experience and opportunity

Overview on Palestinian Water Resources and Needs

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Can not be potable water!

Gaza Strip Overview

- **Land area:** 360 km^2
- **Population:** 1.5 million
  - Half the population are under 15 years of age.
- **Water source:** Coastal aquifer
  - 90 – 95% of borehole locations for water supply are unfit for drinking. Water quality exceeds WHO guidelines for nitrates and chlorides.

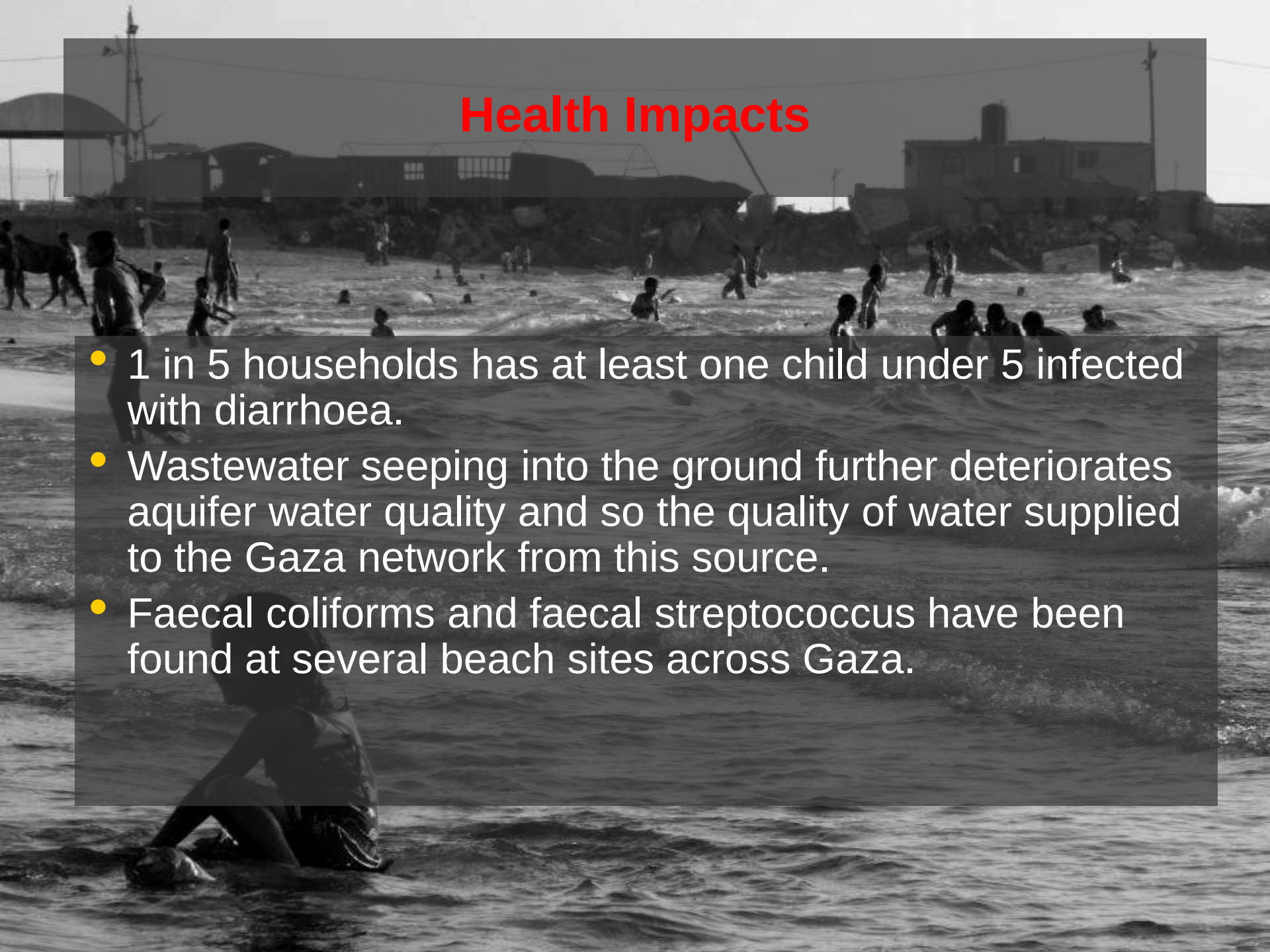
Wastewater flowing from the Khan Younis sewage treatment plant

Untreated wastewater flowing through Rafah Municipality Waste Dump

Sewage treatment situation

- **80 million litres** of **untreated and partially treated sewage** are discharged into coastal waters around Gaza daily.

- During operation cast lead there was extensive damage to water supply and treatment structures. One of the Gaza city wastewater treatment ponds was damaged causing 100,000m³ of wastewater and sludge to spill into adjacent agricultural areas.



Health Impacts

- 1 in 5 households has at least one child under 5 infected with diarrhoea.
- Wastewater seeping into the ground further deteriorates aquifer water quality and so the quality of water supplied to the Gaza network from this source.
- Faecal coliforms and faecal streptococcus have been found at several beach sites across Gaza.

The Causes

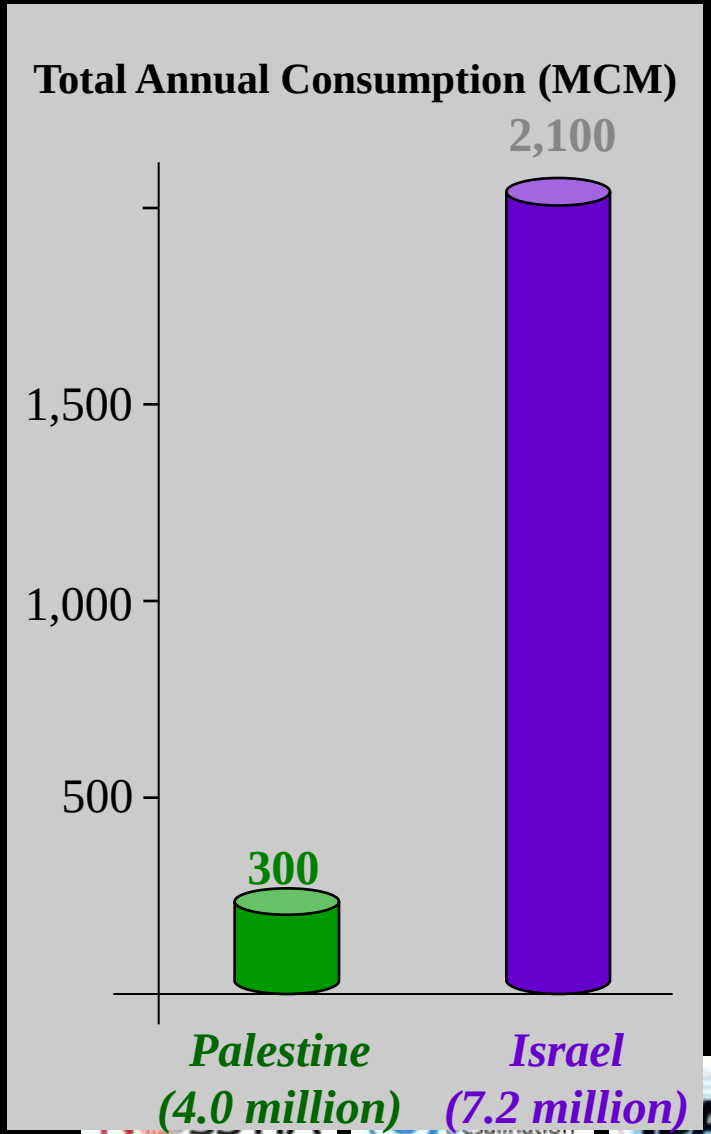
- Over abstraction from the coastal aquifer and sewage and saltwater contamination.
- Donors commitments for reconstruction and Development are not made active.
- Restrictions on the import of materials due to the blockade mean reconstruction, maintenance and repair are slow.
- Electricity supply insufficient to run wastewater treatment plants (and network domestic water supply).

West Bank: Water Supply and Sewage Treatment

- Total Water Consumption rate for all purposes has Declined from 156 CM/C/Y mid 1980 (Pop 1.5m) to 70 CM/C/Y (Pop 4.0m).
- Wastewater generated is 29 MCM
- Sewage Collection is limited to urban centers about 35% are connected.
- 10.2 MCM/y collected through networks (7% is treated) while 18.6 MCM/y is collected through cesspits.
- Average water consumption around 60 l/c/d.
- 10 % of population in WB is still not connected, served by tankers.
- 43 % of M&I supply from Mekorot.
- 41% of communities reported infections related to poor water and sanitation services.
- 22% reported amoebic infections.

Israeli and Palestinian Domestic Water Consumption

- 60 liters/capita/day vs. 280 liters/capita/day
- Overall consumption including agriculture and industry means Israel has access to **seven times more** freshwater than Palestinians.
- Many Palestinian communities less then 15 liters/capita/day *which is chronically less than Human Right to Water minimums*
- *This is not "equitable and reasonable" by any measure*



Water Resources

Overview of Shared Water Resources

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Control of Shared Water Resources

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Interim
Joint Water Committee

INEQUITABLE AND UNREASONABLE ALLOCATION

Transboundary Water Resources between Palestine and Israel (million cubic meters per year) 10-year average since OSLO II from 1996 until 2007						
			Palestine		Israel	
Resource	OSLO II Sustainable Yield	Total Utilization	Volume	% of Total Utilization	Volume	% of Total Utilization
Mountain Aquifer	679	734	97	13%	637	87%
Coastal Aquifer	---	592	150	25%	442	75%
Lake Tiberias Basin	---	471	0	0%	471	100%
Total	---	1797	247	14%	1550	86%

The Coastal Aquifer

- The coastal aquifer is the only water source within The Gaza Strip.
- 90 – 95% of the aquifer is undrinkable.
- The quantity of water abstracted from shared Coastal Aquifer in Gaza includes approx. 100 mcm over abstraction which is not sustainable.

  (9% Palestine – 91% Israel, without over abstraction).
- The coastal aquifer is being abstracted at an unsustainable rate – a practice that started during Israeli settlement establishment and expansion in the Gaza area.

International Comments

- UNEP recommends the immediate halt of abstraction from the Coastal Aquifer to avoid deterioration that "*could take centuries to reverse" (UNEP, 2009)*.
- UN Fact Finding Mission on the Gaza Conflict (Goldstone Report):

"... there was a deliberate and systematic policy on the part of the Israeli armed forces to target ... water installations."

Political Challenge

threatened to restrict the supply of water to the Palestinian Authority

I would also say that this is the way that wicked people behave

Conclusion

- must be equitable reallocation of shared water resources.
- A fair and reasonable reallocation to Palestinians

Water can be used as a vehicle for peace, rather than as a source of further conflict

- No viable Palestinian State without sufficient water

What is the solution?

- Allow restricted goods necessary for water and sanitation provision and to good hygiene practice into the Gaza Strip.
- End blockade so that freedom of movement for people and goods are allowed.
- Plan further than the end of the blockade so that environmental degradation and humanitarian needs can be addressed immediately and with a view to long term sustainability.

The Way Forward

- PWA is working with key donors in the sector to proceed in Institutional Reform and Strategic Refocusing of water Sector Infrastructure in Palestine.

- Out of the Strategic Infrastructure Programs planed are:

A. Gaza

- The construction of Gaza Central Sea Water Desalination Plant (100 MCM) and the National Water Carrier, a 400 MUSD.

- Construction of Three regional Wastewater Treatment Plants with reuse schemes. Constructions started at The North Gaza WWTP

- In addition, an emergency short term investment plan amounting to 106 MUSD is raised for funding. This includes upgrading and reconfiguration of the distribution system, water wells, booster stations, reservoirs, sewage collection system and storm water collection and infiltration.

Cont...

B. West Bank

- Constructing the West Ghor Canal .
- In addition, an emergency short term investment plan amounting to 113 MUSD is raised for funding. This includes expanding the distribution system, water wells, booster stations, reservoirs.
- Most of West Bank areas suffer from the absence of Wastewater Treatment Facilities. Emergency needs for this purpose is estimated at 300 MUSDS in addition to 150 MUSD for the waste water collection systems.

On the Institutional Reform Side:

- Revising the National Water Plan and the Water Law.
- Accelerating the process of building the Regional Utilities and Service Councils as service providers.
- Institutionalization of the Wastewater Reuse.
- Strengthening coordination between PWA and the Negotiation Affairs Department in realizing a sustainable future.