

# Harvesting the **Heavens**

Guidelines for Rainwater Harvesting  
in Pacific Island Countries



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Compiled by the South Pacific Applied Geoscience Commission (SOPAC) for the United Nations Environment Programme (UNEP) in conjunction with the Tonga Community Development Trust (TCDT) and funded by The Swedish International Development Agency (SIDA).

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# List of abbreviations

<b>CBO</b>	Community Based Organisation(s)
<b>EC</b>	Electrical Conductivity
<b>ENSO</b>	El Niño Southern Oscillation
<b>FJD</b>	Fiji Dollar
<b>FSM</b>	Federated States of Micronesia
<b>Gal</b>	Gallon (1 US gallon = 3.7854 litres)
<b>HDPE</b>	High Density Polyethylene
<b>H<sub>2</sub>S</b>	Hydrogen Sulphide
<b>IETC</b>	International Environmental Technology Centre (of UNEP)
<b>IGO</b>	Inter-Governmental Organisation(s)
<b>l/p/d</b>	litre per person per day
<b>mg/l</b>	milligram per litre
<b>m<sup>3</sup>/day</b>	cubic metres per day
<b>NGO</b>	Non-government organisation(s)
<b>PE</b>	Polyethylene
<b>PLA</b>	Participatory Learning and Action
<b>PRA</b>	Participatory Rural Appraisal
<b>PROWESS</b>	Promotion of the Role Of Women in Water and Environmental Sanitation Services
<b>PV</b>	Photo Voltaic
<b>PVC</b>	Poly-Vinyl Chloride
<b>RMI</b>	Republic of the Marshall Islands
<b>RRA</b>	Rapid Rural Appraisal
<b>SIDA</b>	Swedish International Development Agency
<b>SOPAC</b>	South Pacific Applied Geoscience Commission
<b>SPC</b>	Secretariat of the Pacific Community
<b>TCDT</b>	Tonga Community Development Trust
<b>TDS</b>	Total Dissolved Solids
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>USD</b>	US Dollar
<b>VWDP</b>	Village Women's Development Programme (of TCDT)
<b>WHO</b>	World Health Organization
<b>WSSD</b>	World Summit for Sustainable Development

# Preface

The “Harvesting the Heavens: Guidelines for Rainwater Harvesting in Pacific Island Countries” were developed as part of the United Nations Environment Programme (UNEP) demonstration project on “Empowering Women in Rainwater Harvesting” funded by the Government of Sweden through their development agency SIDA and carried out in Africa (Kenya) and the Pacific (Tonga).

These guidelines are for people who are interested in building or maintaining a rainwater harvesting system. They are also for non-government organisations, community-based organisations, regional organisations and donor agencies that are involved in the implementation of rainwater harvesting projects. The intention of the guidelines is to help in the sustainable implementation of rainwater harvesting as well as to assist in improving the quality of the water supply. The guidelines are focused on roof catchment systems for domestic water supply although they might be useful for other systems (e.g. artificially-raised catchments) as well as other uses (e.g. agriculture).

The guidelines capture the lessons learned during the preparation and implementation of the demonstration project executed by the South Pacific Applied Geoscience Commission (SOPAC) and carried out in the island group of Vava’u of the Kingdom of Tonga through the Village Women’s Development Programme (VWDP) of the Tonga Community Development Trust (TCDT).

The outputs of the demonstration project aside from the rainwater harvesting systems installed in two communities of Vava’u, include a demonstration video on rainwater harvesting; a manual for participatory training in rainwater harvesting aimed at trainers and focused on awareness and system operation and maintenance; and these guidelines for rainwater harvesting in Pacific Island Countries.

There are four chapters in these guidelines inclusive of an introduction in Chapter 1. Chapter 2 discusses the implementation and sustainability of rainwater harvesting. Chapter 3 examines various design criteria that can be applied for rainwater harvesting systems and Chapter 4 deals with operation and maintenance aspects. Each chapter comprises theoretical sections containing information from various reports, handbooks

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