



Water treatment systems, villages & emergency

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A-Aqua AS
Norway

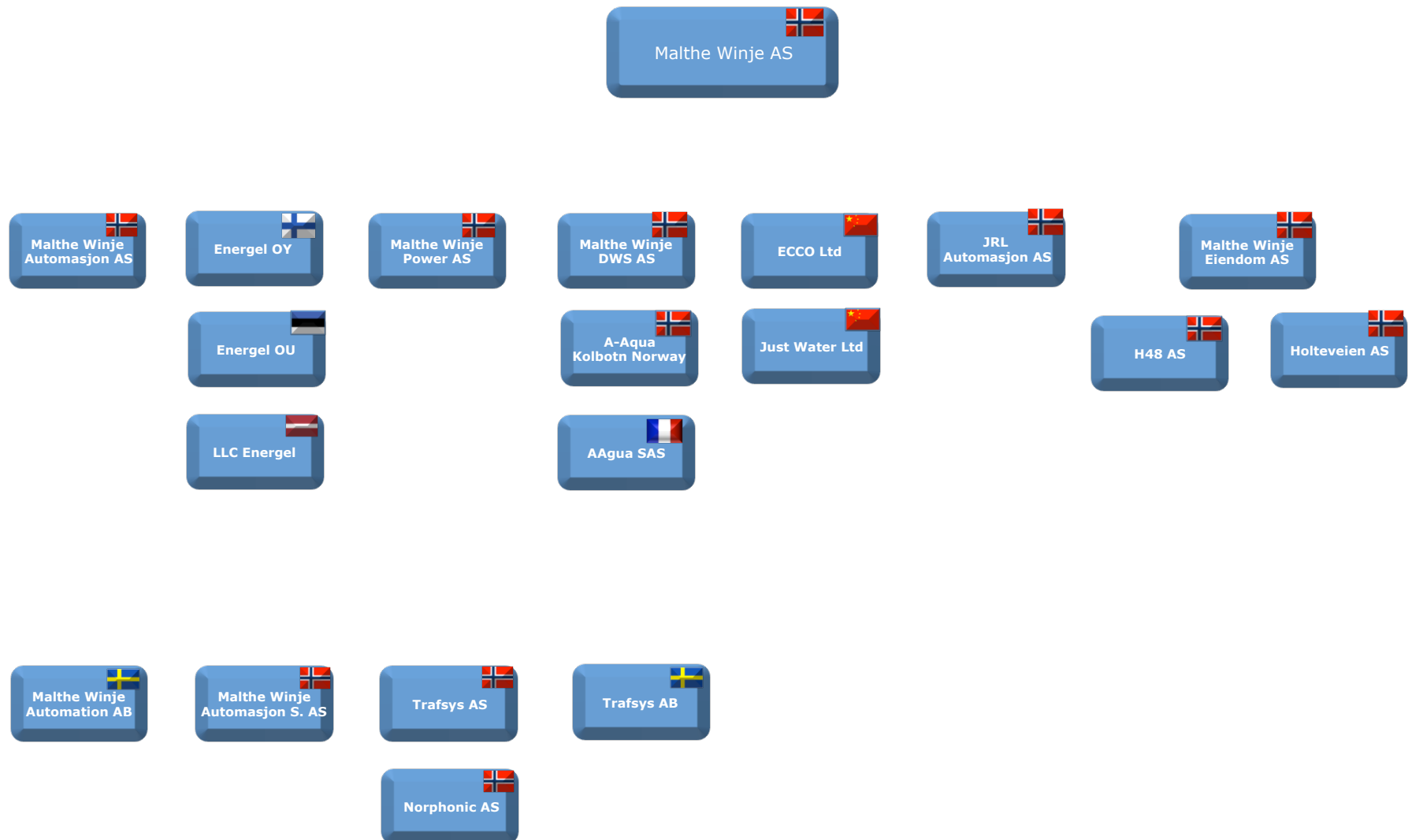


From November 1st 2012

Member of the Malthe Winje Group



MALTHE WINJE GROUP



Products for the Emergency Market

Since 1985.....

Production:
France, Norway, Ukraine, China

Warehousing: France

Representation:
Norway, France, Finland, China,
India, Uganda

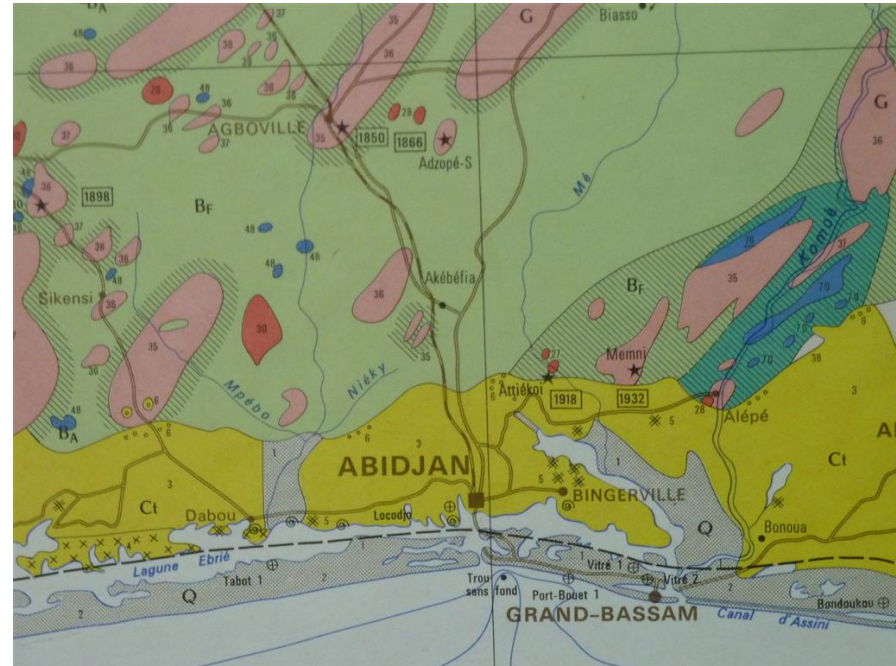


	1	10	100	1'000	10'000
Water Treatment					
Transport and Storage					
Distribution					
Sanitation					

Services and Projects



- Water supplies
- Sanitation and waste water handling
- Preparedness in urban settings
- Training



Focus: Coastal areas



Emergency Kit



Output: > 15-25 liters per day ☼

Utilisation: Suitable for individuals and small groups. Can provide up to 10 persons with drinking water. The Emergency Kit is used by travellers, NGO- UN and Government field workers, families in disaster areas

Filter life: 2 500 liters ☼



Shipping data: 25 in a carton box;
gross mass 16 kg;
dimensions 600x 400x400

Output: 15-25 liters per day (50 lt) ★

Utilisation: Suitable for individuals, small families, clinics, campers and caravanners

Filter life: 2 500 liters each ★

Shipping data:

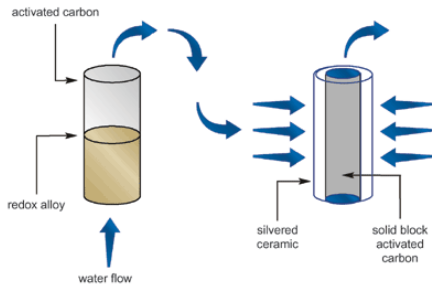
5 units in a carton box;
gross mass 9.0 kg; (10.5 kg)
dimensions 700x420x300 mm
(0.08cu.m)



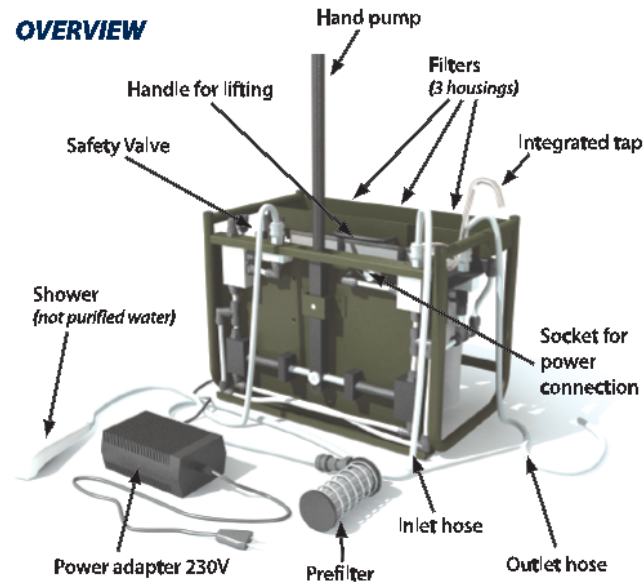
Family Kit

WT200

From CW42



OVERVIEW



Facts about the technology:

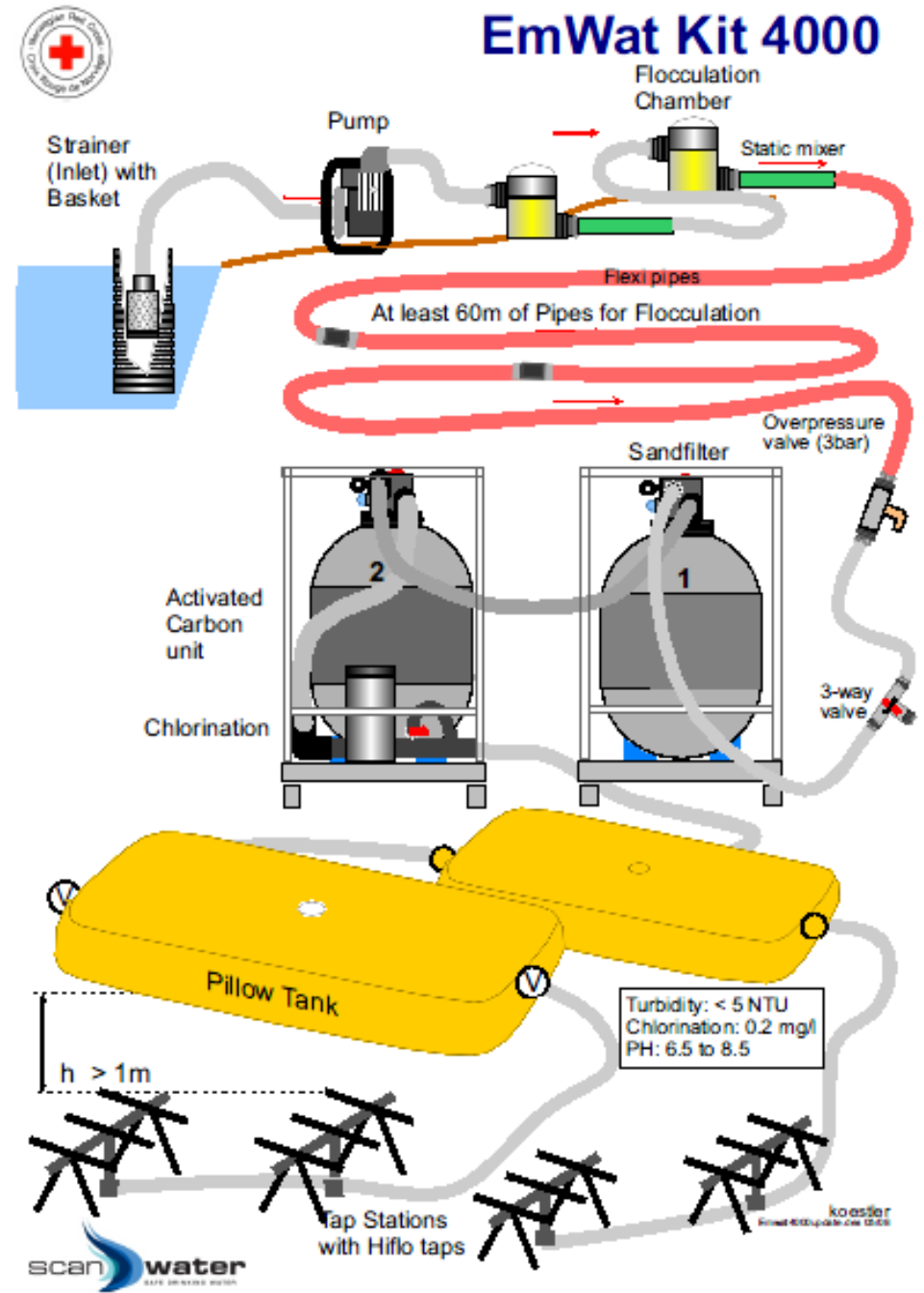
- A unique multi-stage water filtration system
- Easy to install and requires minimal maintenance. Only a simple filter change once a year or after about 4000 liters.
- No risk that polluted water will run through the system as the system stops delivering water when the filter needs cleaning/changing.
- Protects against water-borne infection
- Removes bacteria, parasites, colour, smell and bad taste.
- Controls the level of bacteria, heavy metals chemicals. E.g. E. coli, Salmonella, Giardia, Cryptosporidium, iron, copper, chlorine, radon, asbestos, agricultural/industrial chemicals etc.



EmWat Kit 4000



EmWat Kit 4000



EmWat Kit 4000

Shipping data: 3 Euro pallets –
dimensions 1.2x0.8x1.35 m – total
weight 874 kg.

Optional extra 4000 U Cans: in a
palletised wooden crate; mass 630 kg;
dimensions 1.2x0.8x1.75m

Liquid feed option: in a palletised
sectional wooden crate; mass 115 kg;
dimensions 1.2x0.8x0.75 m



Membrane filtration (RO) systems

Facts about the technology:

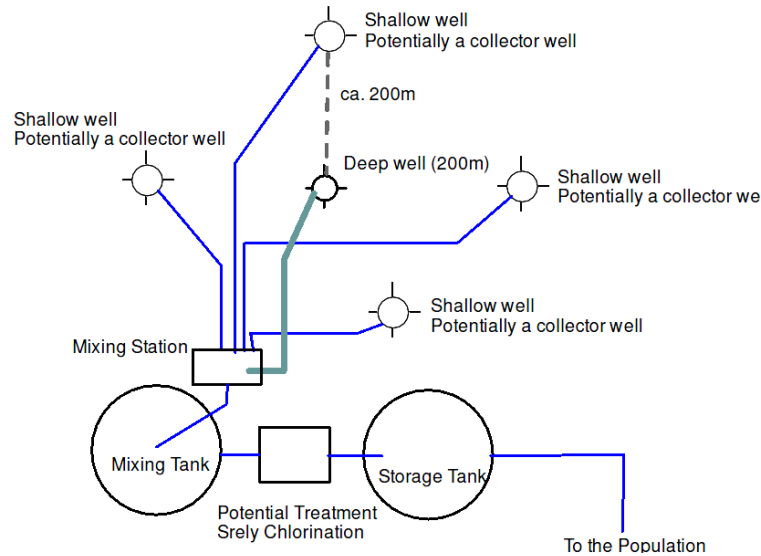
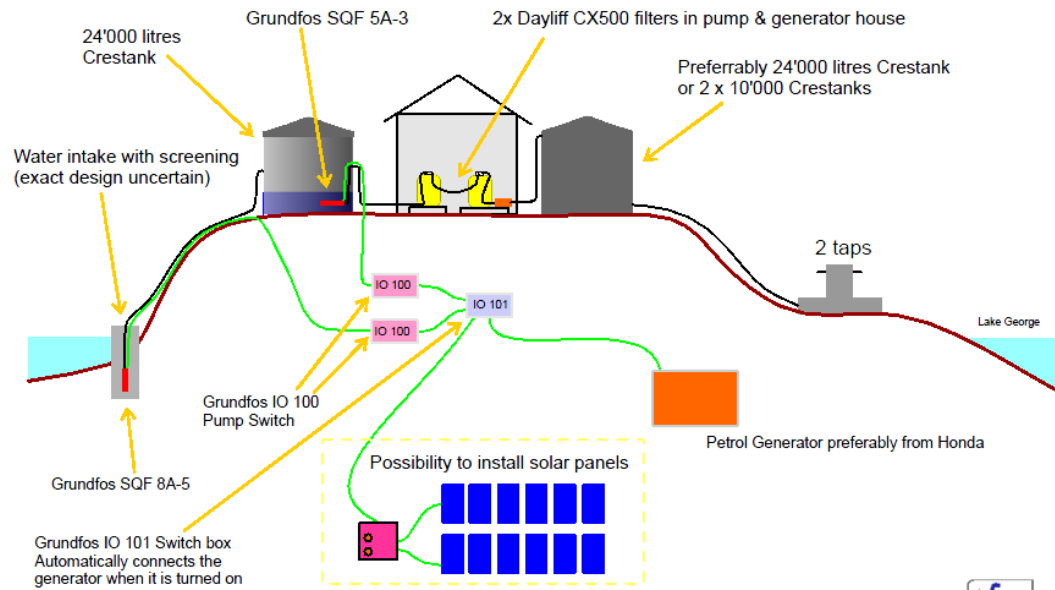
- 75 installations in India.
- Capacity ranging from 0,5 to 10.000 l/h.
- Log 3 hygienic barrier for bacteria, virus and parasites.
- Removal of Arsenic and Fluoride from ground water (with reference to tests/studies done at the University in Norway).
- Easy to increase capacity on existing systems.
- Easy to operate and to do service & maintenance.























PROJECT CONCEPTS

Install within short time – make it permanent over time!

Kashaka Water Supply System



Approved supplier

OXFAM		UN-offices	
Int. Committee of the Red Cross (ICRC)		United Nations Dev. Program (UNDP)	
Int. Federation of Red Cross (IFRC)		United Nations, High Commissionaire for Refugees (UNHCR)	
Word Vision Int. (WVI)		World Food Program (WFP)	
Médecins Sans Frontières (MSF)		UNICEF	
Norwegian Church Aid (NCR)		United Nations Office of Procurement Services (UNOPS)	
Norwegian, Finnish, German and Austrian Red Cross		Inter-Agency Procurement Services Office (IAPSO)	
Forut		United Nations/ Procurement Services (UN/PS)	
NOREPS		Office for the Coordination of Humanitarian Affairs (OCHA)	
International organisation For Migration (IOM)		World Health Organisation (WHO)	

The challenge: waste water handling in staff camps and field hospitals

The approach: bringing key partners together to set up existing components into the right setting

The solution: integrating technical solutions into a framework which responds on concrete demands



Potential reuse

Collector of black water

Collector of grey water

Treatment

Treatment

Recipient



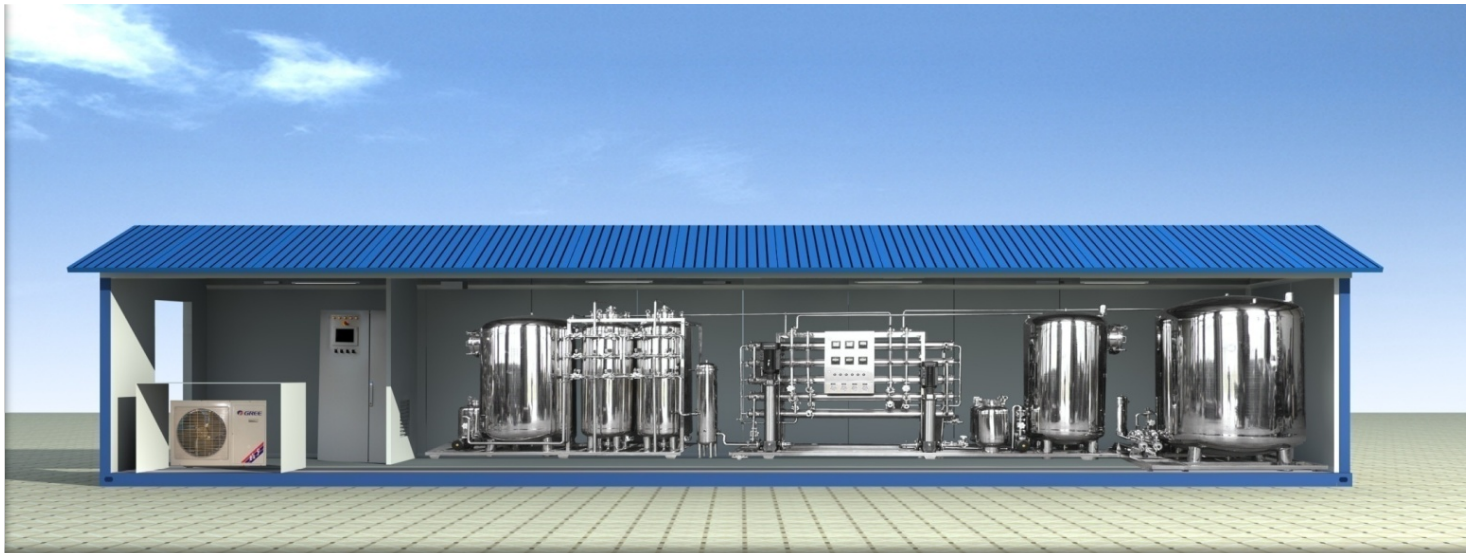
NOREPS as network for solution provision

COMPLETE DRINKING WATER PLANT

Fully automated DWS built in a 20`or 2x20`container.
Capacity 0,5/1/2/6/10/20 m3/h

- PLC-system incl. sensor and el. system
- Air-condition system
- Raw water supply system
- Pre-treatment system
- RO-desalination system
- Chemical cleaning system

- UV-disinfection
- Pure water supply system
- Inner/external decoration of container
- Roof on container
- FAT/SAT
- Training/documentation/Service

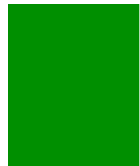


Just Water





education



what

sustainable livelihoods



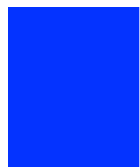
we

the midday meal



do

social research



safe drinking water

elementary education

children 3-14 years





the midday meal programme
cooking and nutrition solutions for government schoolchildren



water solutions

for farmers and rural homes



The safe drinking water programme

Contamination free water at doorsteps through appropriate technology

Safe Water - The Need is *Large*

***200 K Villages –
Contaminated Water***

***750K Deaths per Year–
Untreated Diarrhoea***

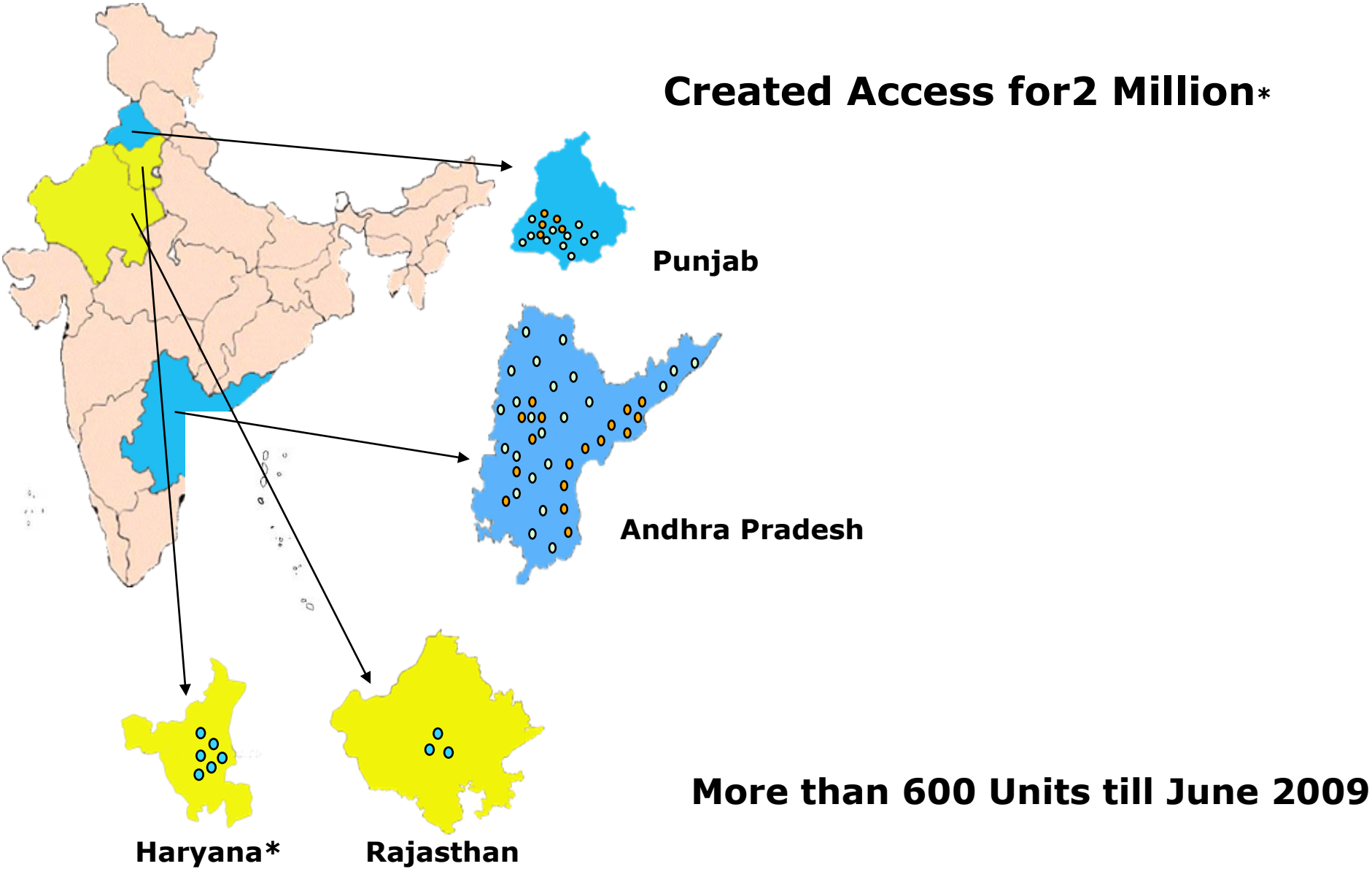
\$ 1 Billion - Medical Expenses

100 Million Working days lost

***8 States Contribute
50% of above***



Naandi Safe Drinking Water Programme - Current Outreach



AIMING FOR A RAPID RAMP-UP



Year

2010

2011

2012

2014

Total No.
of
Plants

Facts about Naandi (India) – our partner for the India rural area market

- India`s biggest NGO (None Governmental Organisation), with main office in Hyderabad (Andhra Pradesh)
- The board of directors are leading industrialists in India, with a huge network and possibilities.
- Naandi is a very professional NGO and use max. 10% on administration
- Naandi deliver food to more then 1 million children every day
- Naandi support more then 50.000 girls with education every year
- Naandi have a network to more then 50.000 small villages and have more than 1.200 fieldworks to follow up the villages.
- We have already installed 75 plants and have contract for totally 200 plants.
- The potential is very big. In India there is more then 630.000 villages and 100.000 of them is our DWS target .



Fluoride - Dental Fluorosis



ivinc



Questionable



Very mild



Moderate



Severe

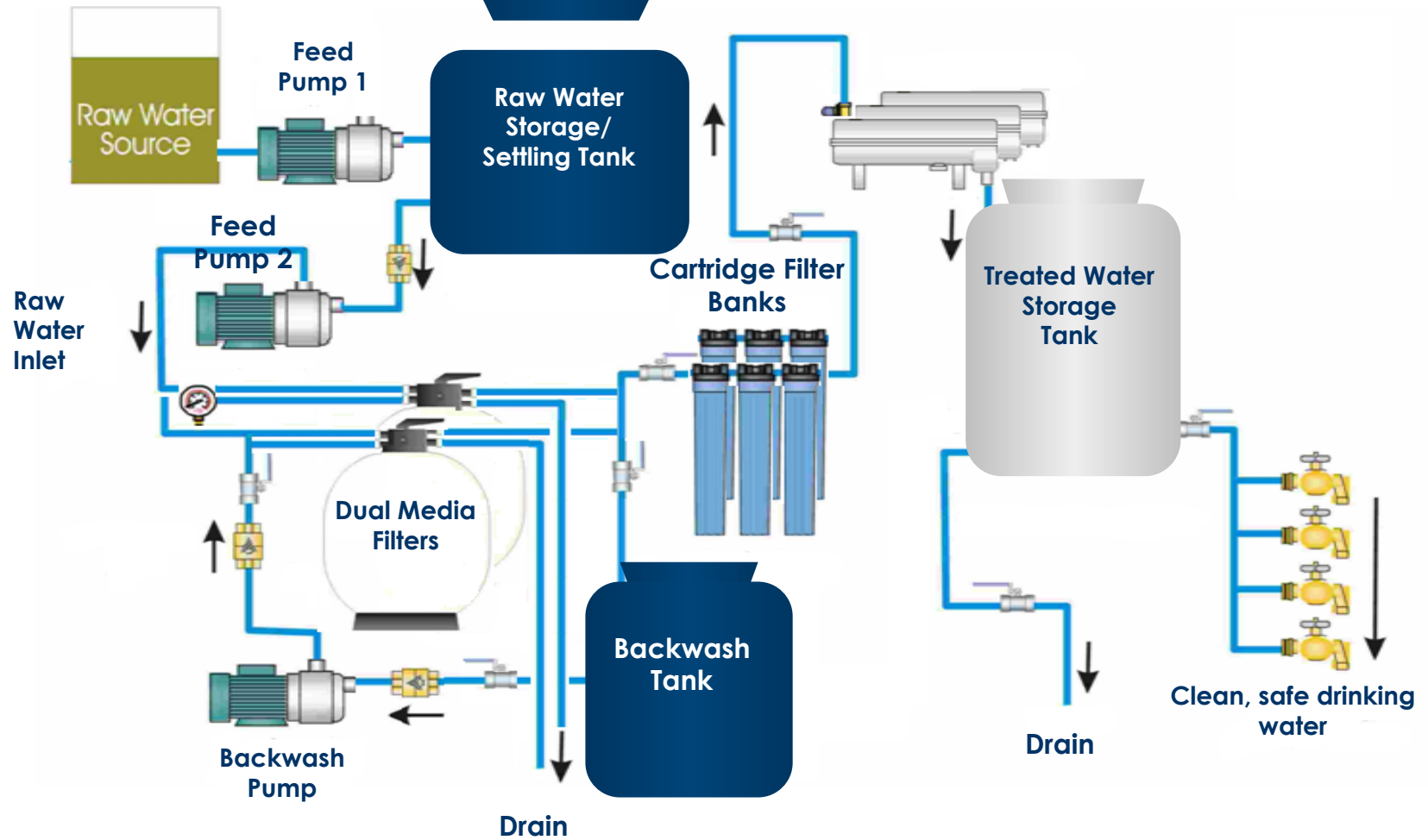
Source: Fluoridation Forum Report 2002 (Page 126)

Skeletal Fluorosis



These men in India have developed crippling skeletal fluorosis from fluoride in water

Diagrammatic Representation of the plant



Multimedia filter



Bag filter

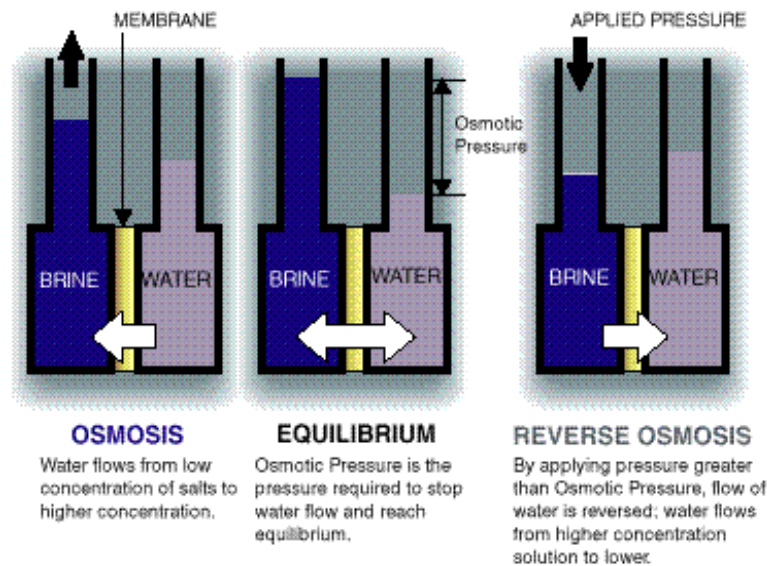


Cartridge Filter

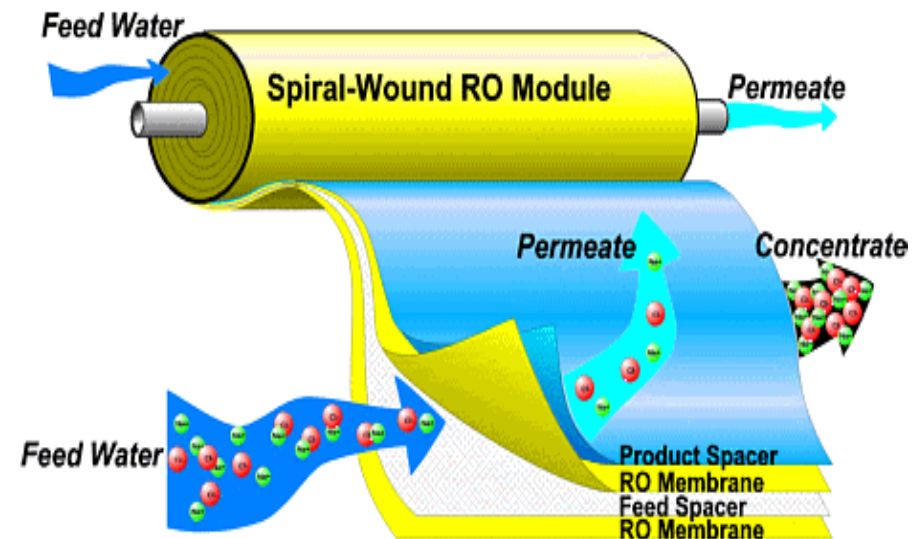


Filter housing

R O Principle



Membrane Structure



SETTING UP OF WATER PURIFICATION UNIT



Just Water



Villagers waiting for the one time registration soon after the opening of water purification Unit.



Jerry cans ready for the distribution





Water Purification Plant Opening ceremony.



Users getting their card punched
&
Taking the water from the plant



Those who don't want to come to the plant can get the water at their door step.

Employment opportunity for one more person from the village !!



Operational cost in rural area.
Electricity bill, Consumables, Salary
Maintenance etc will cost approx Rs
12000/- month. (250 US\$)

Minimum 200 Registered users needed
to ensure project sustainability.

Different types of RO machines



Operates 410 RO plants & 170 UV based plants in 4 states in India provides Safe drinking water to 1 Million people daily...



Cost of water from our Reverse
Osmosis & UV plants in General is
Rs 2/- per 20 Liter

1000 Liter = 2 US\$ approximately





Thank you for listening