

An aerial photograph of a city, likely Sana'a, Yemen, with a large mountain range in the background. The city is densely packed with buildings, and the mountains are rugged and brownish. The sky is a pale, hazy blue.

Humanitarian Challenges and the Targeting of Civilian Infrastructure in the Yemen War

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Project motivation and cases

- Targeting of civilian infrastructure as a central feature of post-2011 wars in Middle East.
- Track energy, water and sanitation, agriculture, and health systems essential for livelihoods, economic activity, and ecosystems
- Understand risks and constraints for environmental peacebuilding
- Iraq (1991 Gulf War- present)
- West Bank and Gaza (2000-present)
- Yemen (2011-present)
- Syria (2011-present)
- Libya (2011-present)

Data collection and methods

- Database coding discrete episodes of targeting energy, water, health, agriculture and transport systems
 - Sources: OCHA, ACLED, CIMP after 2018, HRW, Amnesty, PHR, open news sources (English/Arabic). YDP data included where verified.
- Document collection on cumulative effects
- Fieldwork/interviews with humanitarian and international organizations



Photo credit: UNOCHA, 2017

Starvation as atrocity

(DeWaal, *Mass Starvation*, 2018)

“There is so much destruction....much of the infrastructure is not operable...Basic systems that underpin human rights have been rendered not functional.”

-- Interview with the authors, WFP official after 4 years in Yemen.

“It’s the war that’s pushing Yemen towards famine. The economy is collapsing.... donors are offering much less help this year... what we’ve got now is the result of decisions taken by powerful people in Yemen and other countries...Those same powerful people could just as easily choose not to starve Yemen.”

`-- UN Emergency Relief Coordinator Mark Lowcock, 10 December 2020

Conflict-induced acute hunger in Yemen

IPC ACUTE FOOD INSECURITY ANALYSIS OCTOBER 2020 – JUNE 2021 Issued December 2020

PROJECTED SITUATION : JANUARY - JUNE 2021



16.2M

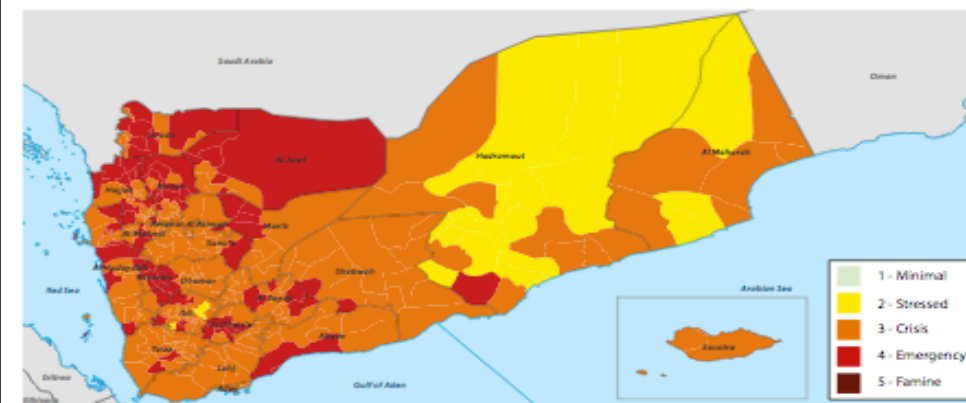
54% of the population analysed

People facing high acute food insecurity (IPC Phase 3 and above)

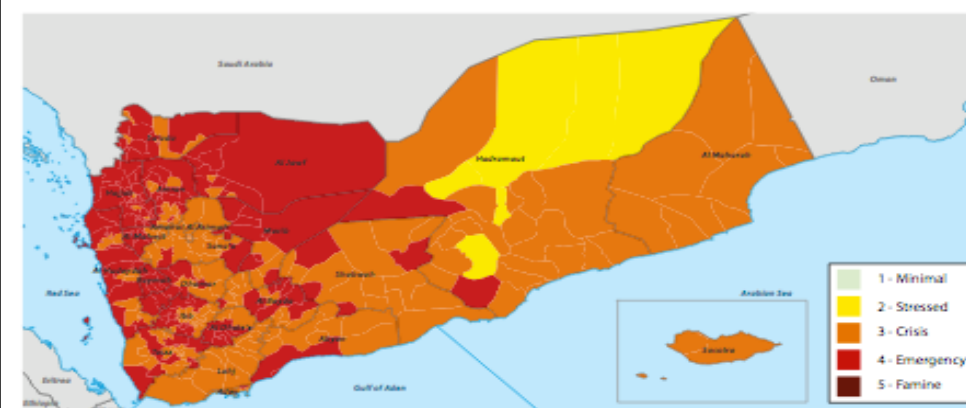
IN NEED OF URGENT ACTION

Phase 5	47,000 People in Catastrophe
Phase 4	5,058,000 People in Emergency
Phase 3	11,042,000 People in Crisis
Phase 2	8,644,500 People Stressed
Phase 1	5,258,000 People in Food Security

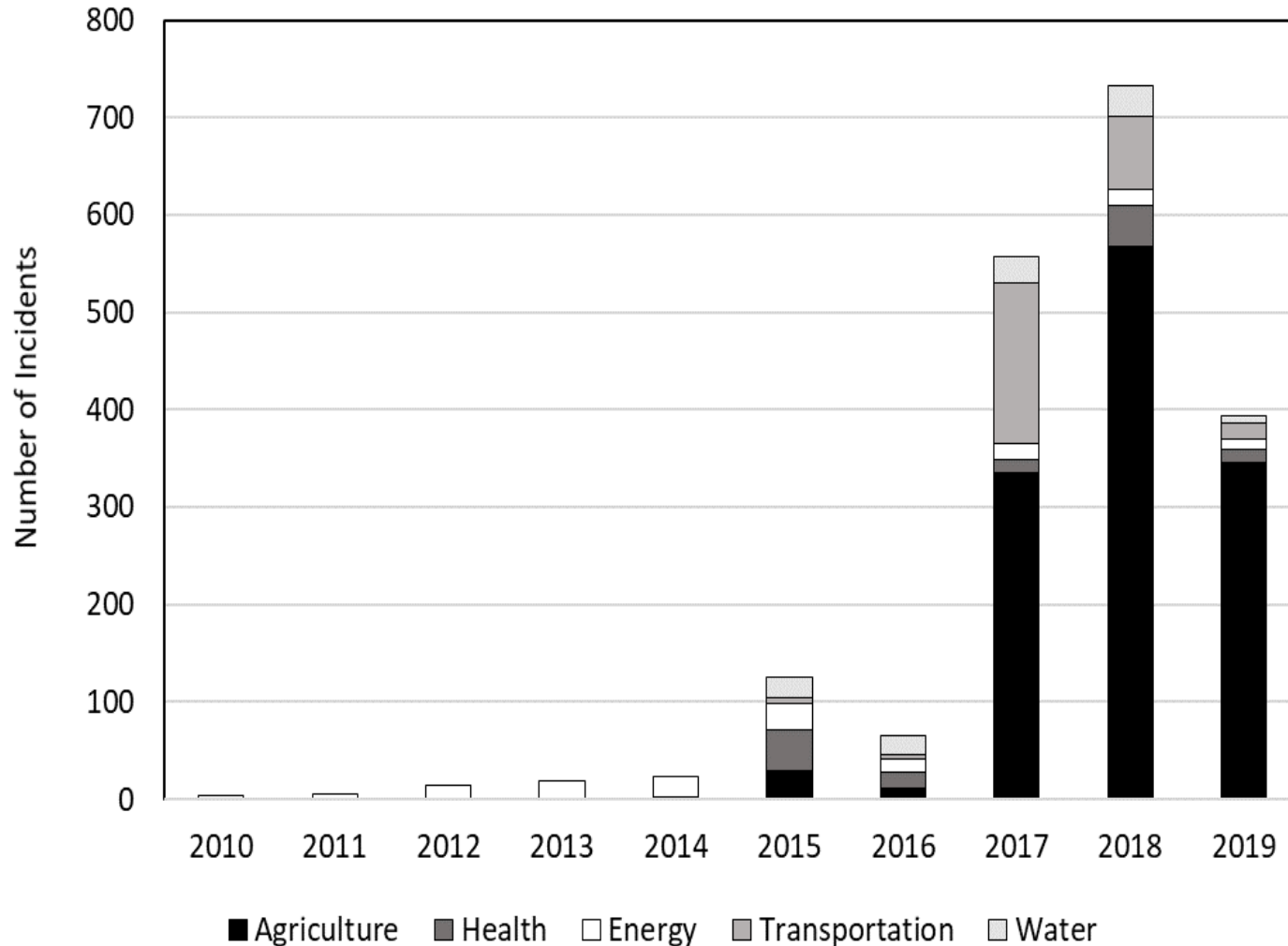
Current Situation: October - December 2020



Projected Situation: January - June 2021



Infrastructure targeted by sector, 2010-2019

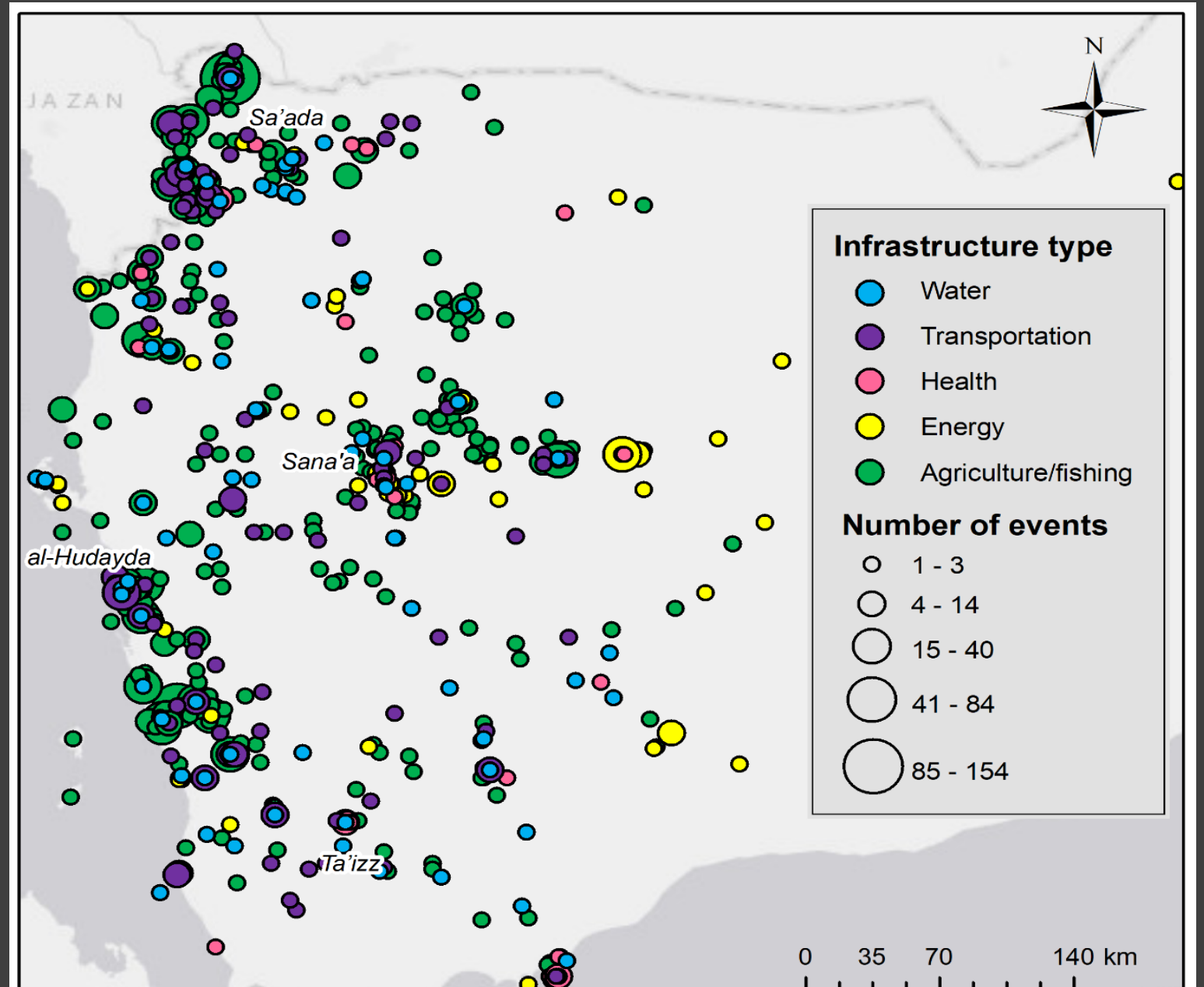


Infrastructure Targeted by Type

	Incidents	%
Agriculture/fishing	1292	67%
Energy	150	8%
Health	128	7%
Transportation	266	14%
Water	105	5%
Total Incidents	1941	

Mapping Infrastructure Targeting in Yemen

Source: Authors' database.
Years: 2010-2019



Actor Attribution: Issues and Findings

Actor Involved in Destruction												
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total	%
Saudi-led coalition	0	0	0	0	2	110	64	528	461	140	1305	67.2%
Houthi forces	0	0	0	0	1	7	0	5	21	49	83	4.3%
Non-state armed groups	3	4	11	17	20	1	1	0	0	1	58	3.0%
Political Militias	0	0	0	0	0	0	0	0	19	57	76	3.9%
Hadi Forces	0	0	0	0	0	0	0	20	8	3	31	1.6%
Unknown	1	1	4	2	0	8	0	4	224	144	388	20.0%
	4	5	15	19	23	126	65	557	733	394	1941	100%

Targeting agriculture and fishing

70% of population lives in rural areas.; over 50% employed in agriculture-related activities

Track targeting of farms, markets, flour mills, food-processing companies, fishing boats, poultry farms and livestock

Undermines livelihoods and increases internal displacement.

Fishing sector also targeted



Airstrike on cucumber farm

Photo by Taha al Surgbai, used with permission

Challenges for Humanitarian Assistance

Some of the largest donors are also major parties to the conflict.

Aid is much less than needed and much less than expenditures on the war.

Blockades on imports: UN monitoring system is no substitute for trade.

Diversions and obstructions of aid by parties to the conflict.

Local suspicion/concern over electronic tracking and biometrics.

Humanitarians targeted despite providing coordinates to Saudi-led coalition and others.



Photo: MSF Yemen

Implications for Environmental Peacebuilding

Sectoral linkages and reverberating effects:

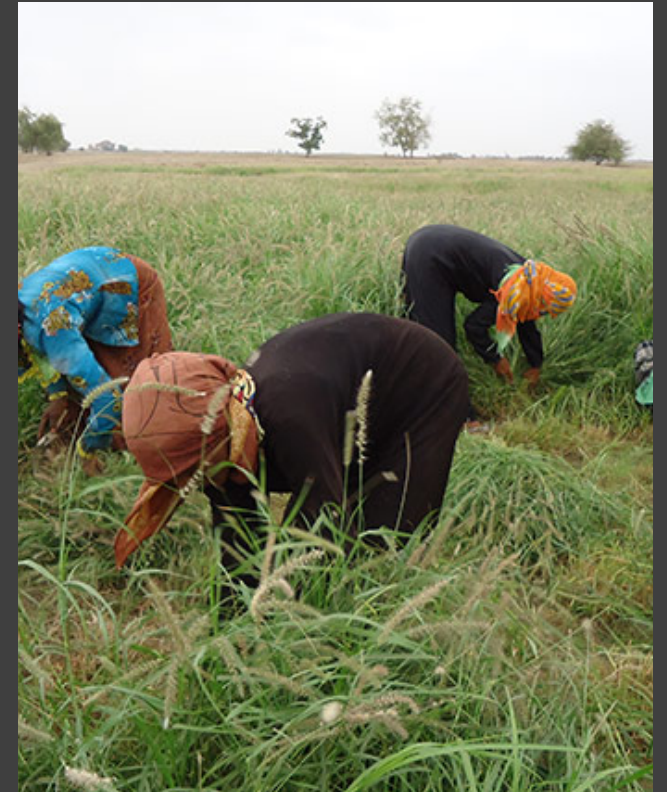
- WB 2020 needs assessment, 16 Yemeni cities: Only 10% of energy facilities damaged but 85% of facilities not functioning due to lack of fuel.

Loss of livelihoods and ecosystem degradation:

- Collapse of water/sanitation → contamination of water and soils
- Degradation of forests and rangeland (overcutting for fuel, fodder, construction)

Damage to civilian infrastructure undermines resilience disease, disasters, and climate change

- Increased droughts, floods, and locust swarms.
- IDP's particularly at risk
- Largest recorded cholera outbreak



To learn more/engage with our project:

- <https://sites.nicholas.duke.edu/time/>
- Jeannie Sowers and Erika Weinthal. 2021. “Humanitarian Challenges and the Targeting of Civilian Infrastructure in the Yemen War,” *International Affairs*, 97(1): 157–177, <https://doi.org/10.1093/ia/iiaa166>
- Erika Weinthal and Jeannie Sowers. 2020. “The Water-Energy Nexus in the Middle East: Infrastructure, Development, and Conflict.” *WIREs Water* 7:e1437, <https://doi.org/10.1002/wat2.1437>
- Erika Weinthal and Jeannie L. Sowers. 2019. “Targeting Infrastructure and Livelihoods in the West Bank and Gaza.” *International Affairs*, 95(2): 319–340, <https://doi.org/10.1093/ia/iiz015>
- Jeannie L. Sowers, Erika Weinthal, and Neda Zawahri. 2017. “Targeting Environmental Infrastructures, International Law, and Civilians in the New Middle Eastern Wars,” *Security Dialogue* 48(5): 410-430. <https://doi.org/10.1177/0967010617716615>
- Book in preparation: *Protracted Conflict, Civilian Infrastructure, and Humanitarian Assistance in the New Middle Eastern Wars*, Oxford University Press.

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