Foreign, Commonwealth & Development Office

REVIEW:

Climate Change & Humanitarian Action in Yemen:

The Struggle Between a Global Recognition of Climate Change Adaptation as Essential to Humanitarian Action and the Realties of an Immense Response Focused on Immediate Lifesaving Needs

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TRANSTEC dara

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Disclaimer

The views presented in this report are those of the authors and do not necessarily represent the view of DFID or any other donor or organisation.

Figure 1: Yemen Reference Map. From "Yemen: Humanitarian Response Plan; June – December 2020." United Nations Office for the Coordination of Humanitarian Affairs (OCHA); June 2020.

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Acronyms & Abbreviations

ACC	Adaptation to Climate Change
CfW	Cash For Work Programme
DFID	UK Department for International Development
DRR	Disaster Risk Reduction
FAA	Food Assistance for Assets
FSL	Food Security and Livelihoods
HCT	Humanitarian Country Team
HRP	Humanitarian Response Plan
IMSEA	Integrated Model of Social and Economic Assistance and Empowerment
INDC	Intended Nationally Determined Contribution
NAPA	National Adaptation Programme of Action
OCHA	UN Office for the Coordination of Humanitarian Affairs
ODA	Overseas Development Assistance
OHCHR	UN High Commissioner for Human Rights
SCI	Save the Children International
SFCG	Search for Common Ground
SFD	Social Fund for Development
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNFCCC	UN Framework Convention for Climate Change
UNHCR	UN High Commissioner for Refugees
UNICEF	UN Children's Fund
WASH	Water, sanitation & hygiene
WFP	UN World Food Programme

1. Executive Summary

1.1 Overview

Since 2015, the conflict in Yemen has negatively impacted over 24 million people—over a third of the population—with over 14 million in need of lifesaving assistance.[1] The conflict is having a devastating effect, including on food insecurity and access to water. The cost of essential food items has increased over 150% as rural livelihoods and agricultural yields have been destroyed.[2] While conflict is the central factor in this humanitarian crisis, the lack of coherent climate change adaptation strategies may exacerbate conflict and increase people's vulnerabilities for years to come.

This review assesses **how DFID supported partners have addressed climate change adaptation strategies[3] within their programmes and the extent to which climate sensitive programming is mainstreamed within organisations.** This includes the identification of gaps and issues that could be practically rectified and what else could be done to better ensure that the humanitarian response is contributing to reducing the risks of climate change and, where possible, increasing resilience.[4]

As a **review,** the intent is not to provide extensive findings and evidence but to instead identify the primary factors related to how DFID partners have addressed climate change adaptation in Yemen and what should be considered going forward. This implies that while the conclusions and recommendations are based on solid analysis, they may require further consideration and research to be deemed definitive.

The review is based on interviews with DFID partners (WFP, UNICEF, SCI, SFD, SFCG) and informal interviews with others (OCHA, USAID, ECHO), a review of available documentation from within and beyond the Yemen context, and the insights of the climate change and humanitarian action expertise of the review's team. Given travel limitations, the actual effectiveness of partner activities was not fully assessed. Interviews were with people identified by the organisations as most appropriate for discussing climate change and climate change adaptation strategies in Yemen. The review also considers what is being done by OCHA and the Humanitarian Country Team and other donors.

1.2 Conclusions

Climate change is best understood as an aggravating factor or trigger in places where conflicts already exist, putting additional strain on already stressed governments and vulnerable populations. Many of the countries predicted to be affected by climate change face pre-existing challenges of poor governance and social and political instability.[5] Climate change can aggravate problems associated with growing populations, inadequate supplies of fresh water, strained agricultural resources, weak land tenure security, poor health services, economic decline, and weak political institutions. However, there is broad consensus amongst peacebuilding practitioners and conflict experts that, while environmental and climate change can be contributing factors to conflict, the underlying contextual factors play a prominent role. Nonetheless, there is a growing body of evidence that demonstrates how climate change leads to natural resource depletion which in turn contributes to conflict and may exacerbate ongoing humanitarian crises.[6] Of course, few things have such direct causality.

[1] "Yemen: Humanitarian Response Plan; June – December 2020." United Nations Office for the Coordination of Humanitarian Affairs (OCHA); June 2020.

[2] HDX estimates of food prices in Yemen, January 2015 – May 2020. Available here.

[3] Climate change includes adaptation and mitigation strategies, generally. Adaptation includes how actors adapt to the effects of climate change with a focus on alleviating the worst impacts. Mitigation strategies focus on reducing activities that contribute to climate change, such as carbon emissions. This Review will focus on adaptation strategies.

[4] Please refer to the Design Note for this review, available as a separate Annex.

[5] Smith, D. and Vivekananda, J. *Climate Change, Conflict and Fragility.* London: International Alert; 2009. Available here.

[6] For a good summary of these issues, see: Katie Peters, et. al. "Climate Change, Conflict and Fragility: An Evidence Review and Recommendations for Research and Action." ODI, June 2020. Available here.

Yemen is a case in point. It was suffering the effects of climate change before the conflict and had forged a strategy and plan to address this[7] that was gaining increasing international support.[8] This has been largely abandoned during the conflict.

Not only were plans and resources for climate change adaptation abandoned but the **humanitarian response architecture** that has come to the aid of Yemenis **is not designed well enough to integrate practical approaches for the immediate (risks of conflict and violence) long term consequences (increased vulnerabilities especially the rural poor and women) of climate change.** It certainly does not make links with the previous efforts of the Government and actors like the World Bank that were pursuing practical solutions to climate change adaptation in Yemen. (See Section 2 Below.) The humanitarian response and architecture are also not considering climate change despite continued international calls to do so and a growing body of policies, guidelines, and frameworks that could guide humanitarian action, from Disaster Risk Reduction to the World Humanitarian Summit to the work of specific donors, all of which is descried in this review.

As in other humanitarian responses, the **Yemen response is designed to address immediate lifesaving needs, which are enormous and growing.** Given these immense needs, the response has not effectively considered the humanitarian-development nexus, how communities develop resilience during crisis, or how political actors maneuverer to use scarce resources, like food and water, to their advantage during a conflict. This is compounded by some general **confusion amongst DFID supported partners regarding the differences between mitigation and adaptation strategies** and regarding how climate change aggravates conflict and can increase both immediate and longer term vulnerabilities, especially amongst the rural poor and women in Yemen. While the proverbial chicken and egg come to mind here, it may be no wonder then that **climate change, adaptation strategies, or even resilience, are not addressed in the Humanitarian Response Plan (HRP) and the actions of the Humanitarian Country Team (HCT).** Rather than damming, this simply raises the unfortunately common spectre of immediate lifesaving activities as having singular importance in how the response is conceived and delivered.

When partners are asked about potential and realised linkages between the conflict, increasing vulnerabilities, especially amongst women and the rural poor, their activities, the accelerated depletion and waste of resources, and the potential for growing conflict over these resources, they cite anecdotal and sometimes misguided examples and/or they claim that for them to do anything more substantive would require additional funding. This might be true, but it smacks of how humanitarians, either overtly or unconsciously, can ignore complex issues that contribute to the immediate and longer-term effectiveness of their programmes, like gender equality and women's empowerment,[9] despite broader commitments to do so, like those from the World Humanitarian Summit.

While this is generally true, there are **significant variations between partners**. For instance, **WFP** has the most articulated approach amongst the partners assessed for linking activities to policies and frameworks for climate change. This may be due to the links to food security and thus agriculture, but it may also have to do with their **scale and resources** available to WFP as the largest humanitarian actor in Yemen (and globally). Unfortunately, this review could not distinguish this as the driving competency, but it is worth further consideration.

What runs counter to this is the example of **UNICEF**. It has at least considerable resources in Yemen and globally, but it relegates climate change activities to WASH activities where, while certainly valuable, they are not anchored to a driving policy or framework and seem to miss important aspects of the vulnerabilities faced by women and children in relation to climate change. So, perhaps scale and level of resources matter but it also takes a concerted effort to then adopt a strategic approach to climate change.

[7] "National Adaptation Programme of Action." Environment Protection Authority; Republic of Yemen; April 2009. Available here.

[8] This culminated in a World Blank plan from 2012: "Strategic Program for Climate Resilience for Yemen." Climate Investment Funds. Meeting of the PPCR Sub-Committee. 17 April 2012. (PPCR/SC.10/8/Rev. 1)

[9] This is presented in an evaluation of UN Women's contribution to humanitarian action. Please see: Angelica Arbulu, Silvia Hidalgo, Dorian LaGuardia, Alesia O-'Connor & Ana Rodríguez; "Corporate Thematic Evaluation of UN Women's Contribution to Humanitarian Action." UN Women, 2019. Available here.

Other partners lacked the resources (potential or realised) of UNICEF and WFP. In these cases, activities seemed to be largely ad-hoc and with varying degrees of effectiveness.

Save the Children International (SCI) cites some guiding frameworks and principles and does make practical links between climate change adaptation and the needs of vulnerable groups but then their activities tend to be based on what is funded rather than a broader strategy.

The **Social Fund for Development** (SFD) makes important distinctions regarding how local groups are involved in projects around water availability and infrastructure and how this could mitigate against conflicts and violence, yet they miss links between the Government's work and what other humanitarian actors are doing.

Search for Common Ground (SFCG) has a solid theoretical understanding of the links between climate change adaptation, humanitarian action, and increasing vulnerabilities and risks of conflict, although they have not put these to work in projects at scale.

So, the immediate answer to the question put forward for this review is that **DFID supported partners have done some things to address climate change adaptation strategies and growing climate risks, but these are not grounded in relevant research around climate change adaptation in humanitarian action nor in practical guidelines and frameworks that could make the work more coherent across the response and thus more impactful.** They tend to be ad-hoc and based on small investment opportunities rather than a more effective, broad-based approach about how to consider the immediate and longer-term consequences of climate change in the humanitarian response.

1.3 Moving forward

So, what can be done about this?

Gender equality and women's empowerment, as cited above, provides a cautionary tale. It does not seem to be effective to create another UN agency and a slew of normative and operational global frameworks to ensure that humanitarian action recognises climate change as an immediate, short and longer-term effectiveness issue. Besides, Disaster Risk Reduction (DRR) and related initiatives already provide policies and frameworks that can be used to guide this. Instead, strategies and actions need to be more particular to the context. They need to be driven from the ground up, and potentially through the actions of single donors, at least in the first instance. This could include the following key actions:

- **DFID may be more active in promoting climate change adaptation strategies as part of the humanitarian programme cycle, including the HNO/HRP and functioning of the HCT.** The fact that OCHA and others promote climate change as an important humanitarian issue globally should translate into actions at the national level.
- **DFID may require partners to include policies, frameworks, and guidelines in project proposals** that describe how their activities address the risks of conflict associated with the competition of natural resources in Yemen and the short and longer-term consequences of climate change on vulnerable populations, especially the rural poor and women.
- **DFID may ask partners how the design and delivery of activities will address not only emergency needs but also increased resilience**, especially in relation to the rehabilitation and maintenance of water/agriculture infrastructure and other livelihood related assets.
- **DFID may consider whether size matters in relation to being able to implement climate change adaptation activities in complex humanitarian contexts.** A study may be commissioned that assesses whether the scale or resources available to larger actors, like WFP, make them more able to address climate change adaptation in humanitarian responses.
- **DFID may broaden research associated with the cost effectiveness and return on investment from early action and resilience building** to see how/if they can be applied to climate change adaptation.

Recommendations for specific partners are included in Section 3.

2. How are climate change adaptation strategies relevant to humanitarian action in Yemen?

Efforts to address climate change in Yemen predate the war. Yemen developed a National Adaptation Programme of Action (NAPA) in 2009.[10] This was followed-up by support from the international community, culminating in the World Bank's "Strategic Program for Climate Resilience in Yemen" that set out key areas for investment. These included:

- Increased water scarcity and reduced water quality leading to increased hardships on rural livelihoods;
- Increased drought frequency, increased temperatures, and changes in precipitation patterns, as well as increased number of flash floods leading to degradation of agricultural lands, soils, and terraces;
- Deterioration of habitats and biodiversity leading to the expansion of desertification;
- Reduced agricultural productivity leading to food insecurity and reduced income generating activities;
- Increased sea levels leading to wetlands, coastal mangrove migration, erosion, infrastructure damage, and seawater groundwater intrusion;
- Increased climatic variability leading to the spread and growth of vector borne/water borne diseases;
- Impacts on coastal zones leading to loss of tourism activity; and
- Absence of long-term climatic data rendering planning and prediction problematic.[11]

These remain the pressing consequences of climate change issues in Yemen, as this review demonstrates, and some have been exacerbated by the conflict.

Yemen has continued to develop frameworks for addressing climate change. In the preparation for the 2015 UNFCCC Conference of the Parties COP 21 in Paris, Yemen prepared its *Intended Nationally Determined Contribution*[12] (INDC) focusing on adaptation to climate change (ACC) across major vulnerable sectors including water, agriculture and coastal areas. The country's *Third National Communication to the UNFCCC*[13] (2018) addresses adaptation to climate change in sectors such as public health and ecotourism, besides water resources, agriculture and other key areas. Taken together, these provide a framework for ACC. While the possibilities for ecotourism remain dim given the conflict, it is one area for which they must report given the National Communications to the UNFCCC, going back to 2001.

This and other efforts were curtailed by the Yemen civil war. The effects of climate change and conflict increase the negative impacts on the most vulnerable people across Yemen.[14] The war has not only exacerbated climate change mitigation strategies[15] but have also seen Houthi and Saudi forces blocking deliveries of humanitarian aid consisting of food and water, the bombing of water reservoirs, and the confiscation of water from civilians at checkpoints. This is on top of the severe malnutrition rates across Yemen which have a direct link to broader water scarcity and the degradation of agriculture, amongst the other issues noted above.

All of this throws in doubt efforts to address climate change in Yemen for the longer term. Plans to develop desalination plants along the coast, an already costly and complicated investment, are stalled. Reforming petroleum subsidies—also exceptionally political—that could lead to additional public investments in infrastructure to address food insecurity and sustainable economic growth are also unlikely. While there may be an opportunity to address this through reforms even during the conflict, this review did not identify

[10] "National Adaptation Programme of Action." Environment Protection Authority; Republic of Yemen; April 2009. Available here.

[11] "Strategic Program for Climate Resilience for Yemen." Climate Investment Funds. Meeting of the PPCR Sub-Committee. 17 April 2012. (PPCR/SC.10/8/Rev. 1) This was part of the World Bank's The Pilot Program on Climate Resilience (PPCR) which is the adaptation program of the Climate Investment Funds (CIFs) meant to "pilot and demonstrate ways to integrate climate risk and resilience into core development planning, while complementing other ongoing activities"

[12] "Intended Nationally Determined Contributions (INDC) under the UNFCCC." Republic of Yemen, 2015. Available here.

[13] "Third National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change." Republic of Yemen; 2018. Available here.

[14] The Intergovernmental Panel on Climate Change (IPCC) has stated that "poorly designed adaptation and mitigation strategies can increase the risk of violent conflict." See: https://www.ipcc.ch/report/ar5/syr/.

[15] Climate change mitigation is a term of art that refers to mitigating the impact of climate change on populations, including increasing populations' resilience to climate change events such as increased levels of drought or flooding, as compared with lowering emissions and other factors that increase climate change overall.

any actor that is pursuing this. Even the reduction of Qat production and consumption, which consumes nearly 40 percent of Yemen's water supply, requires not only a communication strategy, as charged by the UNFCC, but a credible alternative to the livelihoods that depend on Qat production along with significant awareness, sensitisation, and behavioural change campaigns. The Government is hardly in a position to adopt risk mitigation strategies related to global food price shocks during the conflict.[16]

Yemen faces a potentially damaging cycle where prolonged conflict increases vulnerabilities (nutrition/food insecurity/livelihoods) and destroys infrastructure (agriculture/WASH). This leads to a reduction of the capacity of government and other actors to actually address the growing issues of climate change, let alone gain the confidence of the international community to support such efforts. This also leads to the destruction on household livelihood assets and thus their coping strategies, raising the likelihood of people's reliance in negative coping strategies.[17]

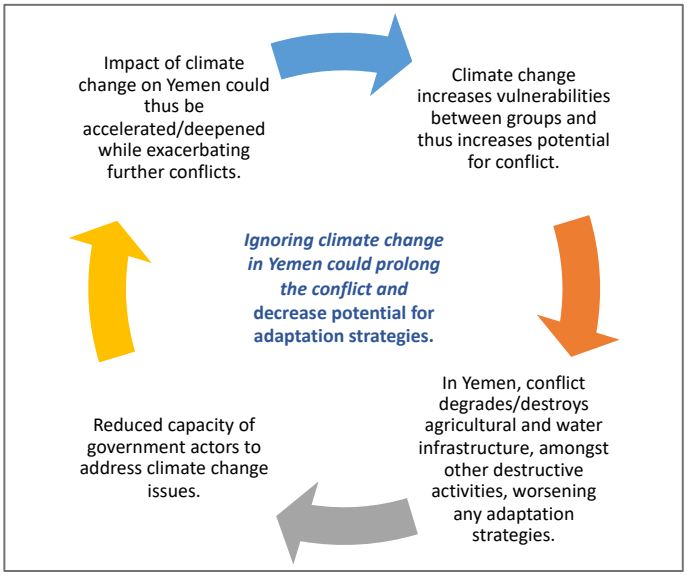

Figure 1: Ignoring climate change in Yemen could prolong the conflict and decrease potential for adaptation strategies.

For humanitarian actors, they may draw on global policy and normative frameworks for climate change that have emerged from Disaster Risk Reduction (DRR). This would provide a framework that goes beyond those of the Government and their actions with UNFCCC that lack appropriate remedies for Yemen during the war.

DRR addresses how households and communities prepare for, withstand, and then recover from human-made or climate related crises and has a history of normative development. In 2005, and coinciding with the 2004 Indian Ocean Earthquake, the United Nation's held the first World Conference on Disaster Reduction[18] in Kobe, Japan to set global standards (Hyogo Framework for Action 2005 -2015[19]) combined with a Biennial Global Platform for Disaster Risk Reduction to track progress. The Hyogo Framework was succeeded by the Sendai Framework for Disaster Risk Reduction 2015 – 2030. This framework includes four priorities: understanding disaster risk, strengthening disaster risk governance to manage disaster risk, investing in disaster risk reduction for resilience, and enhancing disaster preparedness for effective response, and to 'Build Back Better' in recovery, rehabilitation and reconstruction." [20] Sendai also stresses the need for countries to advance from DRR to a comprehensive Disaster Risk Management approaches, including ecosystem management and climate change resilience. This thus stands as the main global reference framework of action for humanitarian action while enhancing climate change adaptation capacities.

Concurrent with the development and implementation of a global framework for DRR, the humanitarian community has strengthened its approaches to resilience. Resilience is one of the most challenging programming approaches in humanitarian action. With roots in the sciences of physics and mathematics, 'resilience' describes the capacity of a material or system to return to equilibrium after a displacement.[21]

[16] For a report on conflict and climate change in Yemen, see: Hadil Mohamed, Moosa Elayah and Lau Schuplen; "Yemen between the Impact of the Climate Change and the Ongoing Saudi-Yemen War: A Real Tragedy." Centre for International Development Issues Nijmegen, The Netherlands. November 2017.

[17] These are aligned with emerging frameworks that are being used to assess the relationships between climate change adaptation and growing vulnerabilities. See for instance, Kimberly Anh Thomas and Benjamin P. Warner; "Weaponizing Vulnerability to Climate Change." Global Environmental Change; Volume 57, July 2019.

[18] The annual conference is now called the UN World Conference on Disaster Risk Reduction. Available here.

[19] This is hosted by the United Nations Office for Disaster Risk Reduction and focuses on natural hazards. Available here.

[20] "Sendai Framework for Disaster Risk Reduction 2015 – 2030." UNISDR; (UNISDR/GE/2015 - ICLUX EN5000 1st edition) 2015.

[21] This is the basis for complex adaptive systems, a methodology that has expanded from material sciences and systems theory to look at impact and results in complex operating environments. CAS is especially relevant to understanding the impacts of climate change. For a

Resilience in humanitarian action is a way to ensure that people's longer-term needs are incorporated into immediate humanitarian action. It provides both a framework for how people anticipate, withstand, and recover from shocks as well as a way to make programmatic links between recovery, development, and sustainability. While the subject still tends to swirl in academic debates,[22] its principles are critical for ensuring that humanitarian actors can spot opportunities for resilience as part of their programming.[23]

By the time of the World Humanitarian Summit held in Istanbul in May 2016, there was a recognition that conflict, natural disasters, and climate change require a longer-term approach to enable the most vulnerable to overcome debilitating shocks and to decrease their vulnerabilities over time. The World Humanitarian Summit's Core Commitments include a commitment "to accelerate the reduction of disaster and climate-related risks through the coherent implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change."[24]

The World Humanitarian Summit also provided a specific commitment to women and girls, recognising them "as change agents and leaders, including by increasing support for local women's groups to participate meaningfully in humanitarian action." These commitments, combined with multi-year humanitarian funding[25] and increasing levels of investment in humanitarian action,[26] have thus pushed the issues of DRR to the doors of the most vulnerable.

Looming large across the intersection of national policies and planning for DRR and resilience programming for affected populations is climate change. There were three times as many natural disasters from 2000 through 2009 as there were from 1980 through 1989--all related to climate change. As **Error! Reference source not found.** shows, the number of disasters globally is increasing at a furious pace.

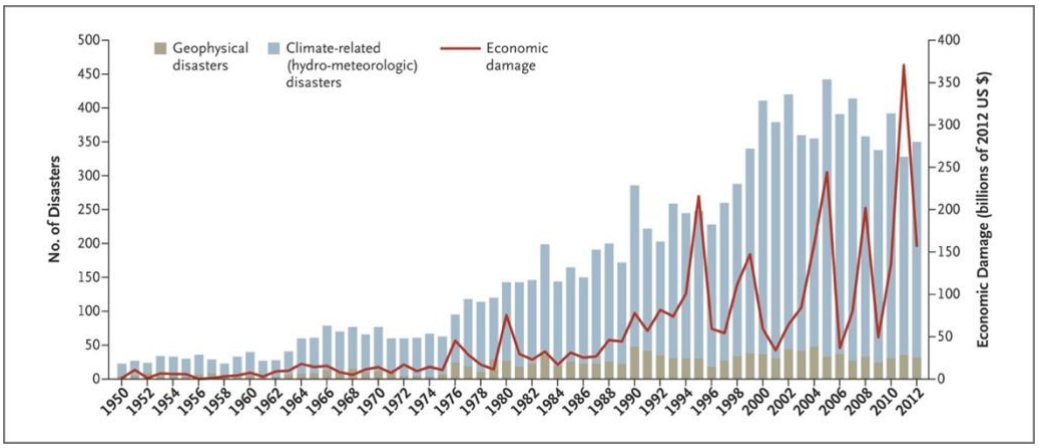

Figure 2: Numbers and type of natural disaster, 1950 – 2012.[1]

review on how CAS moved from the physical to the social sciences, see: Jason Brown Lee, "Complex Adaptive Systems." CTS Technical Report, March 2007. For a review of how resilience is used and defined in various scientific disciplines, see: Patrick Martin-Breen and J. Marty Anderies, "Resilience: A Literature Review." The Rockefeller Foundation, September 2011.

[22] For a treatise on how debates about resilience are influencing humanitarian action and other sectors, see: A. V. Bahadur, Ibrahim, M. & Tanner, T. "The Resilience Renaissance? Unpacking of Resilience for Tackling Climate Change and Disasters." Strengthening Climate Resilience Discussion; Institute of Development Studies, University of Sussex; 10 August 2012.

[23] Simon Levine & Irina Mosel, "Supporting Resilience in Difficult Places." Overseas Development Institute, April 2014; & Adam Pain & Simon Levine, "A Conceptual Analysis of Livelihoods and Resilience: Addressing the 'Insecurity of Agency'." Humanitarian Policy Group Working Paper, November 2012. For a more econometric approach, see: Prabhu Pingali, Luca Alinovi and Jacky Sutton, "Food Security in Complex Emergencies: Enhancing Food System Resilience." Disasters, Vol. 29, Issue Supplement 1; June 2005.

[24] "Agenda for Humanity: Core Commitments." Available here.

[25] While various donors had moved to multi-year funding for protracted crises, like Iraq, Syria, Somalia, and DRC, prior to the 2016, the World Humanitarian Summit includes a commitment to multi-year humanitarian financing as apt of the Grand Bargain.

[26] The percentage of Official Development Assistance committed to humanitarian action has moved from around 5% in 2005 to 20% in 2015 (quadrupled) and is expected to consume over 40% of ODA by 2025 given ongoing protracted crises and the impact of climate change. See: the OCHA Financial Tracking Service (https://fts.unocha.org/) and the Donor Tracker (https://donortracker.org), amongst other sources.

2.1 Conclusion

In relation to Yemen, all of this, unfortunately, highlights again how there have been global policy and normative policy development related to climate change and humanitarian action, but these are often lost in the fast-paced, highly dynamic, and resource-constrained operating contexts like in Yemen.

This makes climate change very much a humanitarian issue in Yemen:

- Climate change exerts an unprecedented pressure over already scarce water resources and agricultural yields in Yemen;
- Climate change increases the risks to already vulnerable communities who are exposed to climate hazards such as landslides and floods, inland or storm surges, and typhoons along the coast;
- When these climate hazards strike, cholera outbreaks and famine might also jeopardize the survival of vulnerable and isolated communities;
- Climate change increases inequitable access to vital natural resource such as water, farming land and food;
- Climate change increases conflicts over the control of scarce vital resources such as water and food, including production, access, prices, and the control of distribution networks;
- By increasing resource scarcity, climate change increases the overexploitation of already stressed natural resources and traditional sources of energy, increasing the likelihood of famine, disease outbreaks, exclusion, and stress migration amongst the most vulnerable populations;

It thus becomes the responsibility of humanitarian actors to integrate climate change adaptation strategies into their approaches and activities and in ways that can reduce vulnerabilities and the possibilities of further conflict.[27] The issue, as explored in the rest of this review, is how they may do that given the lack of clear and practical guidance and, perhaps, the resources to ensure that humanitarian action does not contribute to the longer-term consequences of climate change on the most vulnerable.

3. Do partners have practical examples of how climate change adaptation strategies have been incorporated into their activities? (effectiveness)

The review included assessments of four DFID supported partners, as presented below. This is not meant to be fully representative of all humanitarian activities in Yemen. Instead, they identify potentially common issues that can be further considered when developing approaches to humanitarian action in Yemen.

Each section includes a description of partner activities related to climate change adaptation and then an assessment of these against the questions set out in the Design Note. This includes a rating (**1**: does not exist/ineffective; **2**: exists/somewhat effective; **3**; Integrated into programming/strong evidence of effectiveness) and descriptions related to the assessment. As the rating levels indicate, the assessment did not seek fully integrated or fully effective climate change activities but instead looked for substantive links between climate change adaptation policies and frameworks and how partners deliver their programmes.

3.1 The World Food Programme

WFP's resilience and livelihoods programme focuses on improving the sustainable access to food for vulnerable households, building and rehabilitating basic community infrastructure, promoting on-farm and off-farm rural livelihoods, and empowering youth and women at crisis affected communities. As below, WFP also represents the DFID supported partner with the most developed approach to ACC.

WFP's approach to climate change adaptation is grounded in guiding policies and their *Country Strategic Plan* (2019-2020). Examples noted as particularly successful include:

[27] For a few briefs on the relation between humanitarian action and climate change from the proposed review lead, please see: http://www.humanitarian-analytics.com/home/2018/12/11/climate-change-is-a-humanitarian-issue.

- **Asset creation and livelihood support**: focus on providing agricultural inputs for increased agricultural yields through the Food Assistance for Assets programme. It focuses on restoring smallholder farmers through technology transfers, e.g. tolerant seeds and plant varieties, drip irrigation, and efficient water use techniques, and through capacity building in short six months projects. This programme reached 300,000 people in 2020. WFP contends that this enables people to maintain and sustain agricultural yields and thus provides some protection against climate related shocks. While climate related, it does tend to be more focused on economic livelihood support, especially as this is not linked to a broader climate-related framework or guidance.
- **Water Management**: supporting different types of water harvesting schemes, rehabilitation of old ponds, strengthening people's capacities. Focuses on the retention and quality of the water, e.g. building earth dams, or stones and cement dams. Well rehabilitation limits well depth to avoid over-stressing water table. Solar water pumps are used, and drip irrigation systems are encouraged to complement flood irrigation systems that do not always make sustainable use of water and may have high maintenance costs. Rainwater harvesting is used to provides a sustainable and eco-friendly alternative and supply of water for irrigation, livestock and household uses.
- **Agriculture**: This includes the *Food Assistance for Assets* (FFA) programme that rehabilitates agricultural lands damned by floods and landslides. Soil restoration and conservation are promoted with terracing. Communities used to identify unused spaces that were re-purposed, thus increasing the community's production potential. Drip irrigation technology provided to smallholder farmers, as a cost-effective intervention to increase agricultural yields while saving water, is also being implemented through the technology transfers noted above.
- **Projects on road rehabilitation** to prevent climate related shocks: improving the roads with side-ditches, culverts, etc., to divert floodwater to agricultural fields.

Questions	Rating	Description
Existing ACC guidelines and/or frameworks to guide humanitarian activities.	2.5	WFP has been integrating climate change adaptation issues in their assessment tools since 2010 and has probably been able to mainstream ACC in their humanitarian approach when working in conflict affected areas. WFP, while working mostly at community level, does engage the local offices of the Ministry of Agriculture who participate in the design phase of projects. WFP demonstrates the most willingness and capacity to both integrate climate change adaptation interventions into its work and to draw from guidelines and frameworks to do so consistently.
Reduce exposure of most vulnerable to effects of climate change?	2	Most of the activities WFP noted in relation to ACC contribute to reduce the exposure of people / beneficiaries to climate hazards. Despite not being labelled as ACC, they do contribute to ACC.
Enable vulnerable populations to prepare for, respond to, and/or recover from climate change related crises?	2	Most of the activities WFP implements contribute to prepare and respond to climate risk by enhancing their livelihoods resilience. Despite not being labelled as climate resilience, they do contribute to ACC and climate resilience. By working with local and national representatives, they secure institutional engagement, thus increasing the chances for their sustainability.
Use resources in ways that do/could contribute to local grievances or conflict?	2	There is little evidence of this as activities are based on detailed assessments of the needs of target populations. This is related to the principles of "do no-harm" to people and to the environment, as projects i) involve local governmental representatives to secure the institutional engagement, avoid exacerbating tension or try solving tension over key natural resources and ii) avoid putting additional pressure on already scarce groundwater resources.

Recommendations

For WFP, it could build on the work it does in climate change adaption by:

- Ensure that the placement of asset creation activities related to water infrastructure are based on both immediate needs but also ongoing climate events, like the potential for flooding or other longer-term climate related damage.
- Increasing participatory approaches with the community and local authorities to ensure that interventions are grounded by the local contextual issues and to increase the willingness and capacity of these local actors to maintain and sustain such interventions over time.
- Implement the WFP PRISM platform[28] in Yemen to provide climate forecast data with satellite imagery to see where the greatest risks to agriculture degradations are occurring and how this may impact the most vulnerable populations. While PRISM is generally made available to governments, WFP may use this to provide climate related satellite imagery and other climate forecast data to the HCT a s a way of better informing its priorities. PRSIM could also be used to support early action/resilience building activities.

3.2 UNICEF

UNICEF states that most of its climate change adaptation activities relate to WASH although these are not linked to a climate change adaption strategy or guidance and thus tend to fall within traditional WASH activities. Cited examples include:

- **Water resources and clean energy**: solar panels are being deployed for assisting households in the extraction of drinking water from boreholes. This water is also used by farmers for irrigation although there is little evidence of how this may be improving efficiency or greater agricultural yields, let alone how these efforts may enable farmers to better respond to and recover from climate related shocks and the long-term effects of climate change. Most of the rural projects depend on shallow wells--40-70 meters deep--and solar powered pumps assist villagers who cannot afford paying for the fuel of the traditional water pumps. Solar power is particularly useful given that many have been disconnected from the main electric power supply network.
- **Aquifers assessment**: UNICEF, the World Bank, and the Institute for the Management of Weather Events is assessing the state of the aquifers in the cities of Sanaa and Ibb. This study is not comprehensive and as it is mostly based on secondary information; it will not generate new data.
- UNICEF also cites growing work with Integrated Model of Social and Economic Assistance and Empowerment (IMSEA): a multi-sectoral programme aimed at joining up benefits, social services and other social and economic inputs/interventions to enhance human capabilities, strengthen livelihoods and enhance the resilience of the poorest and most marginalized, and adolescent girls and young women in particular.

Questions	Rating	Description
Existing ACC guidelines and/or frameworks to guide humanitarian activities.	1.5	While UNICEF globally, like SCI noted below, has a wise breadth of advocacy and policy documents on the effects of climate change on children, these are not being regularly used to guide humanitarian activities in Yemen. Of particular relevance is UNICEF's "Integrated Model of Social and Economic Assistance and Empowerment," recently used in a 2018 vulnerability and needs assessment of Amanat al Asmiah and Sana'a governorates. While this is relatively comprehensive across vulnerabilities and coping strategies, it does not address depletion an competition for resources amongst vulnerable groups nor anything else regarding the longer-term impact of climate change on women and children. UNICEF did not exhibit a particular willingness to draw from ACC strategies or guidelines, either within UNICEF globally or from other sources.
Reduce exposure of most vulnerable to	2	While only related to WASH activities, these are incidental to more mainstreamed targeting approaches. These do not include information on climate adaptation and

[28] See PRISM Real-time impact and situation monitoring: https://innovation.wfp.org/project/prism

effects of climate change?		sustainable natural resources management nor related standards. Solar panels are also more related to *mitigation* strategies rather than *adaptation*.
Enable vulnerable populations to prepare for, respond to, and/or recover from climate change related crises?	2	If properly done, enhancing access to water resources increases people's capacities to respond, recover, and sometimes avoid climate change related crisis. If not, it could enhance people's climate risk in the mid to long-terms. The IMSEA model could contribute to climate change vulnerability reduction. It is unclear why UNICEF has not used the IMSEA model to do this to date.
Use resources in ways that do/could contribute to local grievances or conflict?	1.5	One way to prevent conflict is not to foster inequality in the access to water resources and avoid promoting overuse of groundwater resources by some project beneficiaries over other actors. Deploying some technologies without working on the enabling environment may lead to tensions among communities or between communities. For instance, UNICEF should make sure that the solar panels they are deploying for the extraction of drinking water from boreholes is not a factor in increased tensions among community beneficiaries or between communities. This is still unclear at this point.

Recommendations

- Include climate change vulnerability analysis in UNICEF assessment tools and within the operating approach in Yemen and mainstream climate change adaptation in their WASH interventions and strategies.
- Improve vulnerability assessments and targeting by incorporating resource availability under different climate scenarios and risks of conflict in UNICEF's IMSEA. The IMSEA provides an ample framework for doing this and adding these elements will provide another important element in how vulnerable populations increase resilience. This should include specific ACC factors in (i) Vulnerability and Needs Assessment; (ii) Social Services Mapping; (iii) WASH and Humanitarian Needs Technical Assessments; (iv) Employment Market Assessment; and (v) Impact Evaluation.

3.3 Save the Children International (SCI)

In Yemen, SCI focuses on health and nutrition, WASH, Food Security and Livelihoods (FSL), education and child protection. SCI cites its Cash For Work Programme (CfW), Food Assistance for Assets (FAA), and livelihood activities in South Yemen as work that addresses the impact of climate change on vulnerable populations.

SCI sites the following examples as relevant to climate change:

- CfW components rehabilitate agricultural lands and irrigation canals. However, this is not done in ways that address seasonal variations and lean periods when related populations' resources may be very low.
- Provide rainwater harvesting tanks for collecting water in households and schools.
- Build embankments for flood protection, supporting households to do some terraced farming, including stone paving to reduce soil erosion. It is unclear to what standard these embankments are being constructed and whether they could cope with multiple floods.
- Rehabilitation and construction of community assets, including canals, dams, ponds, wells, roads, water network rehabilitation, etc.
- Some limited activities to preserve agricultural lands, grazing area protection, soil conservation, reforestation, waste management / disposal.

Questions	Rating	Description
Existing ACC guidelines and/or frameworks to	2	SCI does have some global policy papers concerning the effects of climate change on children, but these tend to be advocacy related rather than providing guidance or frameworks to be used in the design, delivery, or assessment of programming.[29]

[29] The example most prevalent in research and raised by some interlocuters is SCI's "Children and Climate Change" policy brief from 2009, available here. Another example that addresses climate change and Disaster Risk Reduction (DRR) can be found here. SCI has also

guide humanitarian activities.		However, SCI activities are not based on these or other guidelines or frameworks which seem incidental to lifesaving aims. At the same time, SCI recognise the need and possible opportunities associated with using frameworks and guidance to better focus ACC activities. They are particularly keen to see more done at the cluster level.
Reduce exposure of most vulnerable to effects of climate change?	2	The activities noted by SCI have the potential to contribute to climate risk reduction by improving livelihoods and protecting against climate hazards. SCI activities reduce the exposure of the most vulnerable to climate change by collecting water for households and schools, protecting against floods and soil erosion, rehabilitating community assets and promoting reforestation. If these activities were framed as ACC and designed to respond to specific climate hazards, they would be more effective and lessons for future action on ACC could be procured.
Enable vulnerable populations to prepare for, respond to, and/or recover from climate change related crises?	1.5	SCI activities are mostly short-term crisis response interventions and while they may assist communities at coping with climate shocks, they do little to help them adapt to climate change by strengthening or safeguarding the natural resources base upon which communities livelihoods' depend.
Use resources in ways that do/could contribute to local grievances or conflict?	1.5	Depends on equitable approaches to targeting. Vulnerability assessments do not account for socio-cultural dynamics that are related to the conflict, let alone how these may be worsened by fighting over limited resources. SCI does state that all community assets constructed / rehabilitated, including canals, dams, ponds, wells, roads, grazing area protection, soil conservation, agricultural land conservation, water network rehabilitation, must be community assets that will benefit all community members and not specific individuals. All CfW/ FFA programmes include a "do no harm" approach through a preliminary assessment to ensure that assets created will not trigger conflicts within the community. This addresses short term risks of violent conflict but fail to understand historical grievances that may contribute to violent conflict, whether locally or more broadly, let alone how these may deepen as the effects of climate change become more pronounced.

Recommendation

SCI welcomes increased investments in specific cluster-level funding that would include projects that address the immediate and longer-term degradation of livelihood assets, especially for agriculture, and how these may be maintained over the longer-term. These investments should thus include both immediate lifesaving approaches bas well as ways that these assets can help the most vulnerable communities adapt to the increasing effects of climate change. This would facilitate the development of cluster-wide tools for greater contextual analysis as related to ACC.

3.4 Social Fund for Development (SFD)

The SFD addresses climate change through interventions to respond to communities' needs for water. SFD cites the following examples:

- **Rainwater harvesting:** rooftop rainwater harvesting systems for collecting water in household or communal tanks. This is implemented through the *cash for work* modality. This includes a *community water committee* that helps in the implementation and the maintenance of the communal rainwater harvesting tanks.
- **Floods:** rehabilitation of water infrastructure destroyed by flooding as based on existing government standards. SFD does not work on emergency flood prevention or mitigation. It is also unclear how these rehabilitation efforts are being designed to be maintained dover time.

conducted advocacy papers on the importance of included children in climate change related policy, an example of which can be found here.

- **Alternative water sources:** Endorsing use of alternative water sources as much as possible in areas suffering from water shortages or where groundwater sources are not available. This prevents the digging of more wells, since The MoWE (Ministry of Water and Environment) banned the random drilling in an effort to avoid over extraction of groundwater.
- **Rehabilitation of the water system** in Al-Baidha city, using an existing dam that collects rainwater. SFD requested local authorities to create a protected buffer zone around the dam aquifer so no one can dig wells either upstream and downstream the dam.
- **Catchment area management:** to prevent soil erosion and protect from landslides by reforesting agricultural lands. This goes with awareness campaigns to foster sustainable natural resource use.

SFD cites examples related to its work with other humanitarian actors. This includes its work in Alamazrag IDP camp where UNICEF was providing water to the camp through water trucking, an expensive approach and one that does not address and/or improve existing water infrastructure. SFD, UNICEF, General Authority for Rural Water Projects (GARWP) worked together to develop a water scheme to connect the IDP camp to nearby villages.

Questions	Rating	Description
Existing ACC guidelines and/or frameworks to guide humanitarian activities.	1.5	SFD doesn't have a climate change adaptation strategy. While it is active in the clusters, it should also promote and follow existing Yemen frameworks and guidelines, including the *Intended Nationally Determined Contribution*[30] (INDC) and *Third National Communication to the UNFCCC.*[31] SFD demonstrates a willingness to draw on national frameworks, as above. It may also avail itself of other global frameworks, like those from DRR/The Sendai framework, as noted in Section 2.
Reduce exposure of most vulnerable to effects of climate change?	2	SFD activities reduce the exposure of the most vulnerable to climate change by harvesting rainwater and promoting the use of alternative water sources for communities and protecting against landslides through soil conservation and promoting reforestation.
Enable vulnerable populations to prepare for, respond to, and/or recover from climate change related crises?	2	SFD activities reduce community climate vulnerability and exposure to climate hazards by allowing access to alternative sources of water for households, farming, and other livelihood activities, thus enhancing climate resilience.
Use resources in ways that do/could contribute to local grievances or conflict?	2.5	Depends on *community water committees*, as they are responsible for i) the negotiation, agreements and institutional arrangements to be implemented, ii) securing a sustainable use and equitable access to water resources for communities in a peaceful way, (iii) eventually leading local *catchment area authorities*, in charge of decision making over land use and water allocation. SFD states that there are cases where local communities contest services provided by humanitarian agencies to Internally Displaced People (IDPs).

Recommendation

- SFD needs to strengthen environmental assessments of its climate related activities to ensure that they are based on both global standards and that they account for longer-term maintenance and sustainability. This includes the placement of water-related infrastructure given long-term climate forecasts and environmental impact studies of sanitation facilities and dams.

3.5 Search for Common Ground (SFCG)

While DFID does not currently support climate change activities conducted by SFCG, SFCG states that "we are moving towards developing a long-term view for the interventions in which we can integrate sustainability and ACC concerns." This will build on their "non-violent conflict resolution approach" for

[30] "Intended Nationally Determined Contributions (INDC) under the UNFCCC." Republic of Yemen; 2015. Available here.

[31] "Third National Communication to the Conference of the Parties of the United Nations Framework Convention on Climate Change." Republic of Yemen; 2018. Available here.

promoting dialogue in communities. These dialogues, led by local "insider mediators." involve stakeholders and leaders, and are aimed at identifying priority factors and problems, which in most cases are related to access to key natural resources.

Tying dialogues like this to securing access to water helps to gain buy-in to show that nonviolent conflict resolution results in actual improvement of living conditions. While such community dialogues can prove useful, it is unclear how effective they are in solving entrenched disputes over access to natural resources or other issues related to the long-term degradation of natural resources in Yemen due to climate change. If so, or if such dialogues are strengthened to tackle difficult resource allocation disputes, then these could serve to increase community-wide resilience.

Recommendation

- SFCG demonstrates an openness to increasing both ACC activities and grounding these in standard frameworks and guidance. If the HCT, donors, or other actors were to agree on such a framework, either from UNFCCC or the Sendai framework, as suggested, then this could be used to adapt the Yemen Conflict Sensitivity Platform to better address conflicts that arise from resource access and management, amongst other issues.

4. How are partner climate change adaptation strategies linked to humanitarian coordination mechanisms, humanitarian principles, and broader human-rights considerations? (coordination)

Given that partner activities related to climate change adaptation are largely ad-hoc and un-linked from any guiding policy or framework, it cannot be expected that they inform or are informed by the coordination mechanisms, humanitarian principles, or human rights. As the analysis below shows, there is a disjoint between global policies and what is actually being done in Yemen.

4.1 OCHA & Coordination in Yemen

OCHA published a policy brief in 2009 regarding climate change and humanitarian action. This includes implications for the humanitarian system that highlight Disaster Risk Reduction (DRR), as explained below, and the need for humanitarian actors "to step up investment in seeing how existing systems and programmes can be adapted to take into account climate change risk, [and] they need to do so in much closer partnership with longer-term development actors."[32] This was a precursor to the World Humanitarian Summit and the growing attention on the humanitarian-development nexus. (Please see the section on DRR below for this trajectory.)

Yet, when one reviews the Humanitarian Response Plans (HRP) for Yemen, the composition and actions of the Humanitarian Country Team (HCT), or any other coordination or planning processes related to the humanitarian programme cycle, climate change doesn't even seem to warrant a mention. This review included an assessment of recent HRPs up to the June to December 2020 extension. It also included informal conversations with members of the HCT and OCHA. In each of these, the basic response was that immediate lifesaving needs were paramount and that while claimed change is important, it sits beyond the humanitarian response. This is disappointing as it fails to recognise the opportunities associated with building resilience to future shocks.

While some may argue that this is due to the immense scale of the crisis in Yemen. Yet, the Syria crisis was of similar scale, pace, and complexity (and still is in many regards) and yet an entire architecture developed around how to account for cross-cutting issues and longer-term recovery trajectories. This includes the Regional Response & Resilience Plan (3RP)[33] and the operational portal that is hosted by UNHCR[34] to provide useful data and act as a repository on research from the response. Was this due to the amount of money available in the Syria regional response as compared with the Yemen response? A careful analysis of this has

[32] "Climate Change and Humanitarian Action: Key Emerging Trends and Challenges." OCHA Occasional Policy Briefing Series No. 2; August 2009. Page 7. Available here.

[33] Please see: http://www.3rpsyriacrisis.org/

[34] Please see: https://data2.unhcr.org/en/situations/syria.

not, unfortunately, been done/ In Yemen, the case of WFP may hint at the issue of resources. WFP Yemen does have at least a relatively more articulated approach to climate change and is also the largest—in scale and resources—humanitarian actor in Yemen.

For OCHA, given the way coordination is conducted in Yemen and elsewhere, climate change may tend to be seen as a 'development' issue. It is, as interviews with OCHA support, seen as something that governments and the international community need to address to *mitigate* the impending harm to vulnerable communities. In this OCHA confuses, as with many of DFID supported partners, the difference between mitigation and adaptation and thus shifts the entirely of its focus to immediate lifesaving activities even though the larger policy architecture recognises the pitfalls associated with this. This implies that, despite global commitments, adequate resources and capacities are not transferred to the national level and, thus, the impact of climate change will continue to impact food security and other vulnerabilities.

4.2 Humanitarian Principles & Human Rights

As with OCHA's practical response to humanitarian coordination, humanitarian principles and human rights law and policies address the rights and needs of people, but they are even further removed from the practical ways in which humanitarian action is conducted in complex operating environments in Yemen. Instead, the more promising sources for some practical guidance on how to address climate change as part of the humanitarian response lies with DRR, as described in Section 0.

Nonetheless, the UN High Commissioner for Human Rights (OHCHR) examined the relationship between climate change and human rights in 2009.[35] This report finds that (1) climate change threatens the enjoyment of human rights; (2) climate change does not, however, violate human rights; (3) human rights law nevertheless places duties on states concerning climate change; and (4) those duties include obligations for intentional cooperation. While certainly important, this does not provide a level of clear, precise, and practical guidance that could inform humanitarian action, especially in conflict situations like Yemen. More directly, it reflects global debates as to whether or how climate change and its impact are even related to states' obligations in human rights law.

Academic research seems even more remote. Phillipe Cullet, Professor of International and Environmental Law at SOAS, explores how the rights to a safe environment, one defined by access to natural resources and increasing vulnerabilities.[36] These and related studies all point to the debates about the right to access natural resources and, as related to Yemen, how these rights can lead to conflict between competing entities. Yet, nothing was identified that translated this into practical ways to incorporate or protect these rights in a complex humanitarian context.

4.3 Conclusion

This may lead one to consider the examples presented from DFID supported partners above. While these are somewhat ad-hoc and may confuse adaptation and mitigation strategies, they are at least trying to protect access to natural and lifesaving resources for the most vulnerable. The global landscape may be too ill defined, too much influenced by global political trends, to provide practical guidelines and frameworks for humanitarian action. It may be more productive to continue to invest in these small endeavours and seek ways to bring the most promising to scale and to develop them into potential models for other actors.

[35] "Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship between Climate Change and Human Rights." OHCHR; UN Doc.: A/HRC/10/61; 15 January 2009.

[36] For an example of this work, see: Philippe Cullet, "The Kyoto Protocol and Vulnerability: Human Rights and Equity Dimensions" in Stephen Humphreys (Ed.); Human Rights and Climate Change. Cambridge University Press, 2010.

5. What are other donors doing to support climate change adaptation strategies in Yemen and to assess programmes' climate sensitivity? (coherence)

Given the dearth of climate change adaptation in formal coordination mechanisms and the Yemen HRPs, it is difficult for donors to have a coherent approach to humanitarian investments related to ACC.

5.1 USAID

USAID committed US1.1 billion to the Yemen response for 2019-2020, making it the largest donor. USAID supported humanitarian action in Yemen is largely affiliated with the HRP and predominately food security focused. Of the US$395 million humanitarian funding for 2020, 97% is for food assistance with the rest split between funding for UNHCR/CCCM, HCIM, logistics, and other programme support. More broadly, USAID makes investments in land tenure policies and resource rights, issues related to deforestation, protection of biodiversity, and other mitigation and adaptation activities.

However, given that climate change adaptation is not included in the HRP and given the current politeia climate in Washington DC related to climate change, it is perhaps unsurprising that USAID is not more involved in ACC.

5.2 Saudi Arabia

Saudi Arabia is the second largest donor, having committed US$1 billion to the Yemen response for 2019-2020. The majority of this funding is directed to healthcare and WASH activities. This review did not identify any climate change related activities.

5.3 UAE

The United Arab Emirates (UAE) is the third largest donor to the humanitarian response plan with US$420 million committed for 2019-2020. This is largely funnelled through the Emirate Red Crescent Society and while the Red Cross and Red Crescent runs a climate centre, it is unclear how much the UAE has prioritised this. The Red Cross Red Crescent climate centre was established in 2002 by the Netherlands Red Cross and the IFRC to help the Red Cross and Red Crescent Movement and its partners reduce the impacts of climate change and extreme-weather events on vulnerable people, including:

- provide humanitarian assistance;
- improve response and preparedness;
- decrease vulnerability of communities;
- integrate climate risk management into policy and planning; and
- mobilise human and financial resources.[37]

While the UAE provides resources to this centre, is not clear how it has been engaged in the context of Yemen.

5.4 Germany

After the UK, Germany is the next largest donor for 2019 – 2020 in Yemen, committing approximately US$273 million. Through KfW, Germany has 11 active grants 3 for WASH, 5 for Labour Intensive Program (Cash for Work) and 3 for education. WASH activities provide the basic water and sanitation services in urban and rural areas using all technology options including rooftop rainwater harvesting cisterns, communal rainwater harvesting cisterns, groundwater based water schemes and spring water based water schemes. Urban sanitation includes sewerage networks and wastewater treatment plants and rural sanitation include on-site sanitation (building and improving latrines). Labour intensive works are similar to that of World Bank grants provided to SFD. Education activities include paying teachers to keep the education service operating which was stopped due to the crisis.

[37] For more on the centre, please see: https://www.climatecentre.org/

5.5 ECHO

ECHO commits approximately US$183 million for 2019 – 2020. Like USAID, ECHO has policies and frameworks related to climate change but these do not seem prevalent in their Yemen portfolio. This includes investments in food, healthcare, and education as well as water, shelter, and hygiene kits to conflict-affected areas and displaced populations.

5.6 Others

The World Bank is supporting SFD with grants dedicated to Emergency Crisis Response to cover cash for work activities and cash for social services. The activities in cash for work includes terrace rehabilitation, gullies protection, rainwater harvesting cisterns, on-site sanitation, access roads protection and improvement, house gardens and other activities that provide cash for vulnerable communities to bridge the food gap and gain permanent infrastructure assets. Cash for social services include targeting vulnerable lactating women and connecting them with health facilities to do health check-ups and they are paid for certain milestone of health facility visits. These signal an opportunity to link cash for work (and other social protection programmes) to building resilience, including the timing of these interventions and how to develop and maintain relevant infrastructure.

The Embassy of the Kingdom of the Netherlands (EKN) has a grant for Albaidha city water supply project which will solve the water scarcity problem persisting for decades.

We have purposefully excluded DFID from the list above.

6. How might partner climate sensitivity/climate adaptation activities be assessed in relation to longer term value/VfM and sustained/long-term positive impact? (impact)

The central point related to the effects of climate change and the situation in Yemen is to recognise that effects will continue to harm vulnerable communities for the foreseeable future. As described below, investing in climate change mitigation and resilience activities is much more cost effective than doing nothing or, as described in this review, investing purely in immediate lifesaving activities without considering the ongoing impacts on vulnerable communities. This lacks both longer-term strategic insights and inefficient investment decisions.

While the research and models for calculating the value of these types of investments are nascent, there are some models that have already demonstrated the cost effectiveness of early response investments in resilience. This is in line with DFID's general approach to assessing value.[38]

Value for money is central to assessing the performance of humanitarian programming. It should allow one to measure ways to achieve cost savings/economies of scale, thus enabling programmes to reach more people (economy), how programme adaptations/changes reduce costs, improve delivery times, and/or serve more people (efficiency), and the fiscal value of how inputs and outputs combine to achieve specific outcomes (effectiveness). The quantitative and largely fiscal measures that these entail can also be assessed across different groups and regions in Yemen to ensure that support is reaching people most in need. (Equity)

These longer-term resilience equations are based on the research conducted by Courtenay Cabot Venton for the USAID Center for Resilience.[39] This includes the total net costs over 15 years across four scenarios: total net cost over 15 years; adjusted net costs over 15 years; total net costs with benefits; average net cost benefits per year. This analysis uses average net cost benefits per year. This ends up with ratios for the return

[38] "DFID's approach to value for money in programme and portfolio management: a performance review." The Independent Commission for Aid Impact (ICAI); February 2018.

[39] Courtenay Cabot Venton; "Economic of Resilience to Drought in Ethiopia, Kenya and Somalia." USAID Center for Resilience; January 2018. Page 12, 13.

on investment for 'resilience' activities. These could be applied to climate change adaptation investment in Yemen.

Beyond these more technical and VfM-centric approaches, many of these investments will likely concern infrastructure rehabilitation and development, especially around agriculture and access to water. Value for this can be calculated through relatively common savings associated with investment, maintenance, and recurring costs:

$$\frac{\text{(CapEX + CapManEx + OpEx)}}{\text{\# of people served per year}}$$

Investment costs (Capital expenditure = "CapEx"); major maintenance costs (Capital maintenance expenditure = "CapManEx"); and regular recurrent costs (Operating expenditures = "OpEx").

It is expected that CapEx costs are incurred in the first year and so these may either be calculated as a single expense or accrued across expected life of investment.

If this level of financial analysis is considered first, extrapolating immediate and longer-term value for communities served, then more traditional impact evaluation strategies could be used to look at the qualitative benefits gained by specific cohorts. It is unlikely that a randomised control trial (RCT) or even a quasi-experimental approach could be used given how many climate change adaptation activities would have spill-over affects across cohorts and possibly for the country as a whole.

6.1 Conclusion

While models exist for assessing immediate and longer-term resilience investments, these could be strengthened by additional considerations as to their applicability to climate change adaptation activities.

RCT or quasi-experimental designs for impact evaluation would probably not be suitable and so contribution analysis and other qualitative approaches may be necessary.

7. Annexes

7.1 Design note

Provided as a separate Annex.

7.2 List of people interviewed

Save the Children

- Kalyebara Kiiza Moses, FSL Technical Advisor - Yemen Country Office

Search for Common Ground

- Megan Bénéat-Donald, Senior Officer, Programs - Arabian Peninsula

Social Fund for Development

- Ahmed A. Ghamdhan, Project Officer; Water and Environment Unit
- Abdulwahab Almujahed, Head of Water and Environment Unit

World Food Programme

- Mohamad Marji, Programme Policy Officer (Resilience & Livelihoods); Yemen

United Nations Fund for Children (UNICEF)

- Dominique Porteaud, Chief of WASH); Yemen
- Fuad Aboras, WASH Specialist
- Farida Elmashgary. WASH Specialist
- Kamal Bahadur Kunwar, WASH Cluster

Additional interviews were held informally with OCHA, OFDA, and ECHO.

7.3 Review Questions

The following questions were agreed upon with DFID to guide the review. They are cited in the main body of the report.

1. How are climate change adaptation strategies relevant to humanitarian action in Yemen, especially in how they may reduce vulnerabilities, temper hostilities, and support sustainable strategies going forward? (relevance/appropriateness)

2. How are partner climate change adaptation strategies linked to humanitarian coordination mechanisms, humanitarian principles, and broader human-rights considerations? (coherence)

3. What are other donors doing to support climate change adaptation strategies in Yemen and to assess programmes' climate sensitivity? (coherence)

4. Do partners have practical examples of how climate change adaptation strategies have been incorporated into their activities? (effectiveness)
    a. Do these examples reduce the exposure of the most vulnerable to issues of climate change? (nutrition, food insecurity, water security, social protection)
    b. Do these examples enable vulnerable populations to prepare for, respond to, and recover from climate change related crises? (livelihoods)
    c. Do these examples affect risks of violent conflict, e.g. apply principles of 'Do No Harm'? (protection)

5. Do current humanitarian programmes use resources in ways that do/could contribute to local grievances or conflict? If so, what are practical ways to prevent this? (effectiveness)

6. What else could partners be doing to address climate change in their programmes? (effectiveness)

7. How might partner climate sensitivity/climate adaptation activities be assessed in relation to longer term value/VfM and sustained/long-term positive impact? (impact)

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