Winnovators 2024

Papua New Guinea Water Challenge

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The Solve Challenge

Coastal communities in Papua New Guinea are grappling with the dual challenge of accessing clean water and coping with the escalating impacts of climate change, such as rising sea levels and unpredictable weather patterns.

The Challenge: Devise innovative and sustainable solutions to address these pressing issues, with a focus on integrating climate resilience into the water supply systems of these vulnerable communities.

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Background

Tarawai Island is a small island in East Sepik province, located 60 km northwest of the capital Wewak.

The island is home to a small community made up of 77 households, with a population of about 170 people including men, women and children.

The unique challenge these coastal communities are facing is exacerbated by high population growth, traditional sanitation practices (including hanging toilets over the sea), the impacts of climate change and unreliable water supply.

Tarawai Island located 60 km from Wewak and accessable by boat

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Background

Water supply on Tarawai Island is a significant challenge. Household drinking water sources are often unsafe such as dug out wells; water catchments and untreated rainwater harvesting. During the dry season these sources are not sufficient to meet household daily drinking water needs. Water pump infrastructure is old and in disrepair.

Climate change is exacerbating water challenges on Tarawai Island. For example, irregular rain fall patterns, inland flooding, high sea level rising and the impact of salinity in shallow wells and landslips. These lead to drying out of water supplies; strong winds and high tides damaging water infrastructure and rusting out galvanised iron.

Household water storage and rainwater harvesting on Tarawai Island, used for household drinking water

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What's the challenge?

Quality of water sources is poor and there is insufficient quantity to meet household needs. Water may have a poor taste and rates of open defecation increase when sanitation infrastructure is damaged.

The high costs of potential solutions is also a barrier.

The unique engineering challenge is to design a safe water supply system that households living in coastal communities, such as Tarawai Islands, can use to access safe drinking water year round. Considerations for climate impacts such as longer dry seasons; king tides and flooding events are needed for infrastructure and behaviour change solutions.

Devise innovative and sustainable solutions to address these pressing issues, with a focus on integrating climate resilience into the water supply systems of these vulnerable communities.

Household water storage and rainwater harvesting on Tarawai Island, used for household drinking water

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What do you have to submit?

A solution in the form of one or more of the following:

- **1,000 word report (this does not include appendices)**
- **A3 poster/board**
- **5-minute video**
- **10-slide PowerPoint**

Final submissions are due Friday 30th August.

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What can you win?

- **Best Water Solve**
- **Best Sanitation & Hygiene Solve**
- **Best Advocacy Solve**
- **Best Fund**

If your team excels in the Solve and Fund Challenges:

- **Overall Champion**

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What are the next steps?

- Contact the Winnovators team at WaterAid with questions – we're here to help auswinnovators@wateraid.org.au .
- Don't forget to capture your journey! Remember to take photos during your meetings, discussions, and activities, and share them with WaterAid to document your Winnovators experience.
- See the Submissions Examples for Solve and Fund on the resource library.
- Start preparing your fundraising pitch for the seed funding, due 10th May.
- Start thinking the framework of your selected 'Solve' challenge. In no more than 500 words, prepare an outline and send to WaterAid on auswinnovators@wateraid.org.au. It is not part of the submission judging. This is to help you set a framework for your chosen challenge at the start, and also for WaterAid to be able to provide feedback on your initial direction and thinking.

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Thank You

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