

3. Desalination Plant (Powered by Solar Energy)

A number of desalination plants have recently been installed, but some are temporary solutions. The population is currently rationed to two buckets of potable water a day regardless of how many people live in the household. Whilst the desalination plants in place are appreciated, the situation is not getting better but worse. The drought continues and long range weather forecasts for Tuvalu predict that the drought will continue until next year due to the La Nina syndrome.

Additional desalination plants are required and EKT is appealing for funds to purchase at least one of these plants so that the daily water ration can be increased.

Aim

In order to address this emergency, EKT wants to install a solar-powered desalination plant. Secondly, EKT is promoting sustainable and environmentally-friendly initiatives as a long-term solution. The solar-powered unit reduces dependency on imported fuel but rather uses the sun, a resource of which Tuvalu has a great deal!

Objectives of proposed solar-powered desalination plant

- Increase water rations from 2 to 4 buckets per household per day
- Provide clean water which will reduce health risks from using contaminated wells
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Solar Desalination Plant , Specifications

Stationary Solar Reverse Osmosis Desalination Plant 600

The plant is available from an Indonesia supplier and has the following specifications:

Output: 2,200 litres per day

- Battery banks provide 24 hour continuous operation
- Transportable with easy sets up
- Skid-mounted with tanks and lighting

Watermaker: **SeaRecovery© UWC 600, 24V**

- Automated weekly freshwater flush system
- Plankton filter for feed-water
- inline charcoal filter for product water
- inline PH Neutralizer for product water
- inline UV sterilizer

Solar Desalination Plant



Power and auxiliary equipment:

- Solar Panels: 12 x 120W Mitsubishi – or equivalent
- 16 x 55AH Sundaya sealed, deep-cycle batteries – or equivalent
- Solar Boost 3048 24V Voltage regulator with LCD display
- 2400 litre GRP feed-water tanks
- 2400 litre stainless steel product-water tanks (closed)
- System lighting
- Skid-mounted on corrosion-proof GRP/aluminium frame and roof-frame for solar panels

EKT is working closely with the government through its National Disaster Committee. The desalination plant will be operated by the Public Works Department (PWD) which will also install the facility. PWD have technical skills to monitor the equipment and to maintain it

4. Provision of a Water Truck to facilitate distribution of drinking water

EKT has identified a need for a water truck especially now the number of desalination plants has increase. The truck will transport large volumes of water to designated locations in the islands to better supply specific and more distant communities.

The water truck will convey water from the desalination plants to cisterns around the islands. This will speed up the process of water delivery to outlying areas and provide them with drinkable water. This will also reduce health risks from contaminated wells.

The water truck will be operated under the supervision of the Disaster Management Committee, An EKT representative on the DMC will ensure the truck is used for the designated purpose. Fuel and other cost will be meet by the DMC.



5. First Aid Kit

Princess Margret Hospital, Tuvalu's only hospital, is currently taking urgent cases only due to the water crisis. In order to minimize the spread of water-born diseases, the EKT wishes to supply a number of First Aid kits in order to provide emergency response to cases and reduce the burden on the hospital.

EKT will be responsible for the First Aid kits and work in coordination with the Tuvalu Red Cross.

Conclusion

EKT appeals to church partners, church affiliate organisations and Non-Governmental Organisations and to all out brothers and sisters in Christ to support our proposal. The adverse impact of the drought is daily becoming worse and there is prospect of immediate relief. Indeed, it seems the drought will continue for two to three more months at the least. We do have the resources to deal with this catastrophic event on our own and we need your help, prayers and support.

This proposal is approved and endorsed by:

Rev. Tafue Lusama
General Secretary

