

A world map with a blue and white color scheme, showing continents and oceans. The map is centered on the Atlantic Ocean.

BORDA

Bremen Overseas Research and Development
Association

Alex Miller

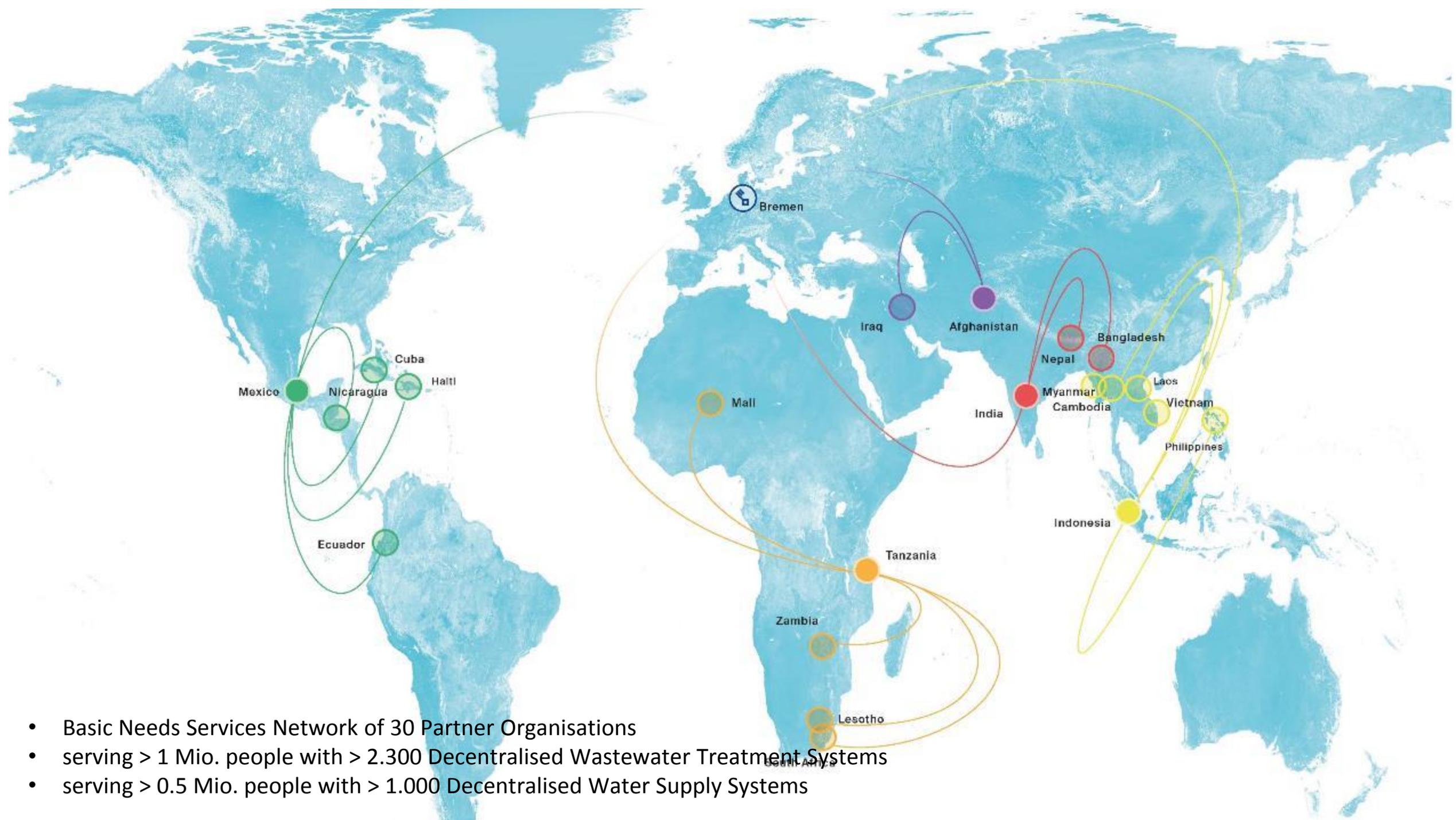
BORDA West & Central Asia

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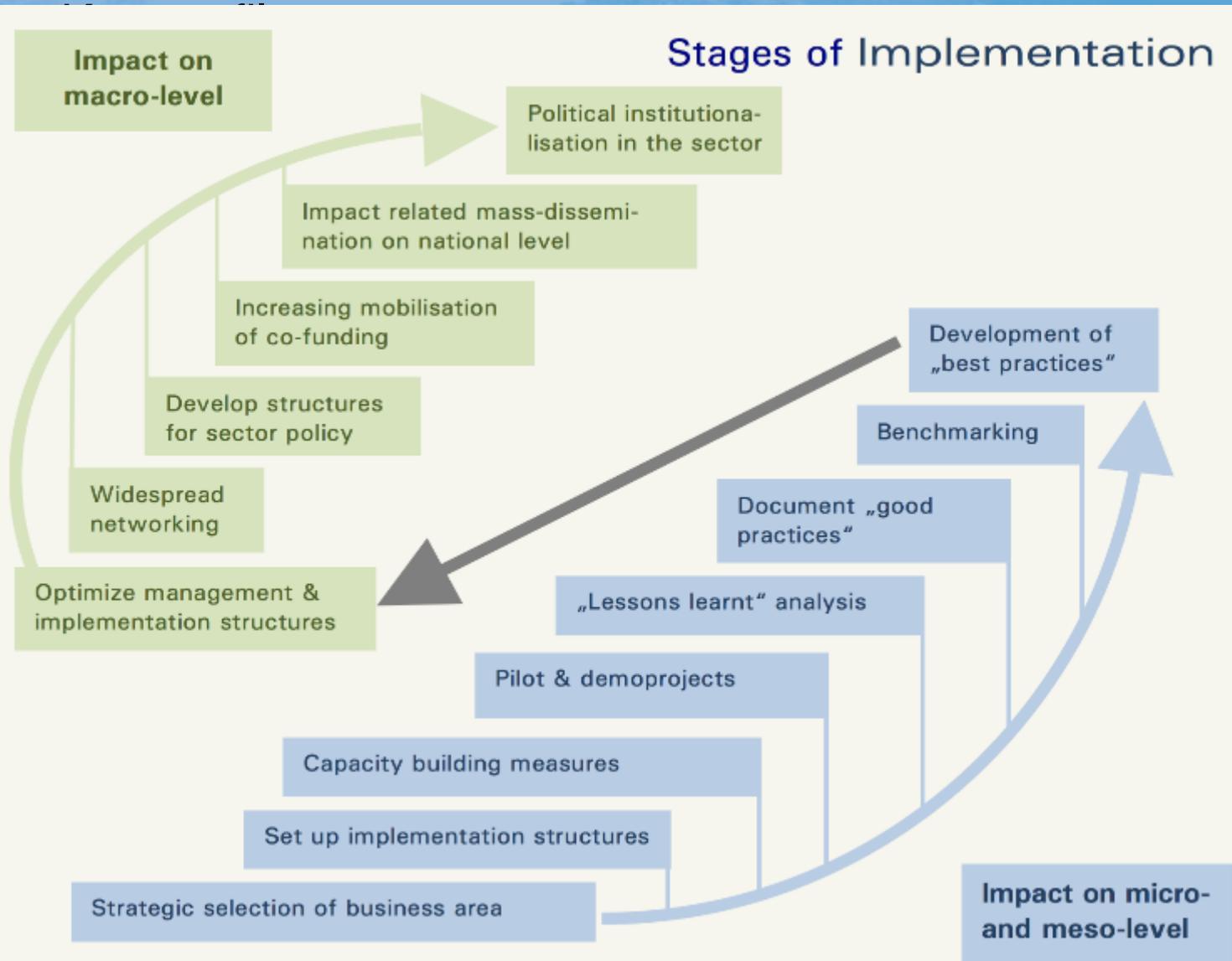
BORDA – Short Profile

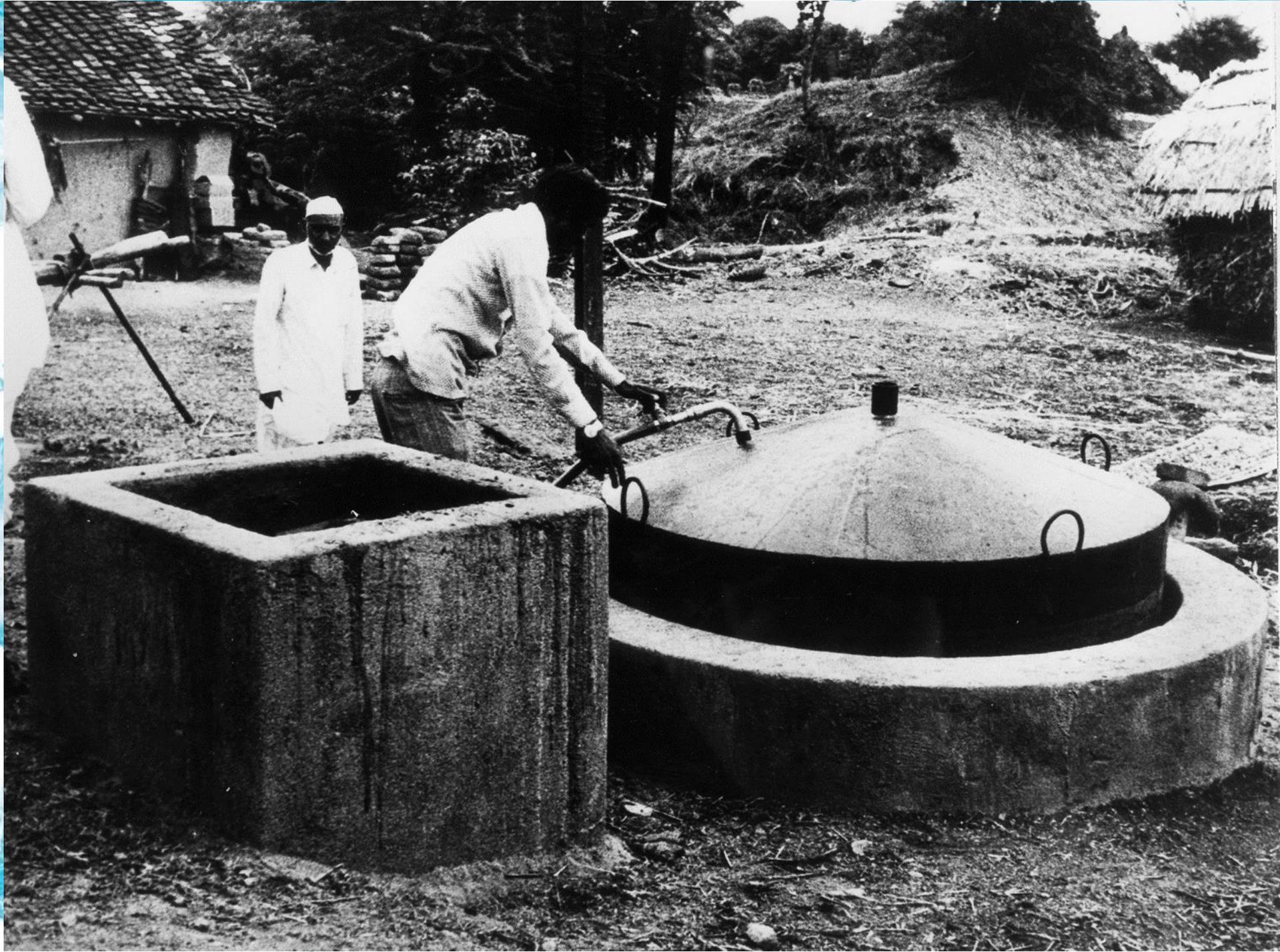
- Development of **decentralised basic needs services** on local government / municipal level as elements of **essential public services for all**
- Compatibility of economic growth with the protection of the climate and natural resources: Valorisation of **renewable energy sources** and **recycling**
- **Guiding principles:** human rights, demand orientation, participation, water stewardship, water-energy-food security nexus, progressive implementation
- **Capacity development**, know-how- and technology transfer
- Advising **sector policy** – local to global level
WASHnet.de, DWA, German Water Partnership, ForumUE, EUWI, SW4A, IWA, SuSanA, GW²I, BE
- Development education & awareness raising und **volunteer service**
- Non-profit NGO for capacity development and for-profit Ltd. for advisory services



- Basic Needs Services Network of 30 Partner Organisations
- serving > 1 Mio. people with > 2.300 Decentralised Wastewater Treatment Systems
- serving > 0.5 Mio. people with > 1.000 Decentralised Water Supply Systems

How do we work? – multi level approach





Emergency Sanitation

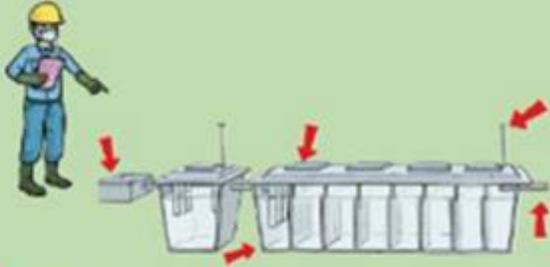


Emergency Sanitation





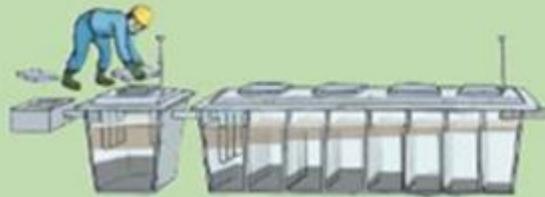
Emergency Sanitation



- 1** Check vessel quality: condition of manhole cover, gas release, inlet and outlet pipes, and condition of the wastewater treatment installation divider walls (look for cracks and leaks).



- 2** Check inlet vessel, and first and last chambers (look at floating waste or scum and the position of surface water inside vessel).



- 3** Open and remove scum/waste that are floating inside vessel. Start with the first chambers and continue with the others in order.



- 4** Use a shovel or spade to remove the floating waste/scum directly under the manhole.



- 5** Use a long handled T-shaped brush to scrape the divider walls of the vessel so that the waste can be pulled to the center of the manhole for removal.



- 6** Collect all waste, place it in plastic bags, and of it in the garbage bin for swift transport to the landfill

Emergency Sanitation



Emergency Sanitation



Emergency Sanitation



Emergency Sanitation

Option 1 / septic tanks and cesspool

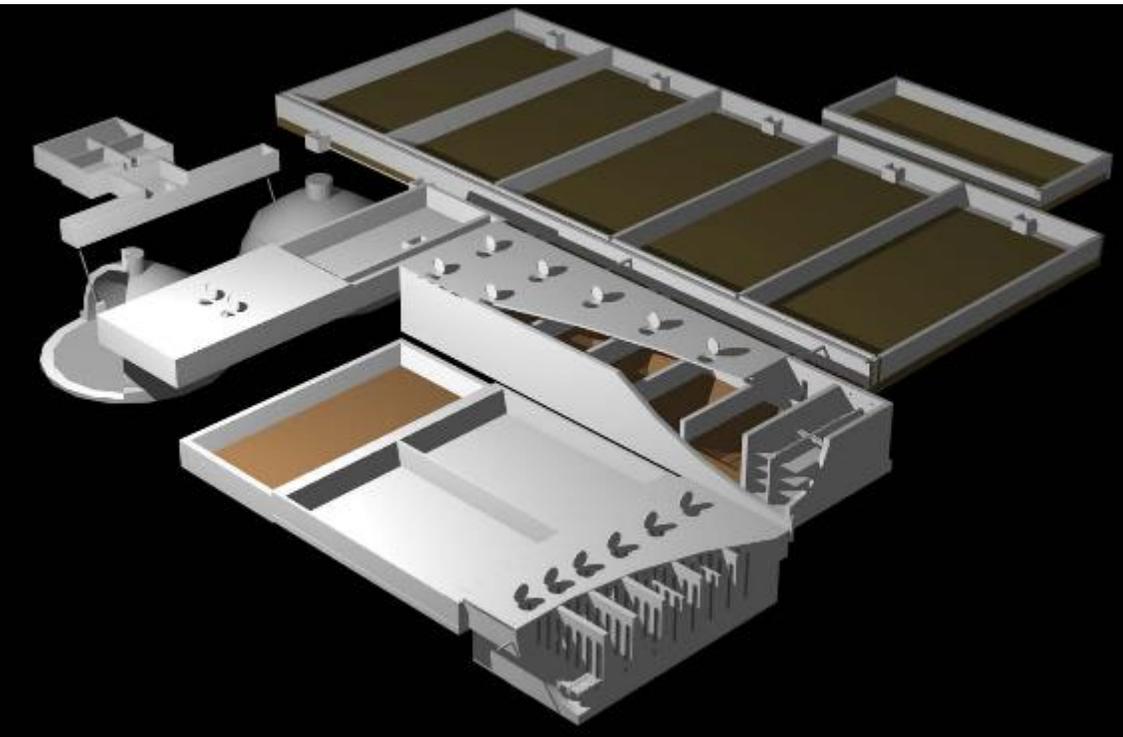
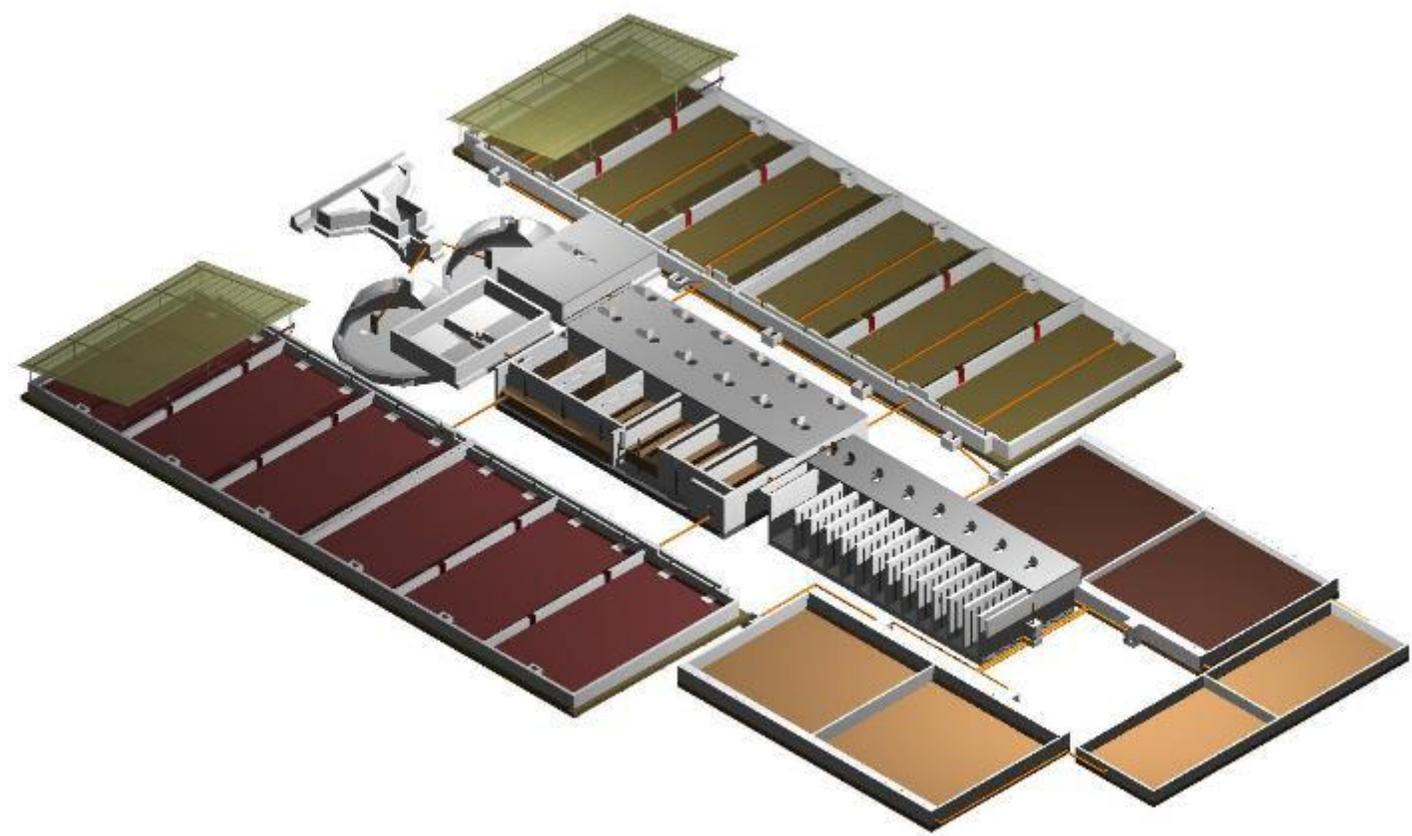
Option 2 / DEWATS

quantity	description	Unit price US\$	Summary	quantity	description	Unit price US\$	Summary
32	Septic tank out of solid blocks	2.200	70.400				
32	Cesspool (drilling and material)	800	25.600				
				35 pcs	Manholes for inspection	150	5.250
				576 m	Pipeline for wastewater	20	11.520
				1	DEWATS plant a 37 m ³ / day	1.000 US\$ / m ³ wastewater	37.000
				60 m	Fence for plant	30 US\$ / m	1.800
		Option 1	96.000			Option 2	55.570

MOJOKERTO REGENCY



**Banda Aceh City
STP Design**



**Mojokerto Regency
STP Design**





Thank you

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