



# GEF PACIFIC IWRM PROJECT RESULTS NOTE

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RSC 4 2012

## Ngerikiil Watershed Restoration for Improved Water Quality



*Members of Airai Men's Community Group Ngaraberas conducting a visual survey of the river for downed trees and bare areas*

### Top 3 Project Results

1. Substantially increased political awareness and support for IWRM, evidenced by His Excellency President Johnson Toribiong participating in Palau's 1st National Water Summit (2011) and endorsing the Palau National Water Policy and national coordination mechanism (2012).
2. Protection and Rehabilitation Ngerikiil Watershed including increase in land area rehabilitated, establishment of buffer zones, mitigation of pollution sources, and leveraging of financing for ongoing watershed conservation
3. Increased collaboration between agencies that manage water which is driving strengthened coordination of investments in water and sanitation activities at National and State levels

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## 1. PROJECT OBJECTIVE

*The objective of the project is project to promote proper watershed and integrated management practices in the Ngerikiil Watershed to improve water quality, decrease the amount of chemicals needed to treat water, and to establish effective institutional arrangements to protect the Ngerikiil watershed.*

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## 2. RESULTS: PROCESS

*During the Project Inception phase in 2009 a Palau National Integrated Water Resource Management Demonstration Project Committee was established. The original members were made up of the Palau Water Safety Plan (WSP) Committee. This was done to ensure that the work that the WSP Committee started would be incorporated into the new IWRM initiative. In addition to the WSP Committee members, members representing the stakeholders such as a representative of Airai State Government, representatives from community groups and representatives of the Palau Legislature were also invited to join the Palau IWRM Committee. Establishment of this committee has been effective in: (a) opening up the communication lines between the state and national government for the better management of the Ngerikiil Watershed; (b) influencing decision making leaders at the national level as to the importance of support for the management of the Ngerikiil Watershed; and (c) allowing the relevant agencies that deal with water on a coordinated effort rather than a more sectorial approach. This coordinated collaborative effort with the different agencies in charge of water as well as the different stakeholder groups has allowed for the drafting and endorsement of a Water Policy for the Republic of Palau by his Excellency President Johnson Toribiong.*

### **2(a) INDICATOR#1:** Proportion of Community Engaged in Water Related Issues

The target for the project was to increase portion of community engaged in Water Related Issues. Prior to project inception community engagement in water related issues focused primarily on quantity of water and whether or not the water was safe for consumption. Since project inception not only has there been an increase in awareness and willingness to protect watersheds through consultations for the drafting and finalization of the Water and Wastewater policy but there has also been regular community outreach focused on the importance of water and how best to manage and conserve it.



**Figure 1** Presentation to Airai Elementary School Students during 2012 Earth Day School Visits "Sustainability: Be a Part of the Solution"



**2(b) INDICATOR#2:** Sectors Actively Engaged in Formal Multilateral Communication on Water Issues

The IWRM project has increased the collaboration between sectors actively engaged in water issues. This has led to two National Water Summits that involved the drafting and finalization of a National Water Policy for the Republic of Palau. In addition, this increased multi-sectoral engagement has stimulated the need for the establishment of a National Apex Water Body which had not even been considered prior to the work of this project. Sector representatives are now actively engaged on formulating this body including drafting Terms of Reference and list of members.



**Figure 2** 2nd National Water Summit Participants at the Ngarachamayong Cultural Center (22 March 2012)

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### 3. RESULTS: STRESS REDUCTION

*The Palau IWRM Demonstration project is located in the Ngerikiil Watershed, Airai State. The project has made substantial progress in watershed protection. The project is being carried out directly with: (1) Airai State Government which is the major land owner; (2) Government agencies and NGOs agencies which are playing an active part in their implementation; and (3) community members. It focuses on demonstrating practical solutions to reducing stress on water resources. These practical demonstrations were instrumental in Airai State issuing a ban on deforestation in the watershed. The stress reduction pilots are also being used to inform management plan development which is being drafted and finalized with input from the community. In addition, the partnerships that have been formulated between the State and National Government through their membership in the IWRM Steering Committee has led to funding being allocated for the protection of the Ngerikiil Watershed in recognition of its importance as a source of water for 80% of the population of Koror and Airai.*

**3(a) INDICATOR#1:** Increase in land protected and/or rehabilitated over catchment

The target of the project is to have the Ngerikiil Watershed either a protected area or a managed area. At project start-up the Airai State Government was hesitant to declare this area protected. Through the joint efforts of the IWRM partners which includes Airai State Government increased awareness of the importance of this particular watershed has led to \$200,000 being given to Airai State Government as financial support for the management of this important catchment area, including replication and scaling-up of revegetation efforts and invasive species removal pilot activities initiated by the demonstration project in Ngerikiil Watershed.





**Figure 3** Palau High School Students supporting IWRM replanting trees in a fire affected area

**3(b) INDICATOR#2:** Reduction in Drinking Water Source Pollution

During the project inception phase a baseline survey on existing and possible pollutant sources was conducted. In addition, the projects goal was to mitigate the impacts of runoffs and sedimentation from the compact road. Regular monitoring of different land uses in Ngerikiil has enabled identification of pollutant sources which have been remediated leading to overall pollutant load entering the Ngerikiil Watershed and nearshore waters and reefs.



**Figure 4** IWRM modification to an existing drainage ditch off the compact road in Ngerikiil aimed at reducing sediment load entering Ngerikiil River and trapping debris from road runoff

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## 4. RESULTS: WATER RESOURCE AND ENVIRONMENTAL STATUS

*In the first year of the project, baseline assessments through pollutant source surveys and water quality testing was carried out by the project. The assessment indicated that there were pollutant sources that were discharging into the river. Targeted project community outreach through community visits, school visit, as well as radio and television spots have increased the level of awareness of the problems or potential problems in the Ngerikiil Watershed. Quarterly monitoring of water quality is indicating that the quality of water is improving. In addition, the bird monitoring Ngerikiil that was able to continue due to the financial support of the IWRM project is indicating that the Ngerikiil Watershed according to IBA protocols should be the third highest priority for management in the Republic of Palau. This information is being used to leverage support for making Ngerikiil Watershed a protected or managed area.*

### **4(a) INDICATOR#1:** Population with access to safe drinking water supply

The target of the project is to increase the percentage of the population that has access to safe drinking water. At the time of project start-up there was little if any work that concentrated at keeping the quality of water high even before it arrived at the water treatment plant. IWRM has undertaken a baseline sanitation and pollutant survey at the Ngerikiil River covering ridge to the Airai Bay. All pollutant sources and land uses along these river banks were mapped and those that could potentially become problems are helped with best management practices as a preemptive measure. Routine monitoring of river water quality has been strengthened through the project to ensure safety baselines are met and to inform efforts to remediate pollutant source sites. In addition, increased outreach to areas that are more reliant on rainwater has allowed us to increase awareness of how to maintain rainwater catchment systems thereby providing a safe drinking water supply.



**Figure 5** IWRM supported a piggery located in Ngerikiil to put in place an adequate buffer between pig pens and river and improved water cistern. Efforts are also being made to trial dry-litter composting of pig waste rather than standard wash down systems that use a lot of freshwater and generate wastewater  
(4 November 2011)



**Figure 6** Through engagement in Palau IWRM, a fish farmer operating in the Ngerikiil watershed has put in place an adequate buffer between the aquaculture ponds and Ngerikiil River. IWRM is coordinating routine water quality monitoring to ensure farm effluent does not impact water quality.  
(November 4, 2011)

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## 5. ACKNOWLEDGMENTS

The people of the Republic of Palau and the lead agency for IWRM, the Palau Environmental Quality Protection Board acknowledges the support of the Global Environment Facility and is grateful for the technical and project management support provided by the Regional Project Coordinating Unit based at SPC/SOPAC. UNDP and UNEP are implementing partners to this initiative.