

Republic of the Marshall Islands



Pilot Demonstration:

(1) Airport Reservoir Water Storage

(2) Laura Village Water Lens

Majuro Pop: 31,600

Total Pop: Approx 58,800

RMI-PACC Presentation to the
2nd Multipartite Review Meeting

August 8-12, 2011

Port Vila

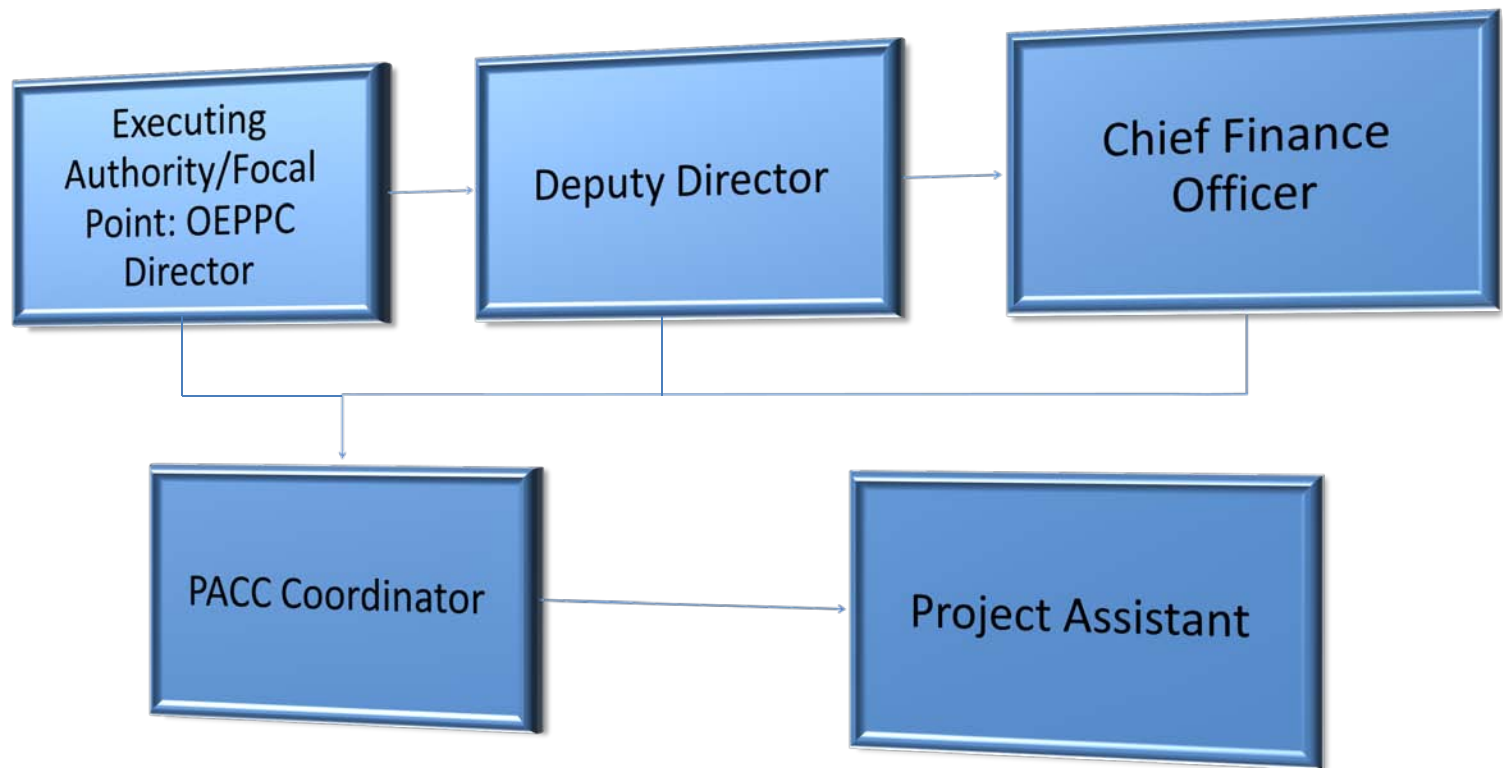
Vanuatu

Background

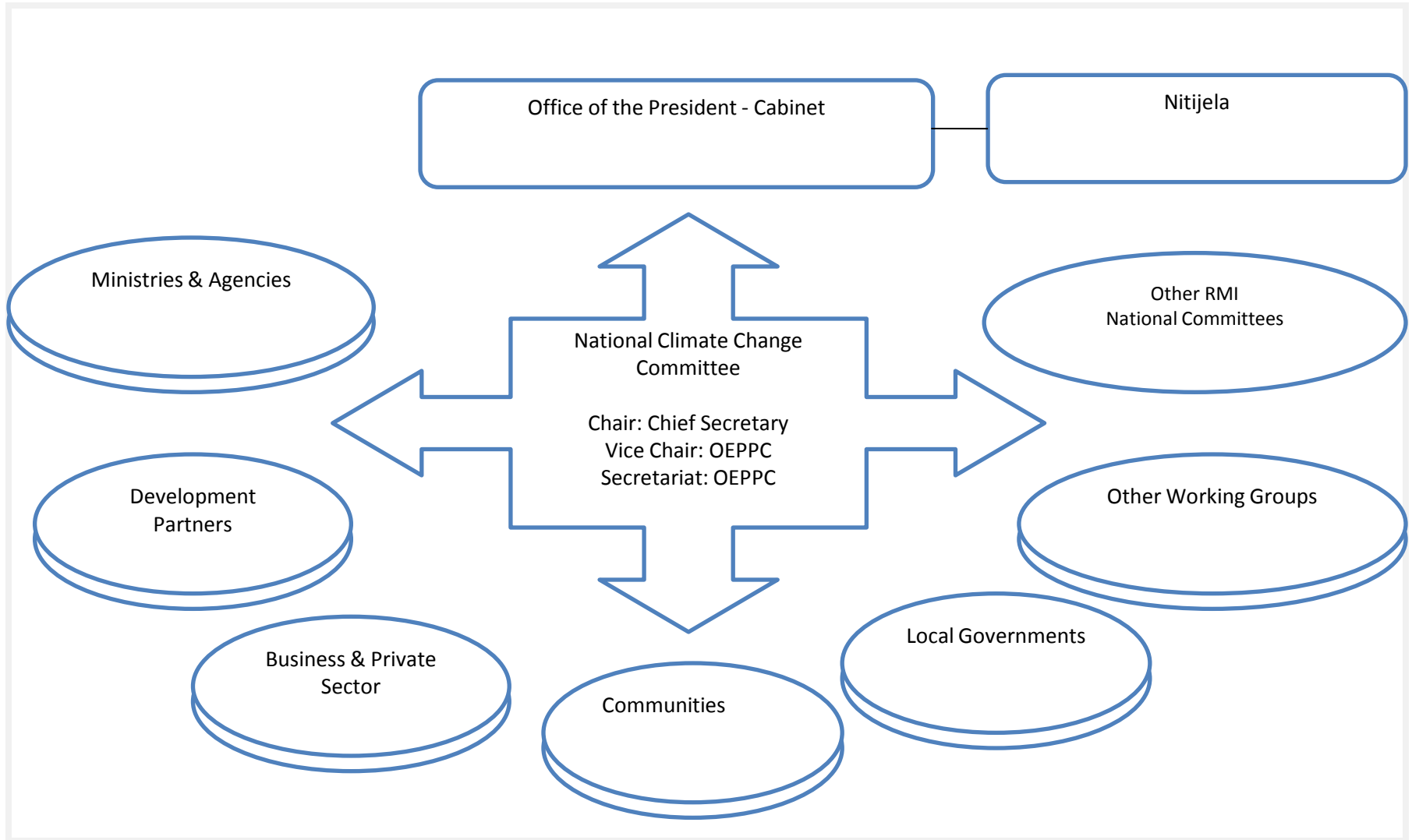
- Unrestricted water supply estimated to be about 45 gallons per person per day, which equals 170 L/p/d.
- Past projects planned for Majuro have targeted 40 gallon/day (g/p/d) with an estimated current population of 31,600 (2010) should results in a daily consumption of 1 million gallon.
- Hence, the storage capacity provided by the existing reservoirs (36.4 Million gallons) is less than a month's supply in times of drought

PACC Institutional Arrangement

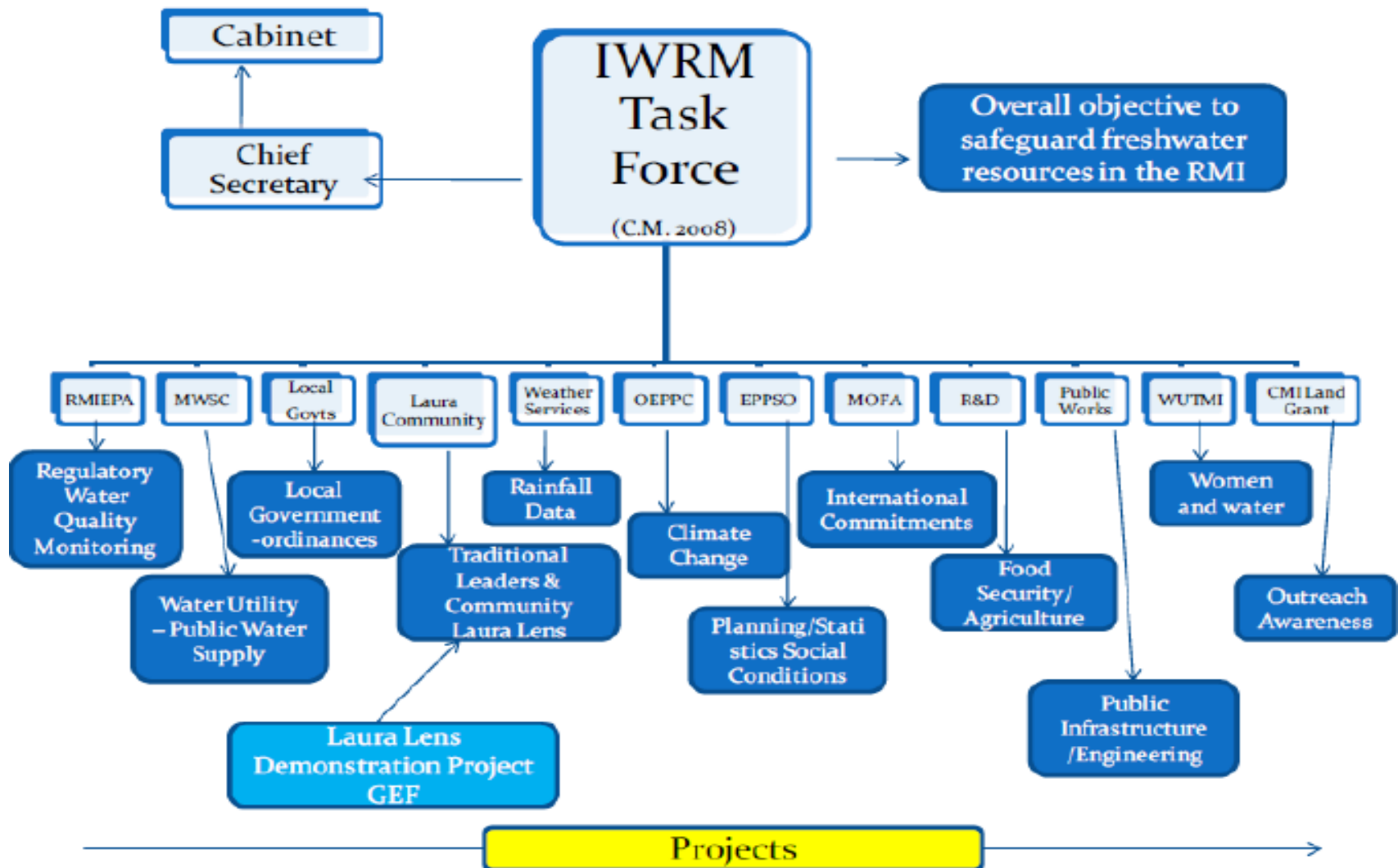
OFFICE OF ENVIRONMENTAL PLANNING & POLICY COORDINATION
OFFICE OF THE PRESIDENT



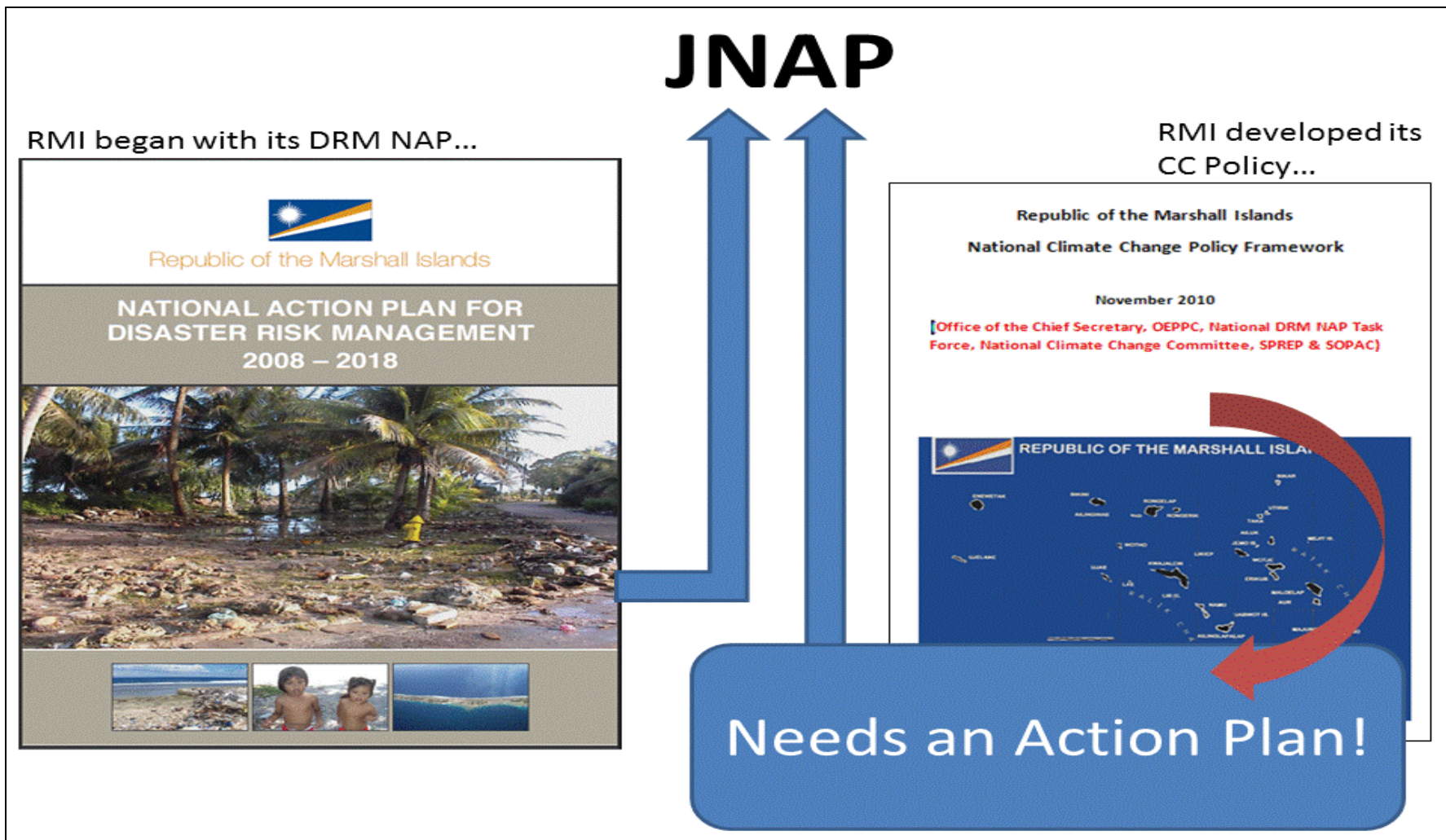
Component 1: Mainstreaming climate change into policy decisions and sectoral and development plans



Component 1: Mainstreaming Climate Change into IWRM national water policy.



Component 1: Joint National Action Plan on Climate Change and Disaster Risk Management to Implement National Climate Change policy



Objective	Action
<p>5.1 Strengthen national coordination mechanisms and technical capacity of the water services to improve management of freshwater resources</p>	<p>5.1.1 Develop and implement an ongoing capacity building program for staff at MWSC and KAJUR</p>
	<p>5.1.2 Strengthen sewerage collection and treatment infrastructure on Majuro and Ebeye</p>
	<p>5.1.3 Equip communities with the means to test and report on water quality/quantity on the Outer Islands</p>
	<p>5.1.4 Acquire (centralized) solar-powered reverse osmosis (RO) units and solar powered water purification systems for the Outer Islands</p>
	<p>5.1.5 Develop a policy for installing rainwater catchment tanks in all new public and household buildings</p>
	<p>5.1.6 Supply all households in Marshall Islands with rainwater catchment tanks</p>
	<p>5.1.7 Improve garbage-dump and sewage facilities, including consideration of potential climate change driven risks</p>
	<p>5.1.8 Address wave action overtopping waste infrastructure, including waste management and sewage facility</p>
	<p>5.1.9 Address substantial leakage/waste/evaporation (immediate issue)</p>
	<p>5.1.10 Address failing and climate-exposed infrastructure (e.g. underground pipelines, airport catchment, reservoirs)</p>
	<p>5.1.11 Examine the feasibility of various desalinization options to supplement existing water sources, including Reverse Osmosis Units in the Outer Islands</p>



Component 1: Mainstreaming climate change into the Health Strategic Plan.



IWRM WATER POLICY

Republic of the Marshall Islands
Pacific Integrated Water Resources Management
National Planning Programme 2010-2011

**Review of main
background analysis &
Laura case study**



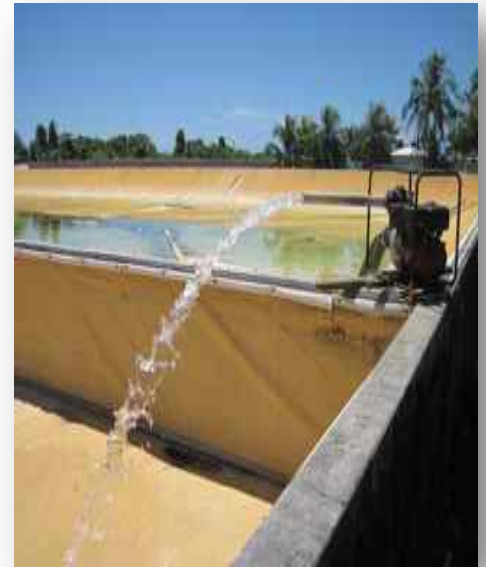
RMI-EPA/Ben Graham
29 June 2011



Component 2.1. Demonstration measures to reduce vulnerability – Airport Reservoir



Target Area: Airport Reservoir 7 Water Catchments holding capacity: 36.4 million gallons of water



Background to the Laura storage reservoir

- 7 shallow infiltration wells built approximately 15 years ago
- Laura water distribution system currently provides about 25% of domestic water supply, increasing to 100% during drought.
- Laura system is in extreme danger of not functioning due to years without preventative maintenance, upgrade, and neglect.
- It could be productive as an alternative water source however currently only 3 are functional
- All 6 infiltration lines are broken or clogged dramatically reducing the productivity
- Over the years the well pumps have been replaced only with what is available locally or not at all with only 3 pumps still functioning
- The 30kgal storage reservoir bladder is torn with high water losses and open to sunlight has extreme levels of algae growth effecting water quality.
- Distribution pumps have deteriorated to the extreme that they are only used now as back-up and low system pressure.

Improving water retention through redesign and retrofit of existing water holding tanks to enhance resilience to drought events.

NEW MWSC PROPOSAL: LAURA VILLAGE

No	Description	Action
1	Clean & repair 6 water wells	Repair & cleanout lines
2	Clean & repair 30kg water reservoir	Drain & clean reservoir. Repair/replace bladder
3	Retrofit	Construct bladder roof protection
4	Install 6 solar well systems & pumps	Install new pumps and solar arrays
5	Install solar system for treatment & distribution facility	Install new pumps and solar arrays
6	Increase water storage	Construct a 2 nd reservoir
7	Install a monitoring system	Install bulk water meters
8	Provide more water catchments	Based on the SEA survey to provide more water catchments to Laura households

Component 2.2. Demonstration measures to reduce vulnerability-Laura village water lens



SEA-PACC Survey



Reduce pumping and overuse of water use



Adaptation measures- provide more water catchments



Constant Monitoring underground water lens

Component 3: Capacity to plan for and respond to climate related risks

Building adaptive capacity



Awareness raising & community participation



Work in partnership with stakeholders



Incorporate climate change adaptation into educational curriculum

Issues and challenges

1. Delay of project activities
 1. procurement
 2. Transport
 3. Project implementation
 1. Implemented jointly with other UNDP projects
4. Timely reporting
 1. Workload
 2. Financial
5. Project delivery
 1. Late start
 2. Late arrival of water engineer



**THANK YOU
KOMMOL TATA**