

# IDENTIFYING BEST PRACTICES AND INNOVATION IN WASH

- ▶ Ensuring access to water and sanitation for crisis affected populations
- ▶ Examining the quality requirements and guidelines for drinking water
- ▶ Improving hygiene and education
- ▶ Supporting best WASH practices in remote areas and conflict zones

By Dick van Dijk

ENVIRO-PURE FOUNDATION FOR ENVIRO-WATER CONSORTIUM

# Many People in Rural Areas Don't have Potable Water Available

- Surface Water from Rivers, Lakes, Ponds contains Bacteria without Exception
- Many Groundwater Sources also contain Micro-Organisms, of which some are Harmful Bacteria, Viruses, Cysts, Protozoa
- After Floods or other Natural Disasters many Wells are Contaminated
- Appropriate Technology can be Applied

# Millions of Deaths each Year

- Every 8 Seconds a Child Dies from Drinking Contaminated Water!
- In many Countries 80% of People Living on Farms Suffer from Intestinal Worms and 30-60% from Chronic Diarrhea
- WHO states:  
*Emphasis must be on PREVENTION and NOT ON CURE*

# SAFE WATER AND SANITATION MADE ACCESSIBLE TO ALL

- DRINKINGWATER TREATMENT plus  
WASTE WATER PROCESSING
- FOR RURAL-, DISASTER- and CONFLICT-  
STRUCK AREAS
- BASED ON 40+ YEARS OF EXPERIENCE

***Enviro-Water Consortium***

# Enviro-Water Consortium



**A NEWLY CREATED DUTCH-AUSTRALIAN WATER PARTNERSHIP OFFERS COMPLETE WASH FACILITY SOLUTIONS FOR:**

- **Rural Villages, Schools, Dormitories and Training Centres  
Longhouses, Community Centres, Clinics, Security Force  
Compounds, Hotels and Resorts**
- **DISASTER VICTIM- AND REFUGEE-CAMPS & SETTLEMENTS**

## **Enviro-Pure Foundation-Netherlands**

-UF & RO Water Purification from Almost Any Source,  
Fresh Or Brackish, Solar-, Wind-, MicroHydro-, Grid-Powered

## **Greenco Water-Australia:**

-Raw & Treated Water in Tanks that Come as Flat Pak,  
14,000 Litres on a Single Pallet

## **Envorinex-Australia:**

-Toilet Housings, Black & Grey-Water Treatment in Lego-type  
blocks of recycled plastic, Easy to Transport & Assemble

# Enviro-Water Consortium



ENVIRO-PURE FOUNDATION\*



ENVORINEX  
Innovative Sustainable Solutions

[HTTP://WWW.ENVORINEX.COM](http://www.envorinex.com)



smartUF



self-priming pump



motor generator



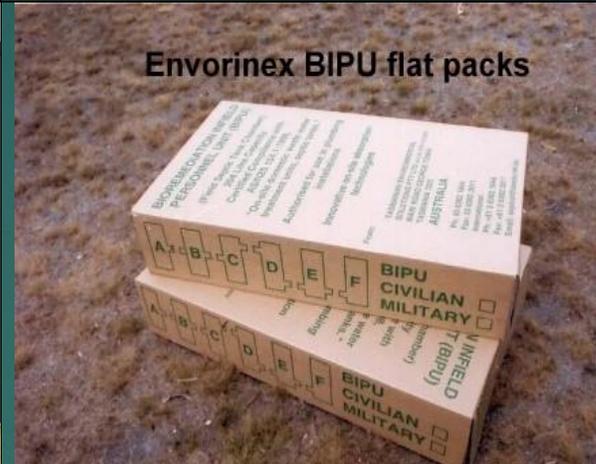
folding solar pane



Greenco Water PFT



Greenco Water  
1,000 lt tanks



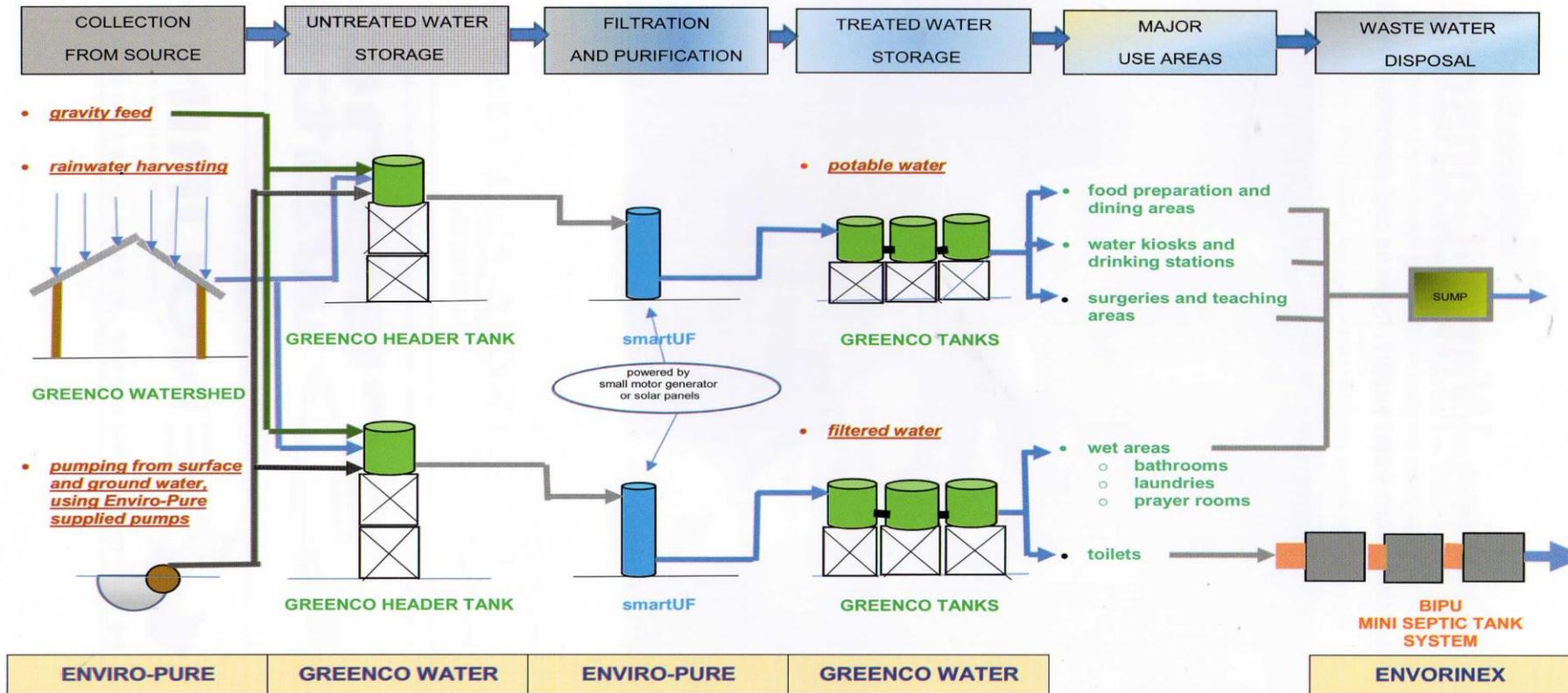
Envorinex BIPU flat packs

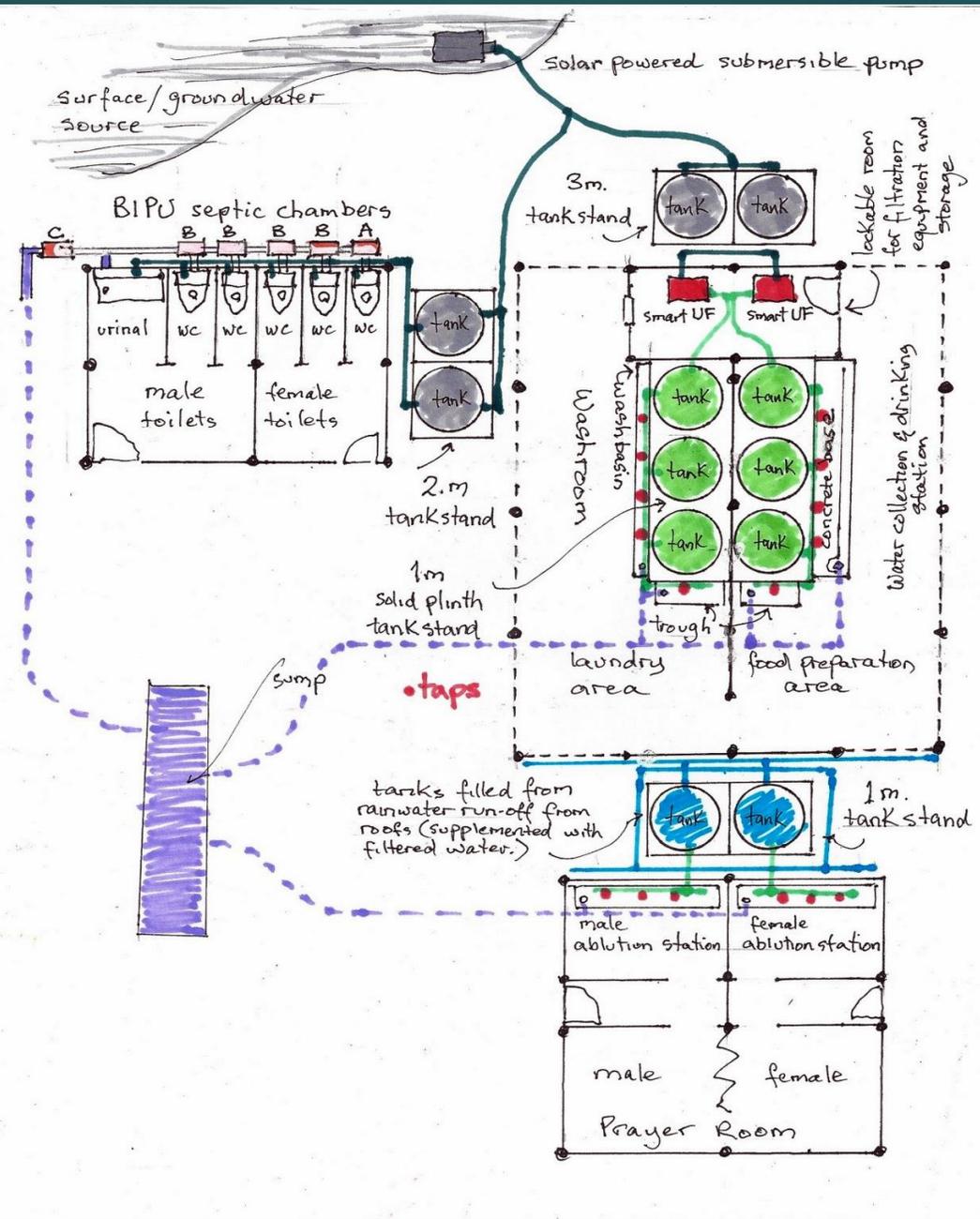


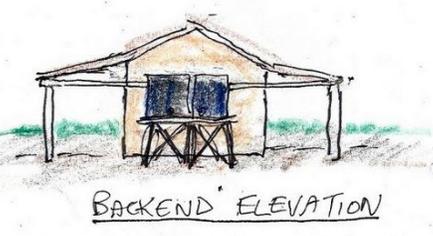
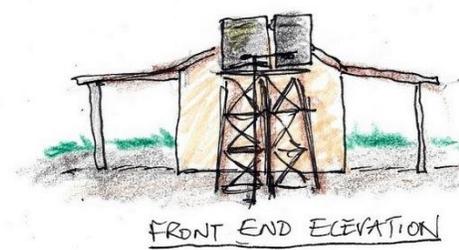
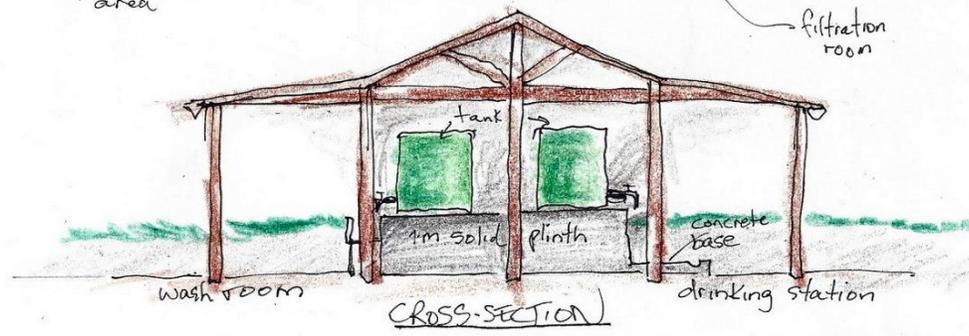
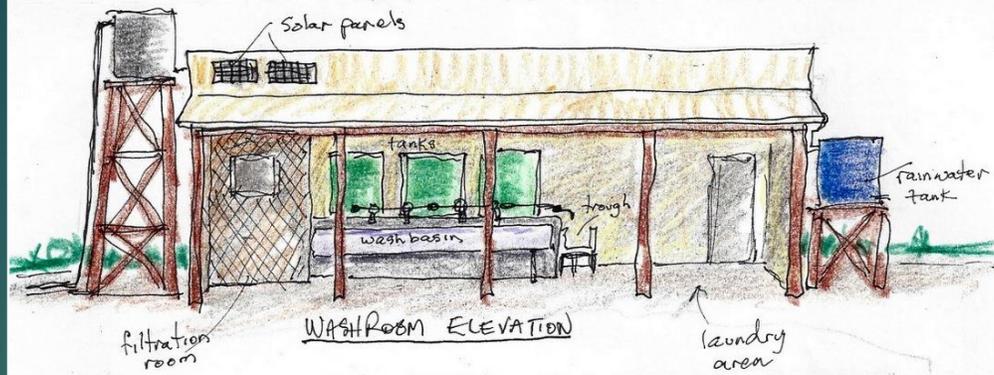
Envorinex BIPU sewage treatment chambers

# Enviro-Water Consortium

A DUTCH-AUSTRALIAN WATER PARTNERSHIP OFFERING COMPLETE WASH SOLUTIONS  
 for rural villages, schools and training centres, dormitories, clinics, community centres, security force compounds,  
 longhouses, water kiosks, hotels and resorts,  
 and  
 disaster victim and refugee camps and settlements







# Ultrafiltration How does it work?

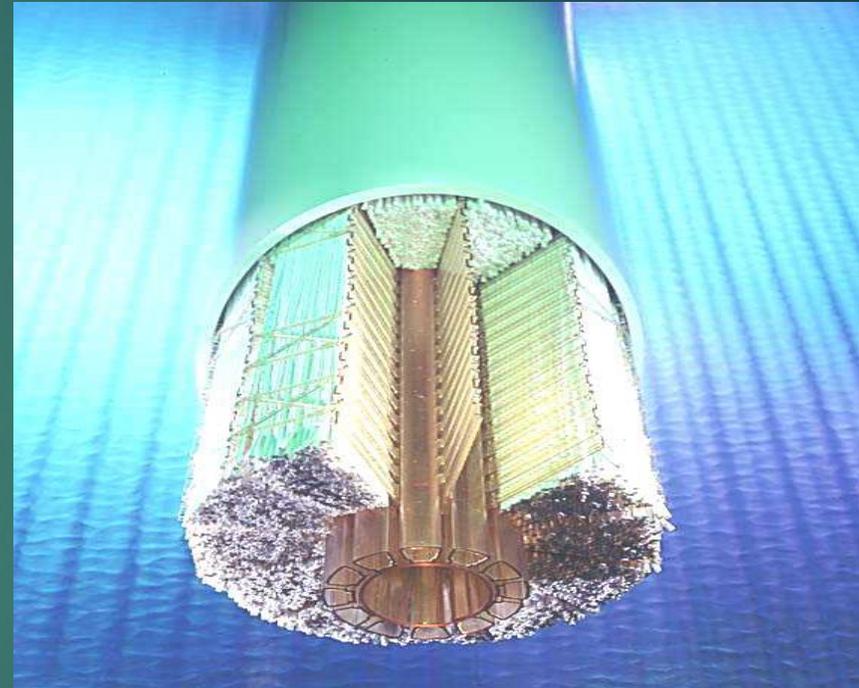
- Bacteria are Typically Larger than 0.5  $\mu\text{m}$ (microns)
- Viruses are Larger than 0.05  $\mu\text{m}$
- Pores of UF membranes are between 0.01-0.03  $\mu\text{m}$
- No Living or Dead Micro-organisms will be able to Pass this “Sieve”, nor will small Particles such as Colloids

# ULTRAFILTRATION

## is the State-of-the-Art Answer

Ultrafilters(UF) typically consist of many hollow fibers with a diameter of 1-2 mm. The walls of these fibers act as fine filters with a pore diameter of 10-25 nm and a total surface from 1 to 80 m<sup>2</sup>.

The flow of raw water should be from inside-out, allowing backwashing from outside-in thereby removing all trapped particles from the pores, including bacteria and viruses and eliminating dead pockets with accumulated dirt.





# GREENCO WATER PAK FLAT TANK

- 1,000 Liter tanks come in flat-packs for easy warehousing and bulk transport
- deliverable to any location on horse-, donkey-, camel-, elephant back, canoe or porter
- easily assembled on-site within 10 minutes without tools
- tanks can be connected to provide large storage capacity



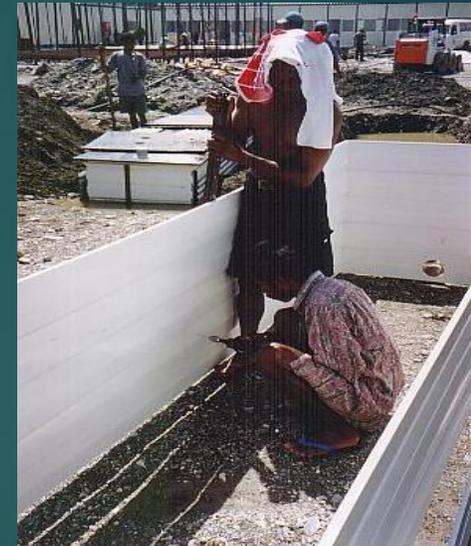
**ENVIRONEX** MINI WASTE WATER TREATMENT SYSTEMS MADE OF RECYCLED PLASTICS:  
CLICK-ON LEGO-TYPE ELEMENTS FORM A COMPLETE SYSTEM TO PROVIDE TOILETS & SHOWERS WITH  
GREY & BLACK WASTE WATER TREATMENT WITHOUT CONCRETE: LIGHT, QUICK, EASY, FOR REMOTE  
AREAS AND REFUGEE-& DISASTER SURVIVOR CAMPS, CLINICS, ARMY ETC.



Delivery of Treatment System for  
Hospital in PNG



Toilet Buildings Fiji



UN East Timur



**THANK YOU**

**Enviro-Water Consortium**