Special Presentation

Environmental Impacts of ISIL Conflict in Iraq
The Case of Mosul

Hassan Partow / 2 November/ Beirut
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• Debris Recovery
• Environmental Governance & Education
• Water management infrastructure

➤ Next Steps
Conflict-Affected Governorates
Areas Visited

- Mosul
- Qayarrah
- Mishraq
- Erbil
Contaminated Sites
Qayyarah Oil Field
The ‘Daesh Winter’
Well 46: Al-Shuhadaa Neighbourhood
Oil spilled or burnt estimated at two billion barrels
Qayarrah Refinery

- 18 Storage tanks
- 40,000 m$^3$ total capacity
- 20,000 m$^3$ burnt & spilt
Sulphur Fire

- ~50,000 tonne
- 30,000-35,000 tonnes burnt
- 1,500 people treated for suffocation symptoms
Two million tonne sulphur waste pile
Ammunition Workshops
Electricity Network:
37 Power Sub- Stations Damaged

PCB Contamination?
Electricity Network

PCB Contamination
Artisanal Oil Refining
Mosul Debris: ~11 million tonnes

Eastern Mosul: 25%

Western Mosul: 75%
A Sense of Perspective

10 MILLION TONS OF DEBRIS = 3 GREAT PYRAMIDS = 4 EIFFEL TOWERS

Debris quantity in Mosul of more than 10 million tons is equivalent to the 3 Great Pyramids or 4 Eiffel Towers.
Infrastructure Sabotage
Fragmented Approach based on Disposal

Moving more than 10 million tons of debris to a dumpsite ca. 10 km outside the city in 10 m³ trucks is the equivalent of 12 ½ million truck kilometres...

...which is the same as 16 times to the moon and back.
Missing Link: Debris Recycling

Crushing: Small Scale

Cost

250 MILLION USS
Cost of moving all of the debris outside the city

100%

175 MILLION USS
Save at least 30% by recycling half of the debris within the city

50%

Data based on preliminary estimates. © UN Environment and DWR/URP
Safety and Hazard Exposure

- Unexploded ordinance and improvised explosive devices
- Hazardous materials (asbestos)
- Demolition risks
Environmental Governance and Education
Nineveh Environment Directorate
Most assets destroyed or looted:

- laboratories
- monitoring stations
- vehicles
Environment College Library
Weaponization of Water Management Infrastructure
Next Steps

- Contaminated site assessment and clean-up
- Debris management planning
- Rebuilding environmental governance and greening reconstruction process
Thank you

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