APRIL 2021

CLIMATE CHANGE IMPACTS ON HEALTH AND LIVELIHOODS

IFRC

Climate Centre

1. INTRODUCTION

1.1. BACKGROUND

The short- and long-term effects of climate change on the environment are becoming increasingly clear: as the climate changes, we are seeing more extremes in the frequency, duration, intensity, timing, and spatial extent of natural-hazard related disasters. Less clear are the health and livelihoods implications of these climate- and weather-related phenomena: attribution of specific health and livelihood outcomes to climate-related risks is challenging, and largely unexplored.

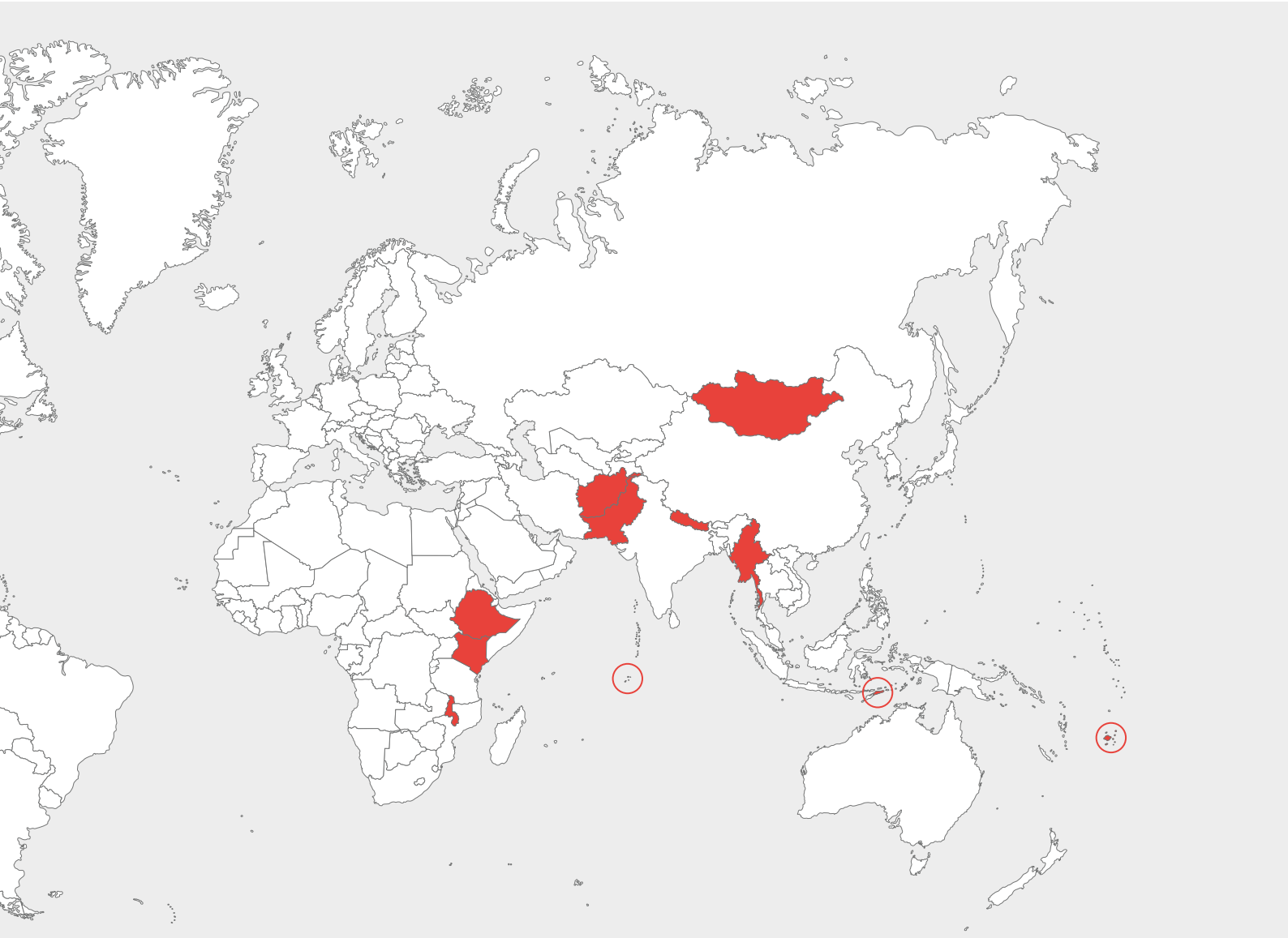
While the direct health effects of extreme weather events lead to increased morbidity and mortality, climate change also harms human health indirectly through ecosystem changes that negatively impact the livelihoods of those most vulnerable with the least capacity to adapt. According to the IPCC, the greatest burden of climate change will fall on poor countries, and the most vulnerable populations within. This research critically examines these direct and indirect health- and livelihood-related risks that are exacerbated and induced by climate change.

The objectives of this research align with the IFRC Strategy 2030 and several IFRC frameworks. The IFRC Strategy 2030 prioritises climate and environmental crises and growing gaps in health and well-being, among others. This strategy places importance on the drivers of vulnerability including livelihoods, food shortages, health, displacement and emphasizes the use of early action models and scientific forecasting innovation and financing to improve responses. Within this strategy, IFRC has developed a Framework for Climate Action and The Health and Care Framework. The Framework for Climate Action is focused on building community knowledge and awareness, supporting climate change adaptation practices, influencing successful policy outcomes, and providing support for mitigation activities related to climate change. Operating in close parallel is the Health Care Framework, which supports disease prevention and health promotion, service delivery in health and WASH, health and WASH emergencies preparedness and response, epidemic and pandemic preparedness and response, and humanitarian diplomacy in these areas. Together, the overarching focus of these innovative frameworks is to promote health through a better understanding of climate change.

This project supports these frameworks by conducting two types of in-depth assessment:

1) Reviews and analyses on the climate-health-livelihoods nexus across eight countries in the Asia-Pacific Region: **Afghanistan**, **Fiji**, **Maldives**, **Mongolia**, **Myanmar**, **Nepal**, **Pakistan** and **Timor-Leste**.
2) Reviews and analyses on the climate-health nexus across three countries in the Africa Region: **Ethiopia**, **Kenya** and **Malawi**.

Figure 1. Map of the 11 countries for which the assessments were carried out.



2. METHODOLOGY

Five countries in the Asia-Pacific Region and three countries in Africa were targeted for this pilot research project to assess the current and projected health and livelihoods impacts of the changing climate. The assessment is the first phase of an initiative that aims to reduce health risks and vulnerabilities exacerbated and induced by climate change. A qualitative exploratory approach was used, combining a desk-based review of secondary literature and key informant interviews with in-country experts in order to answer the specific research questions.

2.1. SELECTION OF PARTICIPATING NATIONAL SOCIETIES

A general call for expressions of interest to participate in the research was sent to National Societies in the Africa and Asia-Pacific Region. The 11 countries - Afghanistan, Fiji, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Timor-Leste, Ethiopia, Kenya and Malawi - responded to the call for assessment owing to on-going Climate-Health programming in these countries.

2.2. SCOPE

The scope of these assessments was to investigate the direct and indirect climate and climate change links and associations with health outcomes (mortality, infectious disease, non-communicable diseases, nutrition, mental health). Health is a product of both social and environmental determinants, but for the purpose of these assessments the environmental determinants as they relate with climate change were the focus.

2.3. OVERARCHING RESEARCH QUESTIONS

The following research questions provided the scope of the assessment:

1) What are the existing and predicted impacts on health - especially of marginalised populations - due to climate change and its interaction with (a) water security and sanitation, (b) food security and livelihoods, (c) migration and displacement, (d) climate-sensitive physical and infectious discomforts and diseases, in each of the five countries?
   - What are the specific indirect impacts on sexual and reproductive health and disabilities?
2) Given the health-related impacts of climate change from (1), what are the knock-on effects for (a) livelihoods (rural vs urban) and (b) access to health services?
3) What evidence exists on effective measures of interventions to include in climate-smart health related to WASH, DRR and livelihoods programming per country?
   - What are the gaps in capacity/ability to manage the climate risk as is related to WASH, DRR, and livelihoods programmes?
4) What opportunities exist for future projects to address these gaps? What barriers exist, if any, for future programmes to address these gaps?

2.4. DEVELOPMENT OF TOOLS

Tools were developed by the RCCC Research Team and shared with participating NS for input. A global "Climate-Health Assessment Framework" was developed as a reference document for the assessment. This global framework drew heavily on key IPCC and WHO documents to establish the known linkages between climate change and health. It acted as a core reference document for the assessment to ensure that all linkages were explored in each of the countries.

2.5. LITERATURE REVIEW

Documents including government reports, IPCC, World Bank, National Adaptation Plans, Nationally Determined Contributions, National Society project monitoring, policy and strategy documents, as well as peer-reviewed papers were reviewed. A snowball sampling process was followed in which government, IPCC, World Bank documents were first reviewed, followed by a snowballing review of relevant documents listed in their references. Any gaps in data of the main themes of analysis were then further explored through targeted searching of peer-reviewed papers in PubMed and Google Scholar using the following formula search in the title or abstract: [country] AND [theme e.g. nutrition or malaria] AND climate change.

2.6. KEY INFORMANT INTERVIEWS

Primary data collection via in-depth semi-structured key informant interviews with experts working in the National Society (Health, WASH, DRR, Livelihoods, Climate Change Departments), and the Government (Ministry of Health, Ministry of the Environment, Ministry of Agriculture, Water and Sanitation Departments, Disaster Risk Management Agencies, and National Meteorological Agencies), as well as Academia, United Nations and other NGOs. The National Society Focal Points reached out to experts to solicit interviews (see Table 1). General thematic questions were submitted ahead of the interviews. Remote (Skype or phone based) interviews lasting 30-40 minutes were led by a member of the RCCC Research Team with support and facilitation by the National Society Focal Person. Interviews were carried out in English in all countries with the exception of Nepal, which was carried out in Nepali (as a member of the Research Team spoke fluent Nepali). It was not possible to schedule interviews with key informants in Timor-Leste and Fiji due to increased COVID-19 cases in the countries and conflicting priorities of the National Societies involved in both this research and the urgent response in-country. Verbal consent was obtained from all participants. Detailed notes were taken during interviews and interviews were recorded for further transcription.

Table 1. Number of experts contacted and the total number of completed interviews per country in the data collection window.

COUNTRY	NUMBER OF INTERVIEWS COMPLETED	NUMBER OF EXPERTS CONTACTED
AFGHANISTAN	4	14
MALDIVES	4	9
MYANMAR	6	6
NEPAL	10	10
PAKISTAN	12	12
ETHIOPIA	17	20
KENYA	13	20
MALAWI	15	32
MONGOLIA	5	5
TIMOR-LESTE	0	0
FIJI	0	0

2.7. CITY-LEVEL ASSESSMENTS

National Societies were requested to select a target city (preferably not the capital city) to explore how climate change will affect the health and livelihoods of the city inhabitants and interviews were planned to be held with ~4 city-level experts (see Table 2). Due to time constraints and other priorities, it was not possible to conduct a city-level assessment in all countries.

Table 2. Selected cities in target countries

COUNTRY	SELECTED CITY
AFGHANISTAN	None selected
MALDIVES	KULHUDHUFFUSHI
MYANMAR	None selected
NEPAL	BIRGUNJ
PAKISTAN	KARACHI
ETHIOPIA	None selected
KENYA	KISUMU
MALAWI	LILONGWE
MONGOLIA	None selected
TIMOR-LESTE	None selected
FIJI	None selected

2.8. ANALYSIS

Dominant themes were identified through the systematic review of interview transcripts. Salient concepts were coded and their occurrence and re-occurrence noted. Findings from the document review and key informant interviews were then triangulated and cross-checked against the reference Climate-Health Framework and the main findings incorporated into the report.

2.9. VALIDATION WORKSHOP AND FEEDBACK

Three separate Virtually Amazing Sessions were held. The first for Afghanistan, Maldives, Myanmar, Pakistan and Nepal; the second for Ethiopia, Kenya and Malawi; and the third for Mongolia, Timor-Leste and Fiji. The Virtually Amazing sessions lasted approximately 2 hours each and were an opportunity for the RCCC Research Team to present the main findings back to the National Societies, IFRC Technical Advisers, and Partner National Societies. Feedback on priorities, gaps, learning, and input to recommendations was gathered and incorporated during revision and finalisation of the country assessments.