

A world map with a light blue and white color scheme, showing continents and oceans. The map is centered on the Atlantic Ocean, with North and South America on the left and Europe and Africa on the right. The map is slightly faded and serves as a background for the text.

BORDA

Bremen Overseas Research and Development
Association

Alex Miller

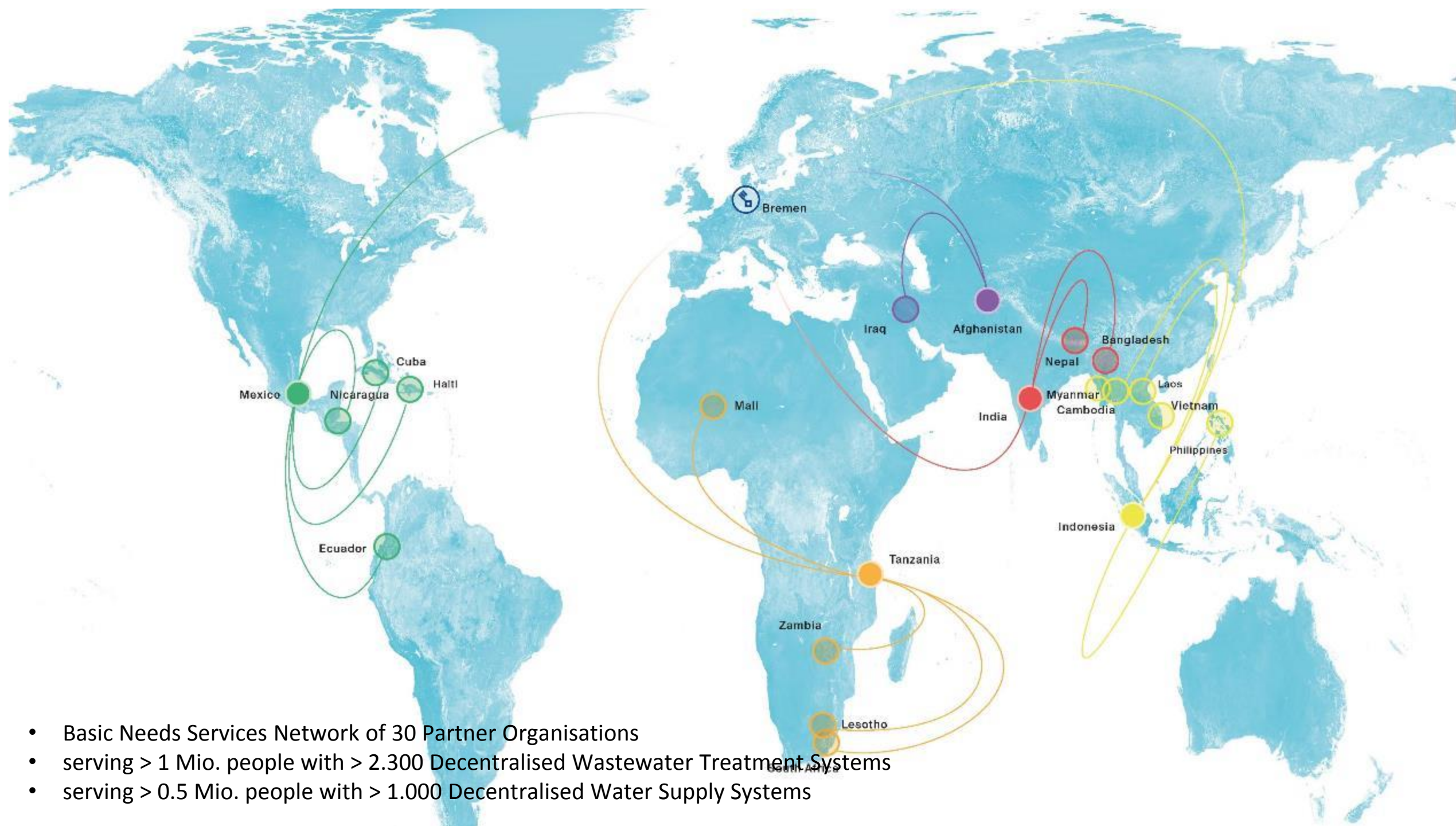
BORDA West & Central Asia

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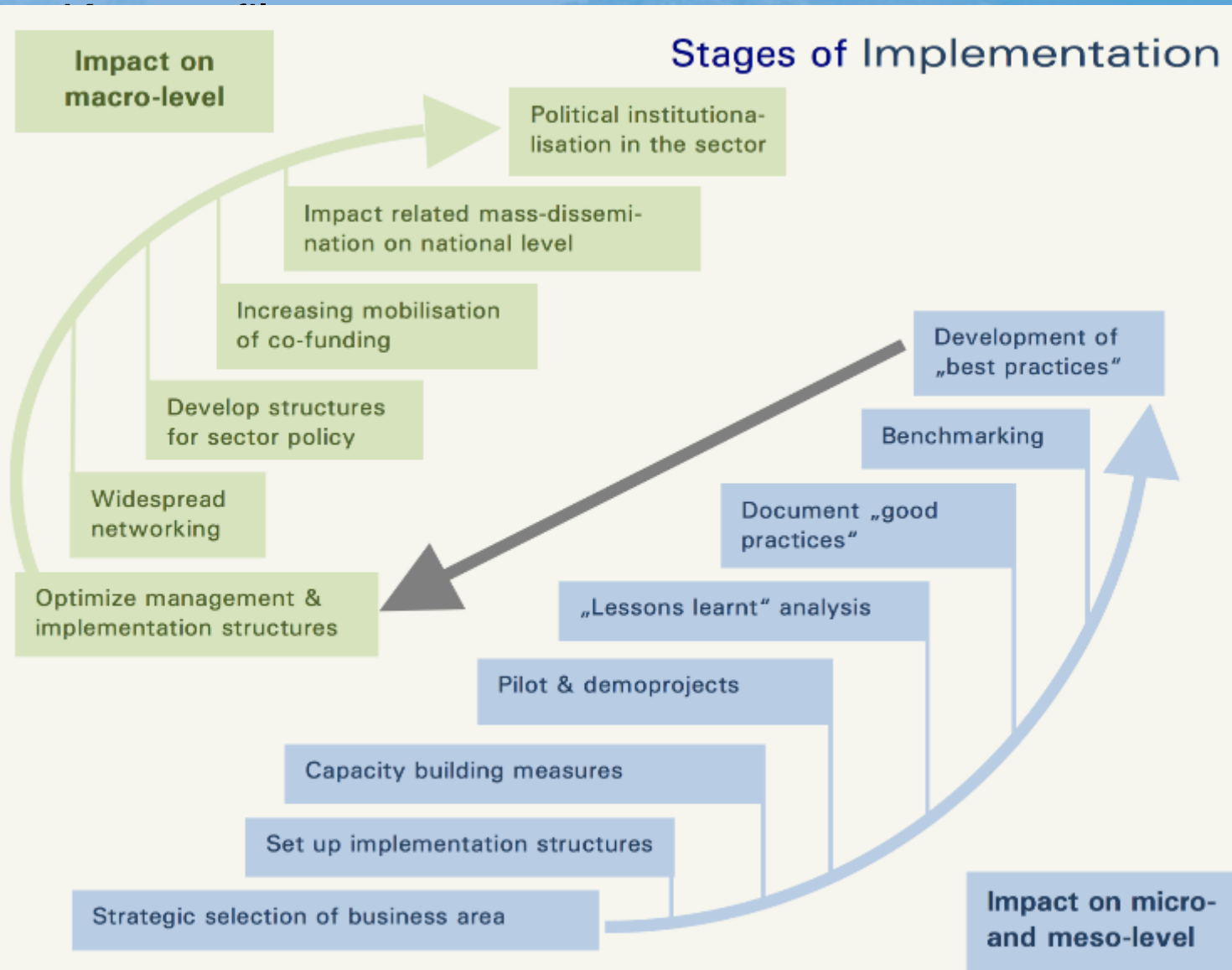
BORDA – Short Profile

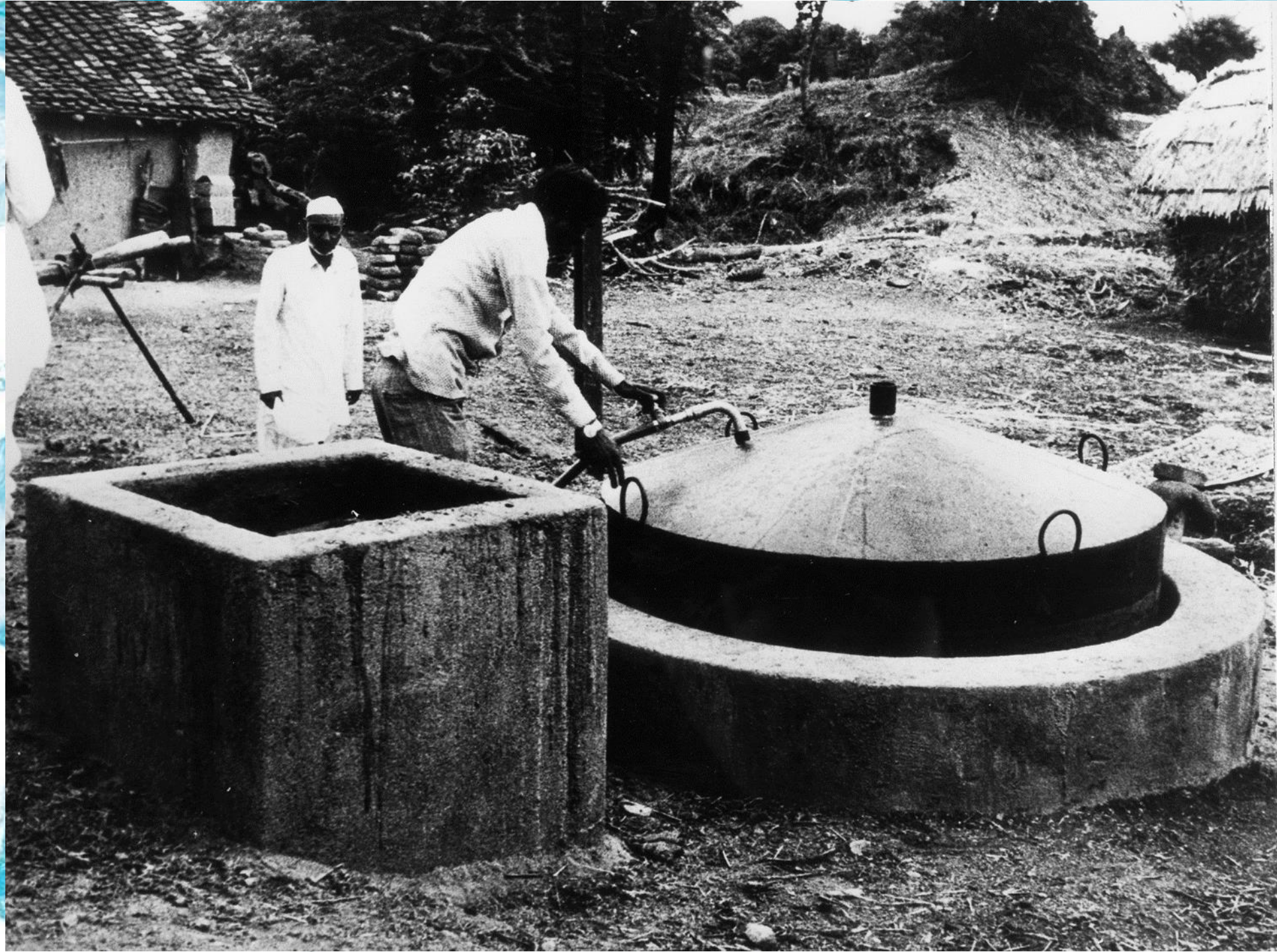
- Development of **decentralised basic needs services** on local government / municipal level as elements of **essential public services for all**
- Compatibility of economic growth with the protection of the climate and natural resources: Valorisation of **renewable energy sources** and **recycling**
- **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

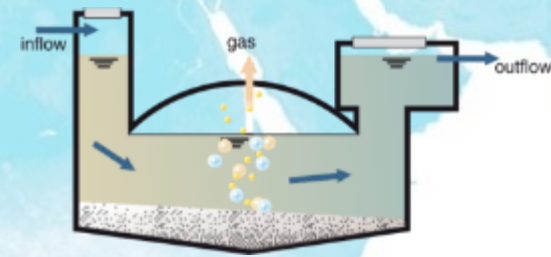
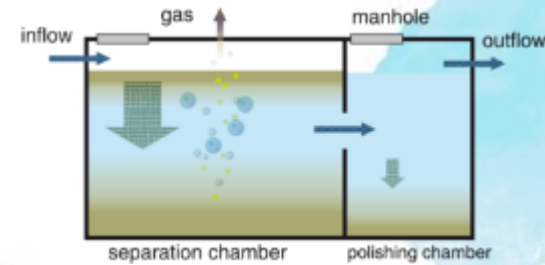
How do we work? – multi level approach



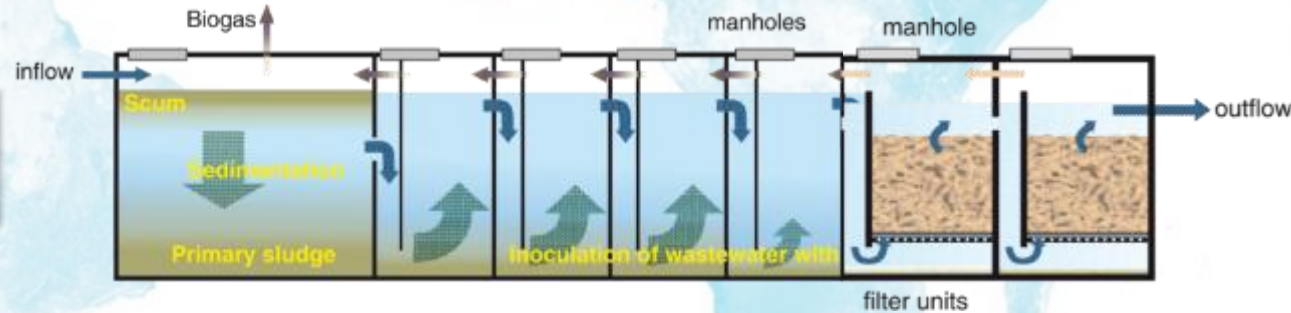


City- wide planning – decentralised solutions

Sedimentation

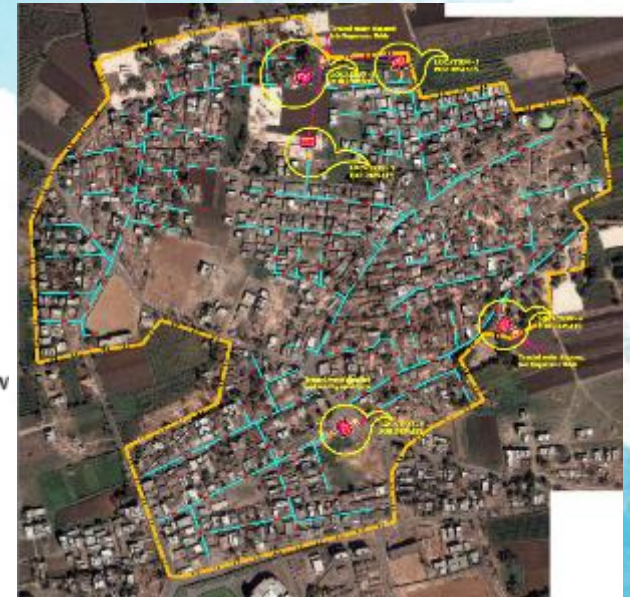
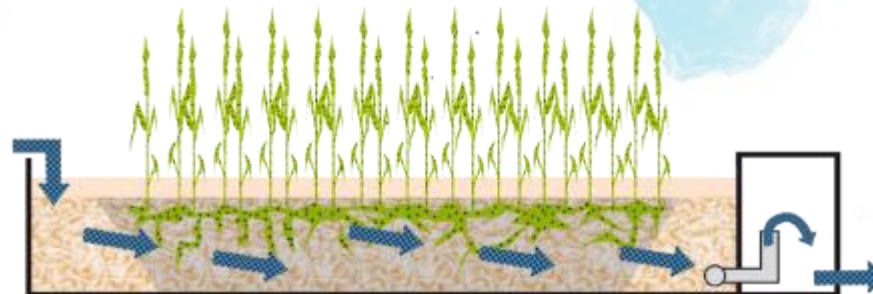


Anaerobic digestion



horizontal gravel filter

Aerobic and facultative decomposition



Development
Solutions
Award
2011 Practice



Emergency Sanitation



Emergency Sanitation





Emergency Sanitation



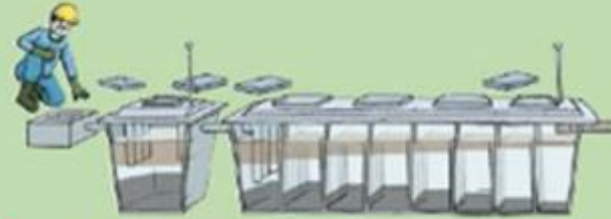
- 1** Check vessel quality: condition of manhole cover, gas release, inlet and outlet pipes, and condition of the wastewater treatment installation divider walls (look for cracks and leaks).



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



- 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.



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



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



- 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

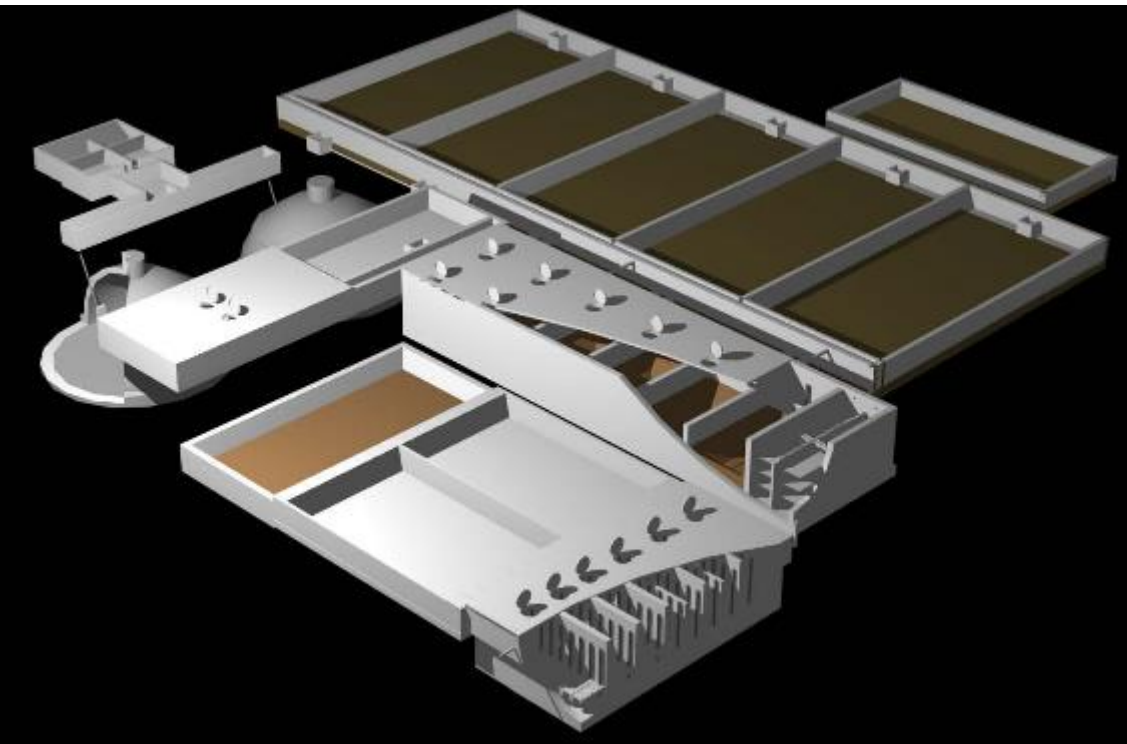
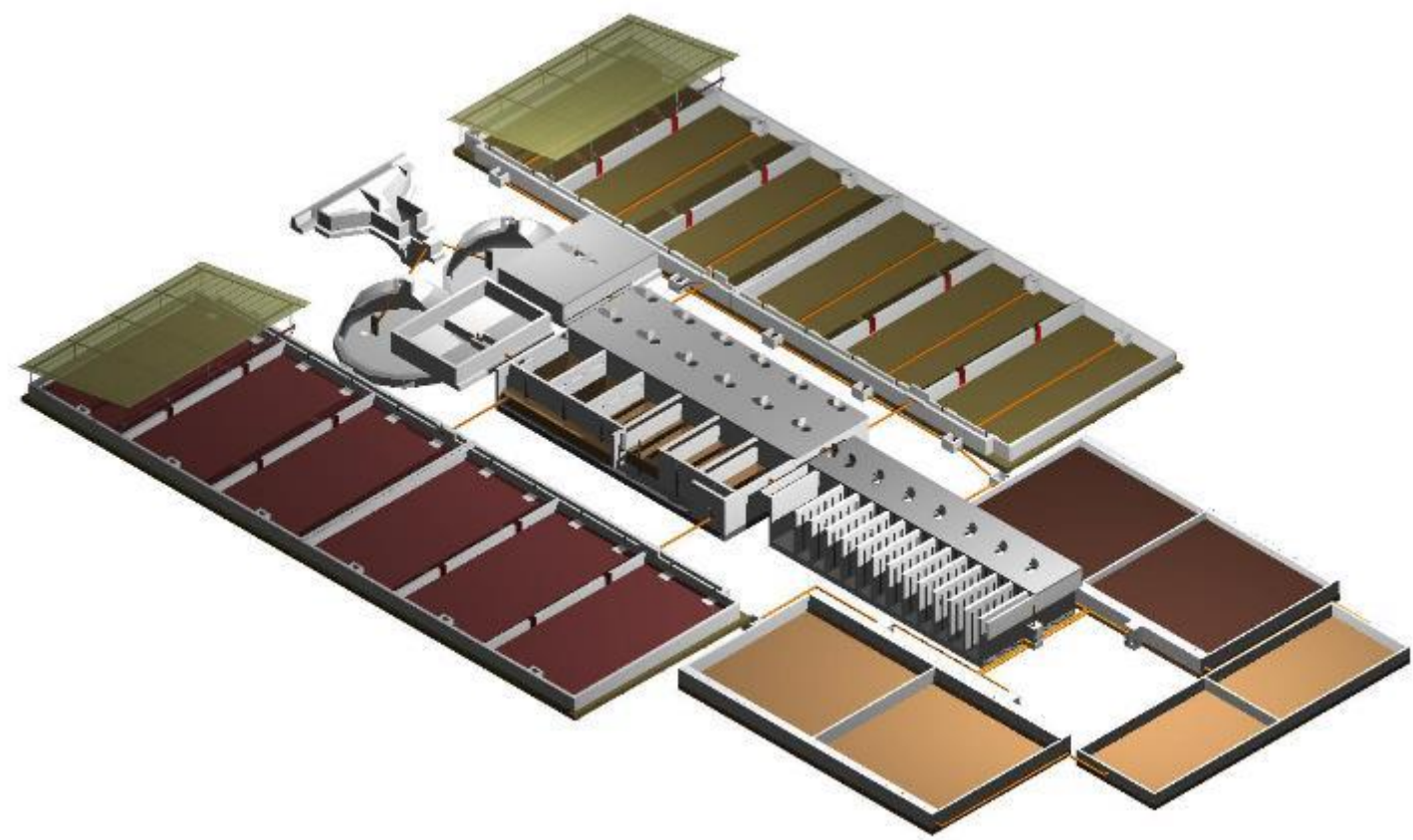
Option 2 / DEWATS

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 m3 / day	1.000 US\$ / m3 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**



A stylized world map in shades of blue and white, showing the continents and oceans. The map is centered on the Atlantic Ocean, with North and South America on the left and Europe and Africa on the right.

Thank you

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