sanitation in the area of the Laura groundwater lens. The target of the IWRM project was to establish a local coordinating committee to enable community input to planning at both local and national levels and to establish a formal linkage between local stakeholders and the National IWRM Task Force.

Terms of Reference and membership for a Laura Lens Integrated Water and Land Management Advisory Committee (or Laura Lens Committee) were developed, considered by the 2011 National Water and Sanitation Summit, and subsequently endorsed by the Chair of the National IWRM Task Force. The Committee was in operation since 2011 and acted to guide planning of local stress reduction initiatives and provides inputs to national policy and planning.

Increase in the proportion of community engaged in water related issues

Community engagement in awareness activities and on-the-ground work for environment and natural resource management was largely limited to solid waste management prior to the commencement of the IWRM demonstration project.

The IWRM project aimed to achieve a 30 percent increase in community participation in both water and sanitation related awareness and engagement activities. This was achieved by development and operation of a targeted water resource protection awareness program which was mainstreamed into the routine operations of RMI EPA. Supporting initiatives included the active participation of 33 households in testing dry litter pig pens and eco-sanitation toilets in the Laura community.

Best IWRM and Water Use Efficiency (WUE) defined

A consultant was engaged to identify IWRM and WUE needs for the Marshall Islands. Although these had not been considered by communities or relevant agencies of government. The target was to have the approach defined and endorsed by national APEX body. Via the operation of a national consultation process, involving communities and women's groups, priorities for and steps towards institutionalizing IWRM approaches in the RMI were developed and endorsed by the National IWRM Task Force.

Best approaches to IWRM and WUE mainstreamed into national and regional planning frameworks

RMI had no strategy or agreed approaches to water and sanitation policy. The IWRM project aimed to define targets

and priority actions for IWRM aimed at strengthening national coordination and reducing stress on vulnerable water resources for mainstreaming into national and regional planning frameworks. An intensive consultative process, involving broad cross-sectoral and community participation, enabled the definition of best approaches for water and sanitation management which were subsequently incorporated in the draft National Water and Sanitation Policy and IWRM Plan. National priorities were used in broader regional efforts during 2012-2013 to revise the Regional Action Plan for Water and Sanitation.

Lessons learned incorporated into other national regulations

The Majuro Atoll Local Government (MALGOV) ordinances human and pig waste management and the RMIEPA regulations for household toilets require the use of septic systems at each household in the Laura community. Limited resources for septic pump-out and disposal had led to overloaded septic systems contaminating the Laura water lens. The project demonstrated alternative, locally appropriate technologies for the management of pig-waste (dry-litter pig pens) and human waste (eco-sanitation composting toilets) in the Laura community. The Laura lens committee for the project initiated efforts with MALGOV and RMIEPA to amend local government ordinances and national regulations to encourage the use of dry litter pig pens and eco-sanitation toilets in place of septic systems.

STRESS REDUCTION

Reduction in sewage pollution in Laura Community

At the time of project inception, there was no system in place for reducing sewage pollution in Laura. Many household septic systems were overloaded and broken. The target of the project was to have 35 percent reduction in sewage pollution of the lens from households. The survey of septic waste identified 117 broken and overloaded septic systems requiring immediate pump-out. Throughout the IWRM Project approximately 40% of these septic systems were remediated.

Reduction in pollution sources discharging into the Laura groundwater

There was no action underway for reducing pollution discharges into Laura groundwater. The number of households and pollutant sources were identified and characterized. Pollution from pig waste was identified as a major source. Preliminary work was done to remediate a large broken pig waste septic at a commercial piggery and conversion of its operation to a dry litter system, and conversion of 30 household pig pens to dry litter system from typical water intensive wash down pens. An eco-san compost toilet pilot activity was undertaken in the Laura community, with 3 pilot systems constructed at prominent locations in Laura community. The national IWRM Plan for RMI is being developed and contains targeted costed

actions for pig waste management and eco-san replication and scaling-up.

Increased population with access to improved sanitation

Before the IWRM Project there was no monitoring of the status of sanitation systems in the Laura community. Routine monitoring of well water quality and resultant e.coli data had indicated significant risk of waterborne disease. Priority targets of the project were to conduct an assessment of the state of sanitation at the project site and to initiate a monitoring programme to identify septic system remediation and sludge disposal needs. Based on the results of this assessment, the project initiated a partnership with the Majuro Water and Sewer Company for the routine pump-out of septic systems. This resulted in almost 40 percent of overloaded septic systems being remediated. Subsequent surveys of well water quality indicated significant reduction of e.coli in the Laura lens groundwater. This was augmented with efforts to promote eco-sanitation approaches within the community.

Reduction in use of freshwater for sanitation uses

There was limited understanding of the volumes of water used for sanitation at the household level. The IWRM project aimed to provide practical demonstrations to householders in the Laura community of how to reduce household water use by 30 percent through the use of eco-sanitation composting toilets.

Technical exchange with the Tuvalu IWRM project enabled the construction of 3 demonstration toilets at key locations within the Laura community. It was estimated that these households reduced water use by 40 percent through the use of composting toilets instead of flush systems. These reductions in water use were augmented by the conversion of wash-down pig pens to waterless dry litter pig waste management systems at 30 households in the community.

4. DOING IS SEEING THE NEED

The GEF Pacific IWRM project acted as a valuable entry point for strengthening integrated approaches to natural resource management in Pacific SIDS.

Existing national coordination mechanisms involving operation of inter-linked national APEX bodies for IWRM and local coordinating committees for IWRM demonstration projects have been effective in guiding stress reduction in the water and sanitation sector and driving reform of national IWRM policy and planning.

That project also acted as a valuable entry point for capacity development, helping to foster application of interdisciplinary skills and local knowledge and integrating this into monitoring and evaluation to ensure that causes of

environmental stresses and the results of interventions are understood by stakeholders.

A need exists, however, to scale up the GEF Pacific IWRM approach to strengthen the integration of land, water and coastal management to better accommodate issues associated with biodiversity conservation, to build on synergies between investments in IWRM and sustainable forestry practices, and to strengthen the sustainable management of coastal 'blue forests' from the perspectives of hazard risk reduction, ICM application, and livelihoods.

The Pacific Ridge to Reef programme embraces the 'doing is seeing the need' philosophy adopted by the IWRM project via the promotion of pilot activities aimed at generating local and national support for integrated Ridge to Reef and Community to Cabinet approaches and to establish linkages, synergies and mechanisms for learning exchange, particularly between and among community leaders and project stakeholders.

Pilot activities will also develop local experience in linking IWRM to coastal area management and will stimulate cross-sectoral participation in the planning of coordinated investments in land, forest, water and coastal management in the participating countries.

The related and linked national STAR projects will deliver the targets of the overall programme relating to strategic objectives of the GEF biodiversity, climate change mitigation and adaptation, land degradation, and sustainable forestry management focal areas.



Stress reduction technologies that reduce nutrient and pathogen loads and decrease the amount of water used at household level



5. LESSONS FROM INTEGRATION

Engaging with influential members of the community also helped the uptake of the technologies

Regional knowledge sharing builds community acceptance of waste management solutions

By Julius Lucky, IWRM Project Manager

The main issue facing groundwater in the Laura Lens is the amount of contaminant being discharged into our only freshwater resource making it nearly impossible for human consumption. The two main sources of contaminants are human and animal wastes that have not been dealt with over the years, resulting in high levels of nutrients and pathogens. To reduce this contamination, we explored the options of compost toilets and dry-litter piggeries.

The project proposed that these disposal systems be trialled at Laura Village. Councilwoman Joubon Kabua said of the decision, "It is about time, we need more to help sustain our natural water resource". Initially the Laura community was reluctant to accept and trial these systems at the household level because of negative perceptions that they would smell, that they can't be clean without using water, and the perception of a compost toilet being a step down from a flush toilet. We needed to present to people the technical operation of the systems and to let them see and understand the benefits they could provide, both at the household and environmental level.

For the compost toilets we engaged the IWRM project manager from Tuvalu, Pisi Selganiu, to share his knowledge and approach to introducing compost toilets. Pisi had been successful at raising community acceptance of the toilets through hands-on engagement. Together with local community members we built a demonstration toilet. Through community-led discussions about the systems and continuous knowledge sharing from the IWRM team, community perceptions began to change. This led to the willingness of several households to trial the ecosan system at their homes.

Glen Fukumoto of the University of Hawaii, introduced the dry-litter system to us after successful implementation at various sites around the Pacific region. Again we approached those households that had domestic pigs and a commercial piggery, and discussed with them the impact that wash-down piggeries were having on the environment. Through open discussion we presented the alternative dry-litter solution and described its operation and benefits. We soon had many households on board to trial the system.

Local community members were contracted to construct the toilets and dry-litter pens to encourage community ownership, and increase technical construction skills and knowledge of how the system works. This was the turning point for these projects as when construction commenced, more community members became aware, asked questions and were eager to install the systems at their homes. To date, three compost toilets, thirty portable dry-litter pens, and a commercial dry-litter pen have been constructed around Laura Village. Many more are being requested as people notice the benefits their neighbours are experiencing by using them and become more aware of the importance of keeping the lens free from contaminants.

This experience has shown me the importance of gaining community support when introducing new technologies that significantly impact on how people go about their day-to-day lives. Engaging with influential members of the community also helped with uptake of the technologies. As Chief Iroj Leikman Zedkaia said to many community members "I support this project and will continue to for I know the outcomes that will be beneficial for the people of Laura", showing his support for a sustainable way forward and encouraging others to do so.

The project team and I realised that a combination of open discussion and on-the-ground construction led to the most positive outcome. Discussion alone wasn't enough and people needed to see and understand the final product in order to make an informed decision to support the project or not. We are now having more and more requests everyday for assistance in building dry-litter. We are starting to notice a difference in the contaminant levels of the Laura Lens and a reduction in odour from domestic pig-pens. Now many households have signed up to construct compost toilets.

Champion brings gender mainstreaming to the forefront of IWRM planning

By Julius Lucky, IWRM Project Manager



Influential members of the community at the 2011 Water Summit

At the start of the IWRM project in 2009, women's groups were not well represented at the planning level or during on-the-ground activities. In a way this is then only half the community that is being engaged and women's concerns are not being truthfully represented in the projects direction. In order to engage more women the IWRM team felt they need to engage a female water champion who could promote IWRM through the women's groups and so more women would feel comfortable to become involved.

The President of the time was Jurelang Zedkaia and his wife Hannah Zedkaia was the First Lady. She is well represented in her own right at the higher level of society and the people of RMI look up to and respect her. She has power and sway and people will listen to her if she gets behind a cause. The IWRM focal point approached the First Lady and described the project and the objectives of trying to provide safe water and improved sanitation for the community of Laura, and asked her if she would agree to become the Water Champion for RMI. First Lady Zedkaia agreed to take on the role because she felt that it is part of her duties and that it is a good cause for her to support. She felt that women ought to be more involved in the project design and direction as they represent as significant part of RMI society and need to included.

"As the representative of my fellow female Marshallese I was proud to be engaged as the Water Champion for the first ever National Water Summit. Through this role I was able to encourage more women to attend and share their thoughts and concerns about our state of water and sanitation, their thoughts are valuable as they are primary care-givers of our families and understand the situation all too well. It is important for women to be involved at this high level event as they are often left out and so policies do not adequately address them." – First Lady Hannah Zedkaia

Prior to the water summit First Lady Zedkaia was engaged as the Water Champion to bring in more women's groups so that their voices could be heard in the development of the water policy. The Women United Together Marshall Islands group became heavily involved during the summit because of First Lady and also more local Laura Community felt confident to attend and voice their issues and concerns at the summit. So now in the water and sanitation policy women and gender are explicitly mentioned in regards to safe access to water supplies and sanitation. This is through the dedicated involvement of the Water Champion uniting the women of Majuro to attend and participate in the National Water Summit.

6. THE GEF PACIFIC RIDGE TO REEF PROGRAMME

The GEF Pacific Ridge to Reef (R2R) Programme was developed to guide the strategic investment of GEF grant and national funding in actions aimed at achieving the sustainable development of Pacific SIDS within a truly integrated environmental and natural resource management framework.

A GEF Multi-Focal Area Approach

Initiatives of the R2R programme aim to deliver tangible and quantifiable global environmental benefits by focusing on a more cross-cutting approach to water, land and coastal management that captures the complementarities among the following GEF focal areas



A Multi-GEF Agency Approach

The GEF Pacific Ridge to Reef Programme is a multi-agency initiative involving the United Nations Development Programme (UNDP), the United Nations Food and Agriculture Organization (FAO), and the United Nations Environment Programme (UNEP) as GEF implementing agencies. Coordination support is provided by the Pacific Community (SPC), a regional intergovernmental organisation that works with Pacific Nations across a wide range of areas relevant to programme implementation, including water resource management, geoscience for development, public health, forestry, fisheries, disaster management, youth, gender and culture.

R2R Programme Goal and Components

The goal of the GEF R2R programme is “to maintain and enhance Pacific Island countries’ ecosystem goods and services (provisioning, regulating, supporting and cultural) through integrated approaches to land, water, forest, biodiversity and coastal management that contribute to poverty reduction, sustainable livelihoods and climate resilience”. Programme activities are organised under the following components:



GEF R2R STAR Projects

Significantly, the programme involves the execution of 13 GEF R2R STAR1 projects which address national priorities and development needs while delivering global environmental benefits in line with the abovementioned GEF focal area strategies.

These UNDP, UNEP and FAO implemented projects are executed nationally on a bilateral basis in partnership with local stakeholders. To ensure cohesion, complementarity and efficiency of GEF investments under the R2R programme, each GEF R2R STAR project has been provided US\$175,000 of International Waters (IW) funding in addition to their national STAR allocations.

The intent of this IW funding increment is to enable effective linkages with the GEF International Waters R2R project, the adoption of integrated approaches aimed at addressing critical water-related issues, and intra-regional capacity building and knowledge sharing.

GEF International Waters R2R Project

The operation of the R2R programme is supported in areas of science-based planning, human capital development, policy and strategic planning, results-based management, and knowledge sharing through the International Waters R2R project which is executed regionally by the Pacific Community. R2R pilot projects, to be implemented through the R2R IW project, are designed to strengthen R2R integration by establishing synergies among the work of the various sector agencies and the GEF R2R STAR Projects, between governments and communities, and civil society and the private sector.

Programme Coordinating Unit

The Programme Coordinating Unit (PCU), hosted by the Pacific Community's Geoscience Division in the Fiji Islands, is tasked with the provision of technical, operational, reporting and monitoring support as requested by the participating Pacific Island Countries.

The PCU also facilitates the consolidation and sharing of sectoral knowledge and expertise to support the uptake of best-practice management approaches in policy-making and planning. Led by the Regional Programme Coordinator, the PCU possesses multidisciplinary expertise, including administration and financial management officers, to support programme coordination.

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The Global Environment Facility's System for the Transparent Allocation of Resources (STAR)

7. RMI'S NATIONAL R2R STAR PROJECT

Reimaanlok- Looking to the Future: Strengthening natural resource management in atoll communities in the Republic of Marshall Islands employing integrated approaches.

To sustain atoll biodiversity and livelihoods by building community and ecosystem resilience to threats and degrading influences through integrated management of terrestrial and coastal resources.

Component 1: Expanding and Sustaining RMI Protected Areas Network

Outcome 1.1 Conservation areas delineated, declared and efforts sustained in up to 5 priority atolls to meet Reimaanlok targets and contributing to the Micronesia Challenge Aichi targets.

Component 2: Improved Governance for Integrated Atoll Management

Outcome 2.1 Supportive policies, institutions and communities in place to ensure successful completion of the Reimaanlok vision.

Component 3: Knowledge Management

Outcome 3.1 Accessible data and information systems and improved linkages and collaboration with regional initiatives to support adaptive management of the biodiversity in RMI

INFORMATION BOX

GEF Agency: UNDP
 National Lead Agency: SPREP
 Funding Source: GEF Trust Fund
 GEF Focal Area: Multi-Focal Area
 Indicative Grant Amount: \$4,077,981
 Indicative Co-financing: \$3,500,000
 Approval Date: 2015

8. GEF PACIFIC INTERNATIONAL WATERS R2R PROJECT

This regional project will support 14 Pacific Island Countries in the development of “Ridge to Reef” and “Community to Cabinet” approaches designed to guide the integration of water, land, forest and coastal management required to fashion sustainable futures for island communities.

The project also aims to address the recent high-level recognition and calls for results-based approaches to the management of development assistance programmes and projects, and will provide support in areas of coordination, capacity building, technical assistance, and monitoring and evaluation for the operation of the GEF Pacific Ridge to Reef Programme. Components and outcomes of this programme are:

<p>Component 1: National Demonstrations to Support R2R ICM/IWRM Approaches for Island Resilience and Sustainability</p> <ul style="list-style-type: none"> • Successful pilot projects testing innovative solutions involving linking ICM, IWRM and climate change adaptation • National diagnostic analyses for ICM conducted for prioritizing and scaling-up key ICM/IWRM reforms and investments • Community leader roundtable networks established for strengthened ‘community to cabinet’ ICM/IWRM
<p>Component 2: Island-based Investments in Human Capital and Knowledge to Strengthen National and Local Capacities for R2R ICM/IWRM approaches</p> <ul style="list-style-type: none"> • 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 • PIC knowledge on climate variability, coastal area planning in DRM, integrating ‘blue forest’ and coastal livelihoods consolidated and shared to support evidence-based coastal and marine spatial planning • Incentive structures for retention of local ‘Ridge to Reef’ expertise and inter-governmental dialogue on human resource needs for ICM/IWRM initiated
<p>Component 3: Mainstreaming of R2R ICM/IWRM Approaches into National Development Planning</p> <ul style="list-style-type: none"> • National and regional strategic action frameworks for ICM/IWRM endorsed nationally and regionally • Coordinated approaches for R2R integrated land, water, forest and coastal management and CC adaptation achieved in 14 PICs • Physical, natural, human and social capital built to strengthen island resilience to current and emerging anthropogenic threats and climate extremes
<p>Component 4: Regional and National ‘Ridge to Reef’ Indicators for Reporting, Monitoring, Adaptive Management and Knowledge Management</p> <ul style="list-style-type: none"> • National and regional formulation and adoption of integrated and simplified results frameworks for integrated multi-focal area projects • National and regional platforms for managing information and sharing of best practices and lessons learned in R2R established
<p>Component 5 - Ridge-to-Reef Regional and National Coordination</p> <ul style="list-style-type: none"> • 5.1 Effective program coordination of national and regional R2R projects

R2R pilot projects, to be implemented through the R2R IW project, are designed to strengthen R2R integration by establishing synergies among the work of the various sector agencies, between governments and communities, and civil society and the private sector. The following pages present the results framework for RMI’s IW pilot project.

INFORMATION BOX

GEF Agency: UNDP
 Regional Executing Agency: SPC - GSD
 National Lead Agency: Office of Environmental Planning and Policy Coordination
 Funding Source: GEF Trust Fund
 GEF Focal Area: International Waters

R2R IW RESULTS FRAMEWORK

Components	Outcomes	Indicator	Baseline	Targets End of Project	Source of Verification	Risks and Assumptions
1. Sustained community adoption of appropriate on-site waste management systems to reduce contaminant impacts on environmental and public health at Laura Village	1.1 Evidence based application of on-site waste management systems through optimal design and operation of systems to meet international standards for water safety and use of human compost in Laura Village	Extent of application of scientific recommendations to improve system designs	Limited understanding of processes of on-site waste management systems and efficacy at reducing contaminant loads to the Laura Lens	Locally appropriate design and management of on-site waste management systems developed through targeted scientific research into composting mechanisms, contaminant reductions and optimal operating conditions to enhance system efficacy	Documents of assessments and monitoring results, analysis and research reports, comparative studies and consultation meeting reports Improved design and construction plans Published scientific paper [Yr 3]	Design and operation of eco-sanitation systems are able to be optimally improved in remote island setting Resources are sufficiently available for reliable analysis of eco-sanitation systems to produce robust scientific results Cost of refined design does not exceed ability to resource
	1.2 Improved community understanding of waste management issues and solutions through enhanced access to effective and appropriate information	Volume of new and additional information available and accessed through the Laura Lens Learning Centre	Limited information materials available through the Laura Lens Learning Centre	The Laura Lens Learning Centre populated with effective and appropriate educational resources	Educational films and documentaries, construction training manuals, system operational guides, compost use guidelines, radio/audio talk shows, toilet owner interviews and advice	Effectiveness of education materials to increase community understanding of waste management issues Resources available to develop education materials
	1.3 Improved donor support for increased household uptake of on-site sanitation systems	Number of GEF Small Grants Programme, USAID and AusAID projects implemented to support household uptake of on-site sanitation systems	Low level of community access to donor funds for implementing domestic on-site waste management systems	Partnerships with GEF Small Grants Programme, USAID and AusAID to strengthen household ability to implement domestic on-site waste management systems	GEF Small Grants Programme, USAID and AusAID project proposals and implementation reports	Suitable community based organisations to assist communities with donor project requirements

Components	Outcomes	Indicator	Baseline	Targets End of Project	Source of Verification	Risks and Assumptions
2. Integrating targeted scientific investigation on coastal and land ecosystem processes, local knowledge and strategic partnerships to strengthen knowledge base for key evidence-based ICM planning and investment	2.1 Enhanced knowledge of linkage between land-use and coastal health and status of coastal habitats in Laura area	Status of data collection programmes for 3 priority sites Uptake of scientific recommendations in ICM planning	Little data available on coastal habitats, links between land-based contaminants and coastal water degradation and coastal habitat status	Ecosystem processes and coastal habitat data collection programmes operational to identify nutrient dynamics and threats from land-based contaminants to coastal waters, causal links to coastal ecosystem degradation and habitat status at 3 priority sites in the Laura area	Monitoring results, analysis and research reports, comparative studies and final evaluation report [Yr 3] Coastal Health Summary for Policy & Planning [Yr 3] Published scientific paper [Yr 3]	Untreated effluent disposal is negatively affecting coastal water quality Resources are sufficiently available for reliable analysis and evaluation of contaminant dynamics to produce scientific results
	2.2 Improved synthesis of information relating to fisheries and water quality status and trends in the Laura area	Volume of information compiled and shared on habitat area and quality; trends in catch size and quality; and trends in coastal and groundwater quality	Limited sharing and linking of data regarding status of fisheries and water quality in Laura area	Partnerships between RMI EPA and Dept. of Fisheries established to share and link data relating to fisheries use and coastal and groundwater water quality	Database of shared and linked information, comparative assessment report	Collaborative agreements between departments can be established Suitable repository can be established and maintained for shared data
	2.3 Strengthened integration of traditional knowledge with scientific investigations	Status of repository and amount of knowledge records collected	Lack of recorded traditional environmental knowledge	Establishment and population of local repository for traditional knowledge on ecosystem processes, historical environmental trends, coastal habitats and fisheries	Online and hardcopy database of knowledge records, participatory interviews, community consultation reports	Adequate internet service to allow staff to update an online database Sufficient traditional knowledge available to populate database
	2.2 Enhanced access to information regarding land use, and status of coastal habitats and fisheries in Laura Village area	Status of the GIS and number of sites described	Lack of relevant GIS data for the Laura area	Targeted GIS on land use and coastal health featuring information on land use, land and coastal sites of waste disposal, status and location of critical marine habitats and fisheries, water quality data and areas of public health concern	Report including maps of land use, pollutant sources, riparian zones, fisheries, coastal habitats, groundwater wells, and water quality of the Laura Water Lens	Adequate internet service to allow staff to update an online database Resources available to undertake and complete GIS mapping

Components	Outcomes	Indicator	Baseline	Targets End of Project	Source of Verification	Risks and Assumptions
3. National and local management planning for integrated land, water and coastal management for sustainable livelihoods at Laura	3.1 Management strategies developed to sustain coastal livelihoods at Laura through inter-agency cooperation	Establishment of a roundtable network of relevant agencies Status of priority issues identification and management interventions agreed upon and committed to	Little inter-agency cooperation of coastal management at Laura area	Consensus amongst relevant agencies and funding bodies (e.g. Fisheries, Health, NGO's) regarding pressing coastal issues, their impact on sustainable livelihoods and required management interventions at Laura, including benchmarking of current and planned projects and financing levels	Round-table meeting reports including list of participants, joint management decisions and participation lists Published management plans and implementation reports [Yr 3]	Existing tensions between agencies may limit participation in a round-table network Unwillingness of participants to openly discuss causes of environmental degradation
	3.2 Causal links between land use and coastal health, and sustainable livelihoods and public health established and understood through integrating current and historical data	Database established and populated with integrated datasets from cooperating agencies	Poor integration of data regarding different aspects of environmental and public health for Laura area	Data gathered through sub-contract agreements with relevant agencies (e.g. Fisheries, Health) to connect aspects of land use and coastal health to livelihoods and public health featuring information on connection to traditional lifestyles and NCD's	Online database of environmental and public health information	Unwillingness of agencies to participate in sharing of information



The GEF unites 182 countries in partnership with international institutions, non-governmental organizations (NGOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives.

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www.spc.int



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