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Second Meeting of the Regional Project Steering Committee
and Inception Workshop for the SOPAC/UNDP/UNEP/GEF Project:
"Implementing Sustainable Water Resource and Wastewater Management in Pacific Island Countries"

Republic of Palau, 19th – 23rd July 2010

TECHNICAL AND SCIENTIFIC NEEDS

1. Introduction

Delivery of country IWRM Demonstration Projects requires a high level of technical and scientific input to deliver rigorous and appropriate solutions. One of the key risks identified in all logframes is the capacity to resource appropriate expertise to undertake this work. A further risk less commonly identified, but no less important, is ensuring the quality of key technical and scientific work that is critical to project outcomes.

This paper seeks to initiate the discussion on obtaining adequate technical and scientific support and ensuring the quality of technical and scientific outputs to support national and regional project outcomes.

2. Background

Project technical needs

The Project Documents identify that the demonstration projects need to focus on technical and socio-economic issues, highlighting the need to increase country technical capacity, and the core nature of the PCU in providing technical support for these projects. The Project Documents highlight technical aspects to be addressed including:

- Developing sustainability strategies focusing on institutional and technical interventions required for Demonstration scaling-up as part of National IWRM Plan development and implementation
- Capturing and disseminating lessons learned from demonstration projects
- Organising technical cooperation between countries and between regional organisations
- Collecting and disseminating technical and scientific issues
- Establishing and assisting networking between institutions in-country and external technical specialists

This session will look at how these technical aspects can be addressed in country demonstration projects and at a regional level.

Demonstration project technical needs

Table 1 identifies the technical and scientific aspects of each of the country demonstration project logframes. These components can be broadly grouped as policy and planning activities, scientific and technical studies, engineering design, mapping and guidelines.

Key questions in delivering these technical components will include:

1. *What technical work is required to deliver my project?*
   Scoping the technical components adequately to ensure that they address core project requirements
2. *How do I get the technical work done well?*
   Resourcing technical expertise - the breadth of technical components of each project mean that it is likely that every project will need to source technical expertise externally to the project team. Sources for this expertise include government agencies, co-funding partners (including donor organisations, academic institutes and other projects) and local and international consultants
3. *How do I know that it was done well?*
   Ensuring the quality of the technical work undertaken is a critical step in delivering confidence in not only the technical work, but the outputs and outcomes of the project
4. *Is it on time and on budget?*
   Budgets and timelines for technical work should be managed as part of the broader project management

If at the end of technical work, you are asking the question “what does it mean?”, then at least one of the first three questions hasn’t been well addressed. Often (but not always), this is the scoping component; defining clearly what you need the technical work to deliver to your project.

Point 4 above relates to project management, but the first three relate to quality control of the technical work, often requiring a level of specialist expertise. This session will explore options for the project managers to ensure that the technical work undertaken for the project meets the project needs.

Ensuring the quality of the technical outputs

A range of options are available to country projects teams to ensure the quality of technical work undertaken. It is likely that all countries will be required to engage a combination of these options to deliver their projects. These options, which will be explored this session, include:

- Information and skills exchanges between countries – organising technical cooperation between countries is one of the key objectives of the regional project. Opportunities to explore this are evident in key areas with significant overlap such as wastewater management system design, catchment management, payment for ecosystem services schemes and monitoring initiatives. The series of technical workshops organised throughout the Steering Committee meeting reflect some of these opportunities. There is an expectation that countries engaging in technical work will disseminate that work both nationally and regionally. Similarly, there is an expectation that project managers will be aware of technical work relating to their project being undertaken by other country projects. This session will explore opportunities for greater technical cooperation across and beyond the region
- Regional information hub – the web portal established by PCU provides an opportunity for information collation and dissemination. The intent is that all documents generated through projects will be accessible through this portal. Links to other information hubs such as the Asia Pacific Water Forum knowledge hubs (http://www.apwf-knowledgehubs.net/)
- Peer review – where appropriate experts can be identified, peer review is an accepted mechanism for providing quality control in technical and scientific work. It is likely that, should it be necessary to source the expertise internationally, it is also likely that a peer reviewer would need to be sourced internationally. The PCU may be able to provide guidance on potential peer reviewers for specific pieces of work.
- PCU review – the PCU has the role of establishing and assisting networking between institutions in-country and external technical specialists. In addition to this role, the PCU may be able to provide a technical review of a range of country project activities. To date this capacity has generally focussed on the technical aspects of projects and the logframes; however, as the projects move into implementing technical and scientific activities, the PCU will be able to offer an increasing level of technical input and review. One aspect of quality control to be discussed in this session is the incorporation of PCU sign-off on technical works
- Links and partnerships with regional and other institutions – regional and international institutions have a significant depth and breadth of IWRM expertise, from CROP agencies, including USP, to international organisations such as UNEP. On a regional level, these linkages are being made in part through the development of the Postgraduate training in IWRM, but opportunities exist for collaboration across all projects. Currently, country demonstration projects are exploring work with or engaging CROP agencies (eg. Fiji – USP work on catchment assessment); international organisations (Fiji – IUCN); co-funding partners (numerous); government agencies (numerous); other universities (Cook Islands); community groups (eg. Palau) and local education centres (eg. Nauru – TAFE)
- Technical advisory group or panel – projects often establish technical advisory groups as a mechanism for ensuring rigour in technical work. These groups can operate in a number of ways, from closely supporting the development of technical work, to a high-level review panel. This option provides aspects of the peer and PCU reviews, offering a broader range of reviewers, with the potential to significantly improve output. The challenges with such a group generally include commitment (it is hard to service many projects unless time is dedicated, often requiring a financial commitment) and coordination, as expert members are often remote, so achieving rapid responses and resolving differences
- Junior personnel supported by experts – whilst local or junior professionals may not have the expertise to undertake some of the more complex technical aspects of the country demonstration projects, they may often have the skills to undertake this work under the supervision of more experienced professionals. Examples of this include a student placement in Nauru (Kasenga Hara) supervised by the PCU, and early design work of the compost toilet

in Tuvalu, supported by a PACTAM[1] specialist. This strategy provides opportunities for increasing local capacity and/or completing technical work that might be challenging to get completed through many of the above options.

Where to from here?

An approach to provide confidence in project technical outputs is required. The key considerations in developing this framework include:

- Sufficient expertise is resourced to scope, undertake and review technical work
- Regional capacity to undertake/manage technical work is enhanced
- There is confidence that the work undertaken is sound

The Secretariat will lead a discussion on scientific and technical support needs for national projects and the development of a programme for their delivery. This discussion will incorporate feedback from the inter-sessional meetings between country project teams and the PCU.

[1] Pacific Technical Assistance Mechanism (PACTAM) – an AUSAID initiative where professionals are placed in-country for extended periods

Table 1 – Technical Components of Country Demonstration Project Logframes

	Policy				Planning													Scientific and Technical Studies																									Best Practice					Engineering Design									Mapping						
	Legislation	Water Policy	Protected/Priority Areas	Payment for Ecosystem Services	Water Safety Plan	Coastal / Harbour WQ Management Plan	Water Demand Man Plan	Flood Management Plan	Buidling Codes for Effluent Management	Wastewater Management Plan	Waste Management Plan	Catchment/Watershed Plan	Land Use Plan	Sediment Mitigation Strategy	Piggery Management	Leak Reduction Management	Database/ Information Portal	Sanitation Options Assessment	Pollution Source Assessment	Groundwater Quality Assessment	Groundwater Resource Assessment	Risk Assessment and Communication	Water Resource Assessments	Water Quality Assessments	Water Quality Monitoring	Biological Monitoring	Rainfall/Runoff Modelling	Health statistics Assessment	Sediment Flux Assessment	Reuse Assessment	Demand Assessment	Groundwater Impact Assessment	Flow Mitigation Strategies	Scoio-economic Surveys	Hydrological Assessment/modelling	Agricultural Practices	Land Use	Oil & Fuel Storage	Processing Wastes	Coastal Management	Water Supply Headworks	Balancing Storage	Biogas Generation	Wastewater Management Systems	Household Sanitation Management Systems	Pollution Source Abatement	Pig Waste Management	Flood Monitoring System	Compost Toilets	Flood Mapping	Land Use	Pollution Sources	Vegetation Mapping	Mangrove Mapping	Curriculum Development
Cook Islands		●															●	●		●	●		●	●						●														●									
Fiji		●						●						●											●	●	●		●			●	●		●										●				●	●	
FSM		●		●	●	●								●	●				●					●	●				●											●				●	●							●
RMI																																																					
Nauru		●			●						●			●				●	●	●	●	●		●	●			●			●										●		●	●	●			●						
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PNG	●	●					●	●				●					●					●	●	●	●	●				●				●												●			●		
Samoa	●	●	●		●		●					●	●	●			●							●						●																●			●		
Solomon		●			●	●	●					●							●			●																								●			●		
Tonga		●										●							●	●	●		●								●	●												●	●				●		
Tuvalu	●	●							●									●		●	●			●	●			●																				●			
Vanuatu			●		●			●				●													●	●								●	●	●				●	●							●	●	●				