

# VSA E-Volunteer Assignment Description

<b>Assignment Title</b>	Water Hydraulic Modelling Trainer (EPANET)
<b>Country</b>	Vanuatu
<b>Location</b>	Luganville, Santo
<b>Partner Organisation</b>	Adventist Development and Relief Agency (ADRA)
<b>Duration</b>	6 months (Part-Time)

## Sustainable Development Goals



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## 1. Partner Organisation Overview

The Adventist Development and Relief Agency (ADRA) is the global humanitarian organization of the Seventh-day Adventist Church. Founded in 1956 as the Seventh-day Adventist Welfare Service and renamed ADRA in 1984, the agency has a long and successful history of providing humanitarian relief and implementing development initiatives. Through an international network, ADRA delivers relief and development assistance to individuals and communities regardless of their ethnicity, political affiliation, or religious association. By partnering with communities, organizations, and governments, ADRA is able to improve the quality of life of millions of people.

ADRA Vanuatu started in February 2008 initially with a five-year project – the Vanuatu Church Partnership Project (VCPP). This project provided support to various church departments across all provinces through training and capacity building. Today, ADRA Vanuatu has extended its work programme across five core sectors - Food Security, Health, Economic Growth, Education, and Emergency Management. The Staff have built expertise in these sectors as well as subsectors such as Water and Sanitation, Gender, Psychosocial Support, Agriculture and Disaster Risk Reduction.

ADRA Vanuatu works in partnership with a number of Government Departments at the national and provincial level such as Departments of Water, Agriculture, Women’s Affairs, Health, National Disaster Management Office, Climate Change, Police and Correctional Services etc. ADRA Vanuatu collaborates with non-governmental organisation such as Oxfam, Save the Children, Vanuatu Women Centre and its branches and the Vanuatu Skills Partnership Programme. At the local level ADRA Vanuatu works together with community members and leaders, churches including Seventh Day Adventist Church and Vanuatu Council of Churches, business houses and enterprises to support people in poverty and distress to create just and positive change.

ADRA Vanuatu is governed by an Advisory Board and is led by the Country Director who provides overall management. There are 20 permanent staff spread across 2 offices in Port Vila and Santo.



## 2. Assignment overview

This assignment is a result of a partnership between ADRA and VSA which has been in place since 2014 and was recently re-signed in November 2021. This partnership is about contributing to both VSA and ADRA's activities that aim to deliver and empower sustainable development throughout the Pacific.

Despite significant donor investment in the WASH sector, the Government of Vanuatu has lacked capacity to coordinate and oversee the multiple stakeholders involved, resulting in fragmented project delivery, duplications, overly complex water systems and often poor outcomes for communities.

ADRA's projects for Water, Sanitation and Hygiene (WASH) are working towards Vanuatu's National Sustainable Development Goal ECO 2.2 to "Ensure all people have reliable and safe drinking water and sanitation infrastructure". It does this by working in collaboration with the Department of Water Resources (DoWR) and village Water Committees to create Drinking Water Safety and Security Plans (DWSSPs). These help to educate communities on the importance of safe drinking water and hygiene practices. They are also the first step in improving water infrastructure for the people of Vanuatu. It is ADRA Vanuatu's goal to improve the lives of communities by making water and sanitation access easier, thereby improving health outcomes and livelihoods.

The volunteer will be an experienced hydraulic modeller using EPANET software specifically, who will provide on-line training sessions to the WASH Specialist in Vanuatu. At the end of the assignment the WASH Specialist will be able to hydraulically model and design water systems.

## 3. Goal/outcomes/outputs

### Goal

The volunteer will coach, train and build the capacity of the WASH specialist in Vanuatu to be able to hydraulically model and design water systems in Vanuatu without supervision. The volunteer will work with the WASH Specialist to ensure the quality and accuracy of hydraulic modelling and design meets the standard for submission to the Department of Water Resources for approval, for construction of water systems.

### Outcome 1

The WASH Specialist will understand the basics and fundamentals of hydraulics and modelling.

The volunteer will work with the WASH Specialist to build a better understanding of:

- Why hydraulic modelling is important.
- Consequences of miscalculating.
- The importance of quality control checks and balances
- The components of the mathematical equations used to calculate head losses

The volunteer will work with the WASH Specialist to build skills and knowledge around:

- Identifying appropriate head loss coefficients for various bends etc.
- Identifying appropriate boundary conditions and describe their influence on the result

### Outcome 2

Through a series of training sessions, the volunteer will ensure the WASH Specialist is confident in drawing networks and associated calculations to build network models. The volunteer will mentor the WASH Specialist to:

- Install EPANET



- Example network
- Project Setup
- Draw the Network
- Network Model
- EPANET workspace
- Work with Projects
- Work with objects
- Work with Map
- Analyse a network
- View results
- Import and Export
- Analyse algorithms

### Outcome 3

The volunteer will work with the WASH Specialist to ensure that they:

- Have increased confidence in doing hydraulic modelling independently
- Have increased accuracy (minimal corrections) of hydraulic modelling
- Will be able to provide a practical interpretation of EPANET results, including identifying when outputs are likely to be incorrect.

The volunteer in partnership with the WASH Specialist will develop GPX files to use as real-life hydraulic modelling trainings and exercises.

The volunteer will develop hydraulic modelling self exercises to assess the WASH Specialists progress and address any areas for further assistance.

## 4. Reporting and working relationships and capacity building

This is an e-volunteer (e-vol) position. The volunteer will primarily communicate and work closely with the WASH Specialist for ADRA Vanuatu to increase their skill levels through training sessions, desk top exercises and on-site exercises, to a point where the WASH Specialist is able to confidently model and design water system without supervision.

The volunteer and ADRA Vanuatu will have an ongoing relationship with the VSA Programme Manager in terms of assignment monitoring, reporting, professional advice and personal support.

**As needs on the ground may change over time, the volunteer is encouraged to review and update the Assignment Description in consultation with the partner organisation and VSA Programme Manager. By their very nature, development situations can involve significant change, so it is advisable that the volunteer periodically review and reflect on the Assignment Description throughout the Assignment to ensure the best development outcomes are being achieved.**

## 5. Selection criteria/position requirements

### Person specifications (professional)

#### Essential

- Degree/Diploma in Engineering



- Experience in using and teaching EPANET
- Hydraulic modelling – extensive knowledge and experience.
- Water systems construction, operations and maintenance – experience in the field in constructing, operating and maintaining water systems

#### **Desirable**

- Teaching or Tutoring experience

#### **Personal specification (personal)**

#### **Essential**

- Honest and dependent
- Patient and strong work ethic
- Culturally aware and knowledgeable
- Great with teaching (participatory teaching/training)
- Adaptive and flexible
- Professional attitude

#### **Desirable**

- Experience working in Vanuatu or other Pacific countries
- Willing to learn some Bislama

### **6. VSA Essential Attributes**

- Commitment to volunteering, to VSA and to the partner organisation
- Cross cultural awareness
- Adaptability and a willingness to approach change or newness positively
- Able to form good relationships, both personally and professionally, with work colleagues
- Resilience and an ability to manage setbacks
- Initiative and resourcefulness
- An ability to facilitate learning through skills exchange

### **7. Country Context**

For more information about Vanuatu see <https://vsa.org.nz/about-vsa/countryregion/vanuatu/>

#### **Additional information**

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##### **Residency status**

VSA volunteers must be New Zealand citizens or have New Zealand permanent residency status, and currently living in NZ.

##### **Final appointment**

Final appointment will be subject to satisfactory VSA clearances, and partner organisation acceptance.

##### **Children's Act**

VSA is committed to the protection of vulnerable children and adults, which also includes meeting our commitment under the Children's Act 2014. The information requested during the application process is necessary to assist VSA to determine applicant suitability to work and/or interact regularly



with children and is part of a series of pre-selection checks undertaken on all applicants for VSA assignments.

### **E-Volunteer package**

The volunteer's package includes the following:

#### *Reimbursements*

Volunteers will receive a monthly honorarium of NZ\$90 for a part-time assignment. This amount is expected to reimburse the volunteer for costs associated with undertaking the assignment.

**Final terms and conditions relating to the specific volunteer assignment will be confirmed in a personalised volunteer contract.**

