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# Navigating the Nexus of Climate Change, Health, and Nutrition in Pakistan

Outcomes Report
July 2023, Pakistan

## I. Executive Summary

Pakistan is facing severe challenges caused by global climate change, with far-reaching impacts on health and nutrition. There is a need to address these challenges and build solutions from a nexus approach, catering to the most vulnerable segments of the population. In May 2023, Globesight hosted a virtual panel to highlight the challenges faced by high-risk populations as well as bring forth innovative solutions through an expert panel of speakers. This report is a product of Globesight's ongoing efforts to highlight climate change as a pressing health crisis in the Global South. It outlines the key findings from the virtual panel; highlighting gaps in approaches, advocating for effective use of data, evidence and communication strategies, and identifies the need for institutional commitment to protect the population's health and nutrition.

## II. Background

Pakistan ranks among the top ten countries most affected by climate change, with a severe climate-induced health crisis. Future climate projections in the country point to rising temperatures, unpredictable rainfall trends and rising sea levels. By the end of this century, the annual mean temperature in Pakistan is expected to rise by 3°C to 5°C.[1] These changes increase the threat of extreme climate events such as floods, cyclones, heat waves and droughts, endangering the population's health with rising mortality and morbidity, worsened burden of diseases, and increasing rate of malnutrition and displacement.

Climate-induced events have an adverse effect on both the environmental and social determinants of health as clean air, safe water, adequate food, shelter and livelihood become inaccessible. The devastating floods of 2022 affected more than 33 million people, killed at least 1,739 people, and destroyed nearly 2 million homes and over a thousand health facilities. Nearly 8 million people needed health assistance[2], including active health facilities, nutrition stabilization centers, disease surveillance and timely provision of essential medicines. For a resource-constrained country like Pakistan, responding to these shocks is a significant challenge. Furthermore, variations in rainfall patterns and temperature are also correlated with the spread of vector-borne and water-borne infectious diseases, compounding burden on constrained health systems. After the floods, Pakistan saw at least a four-fold increase in the reported number of malaria cases[3] along with a surge in cholera and diarrhea cases.

Pakistan's National Climate Change Policy (2021) endorses a policy framework for climate adaptation and mitigation across various sectors including health. The framework acknowledges the absence of adequate national data on the impacts of climate change on health and outlines imperative measures including vulnerability assessments, disease outbreak

[1] Climate Change Profile of Pakistan, Asian Development Bank (2017)
[2] Monsoon Floods 2022 - Cost of Inaction - Consequences of Inadequate Funding, UN Office for the Coordination of Humanitarian Affairs, (2023)
[3] World Health Organization (2023): https://www.who.int/news-room/feature-stories/detail/It-was-just-the-perfect-storm-for-malaria-pakistan-responds-to-surge-in-cases-following-the-2022-floods#:~:text=In%20fact%2C%20Pakistan%20saw%20at,were%20very%20likely%20many%20more. Note: 400,000 cases of malaria were reported nationwide in 2021 while 1.6 million cases were reported just in the 60 districts supported by the Global Fund in 2022 (meaning there were very likely many more).

monitoring, disaster forecasting systems, and reporting and analysis of climate-sensitive diseases. However, these measures are yet to be implemented and the National Adaptation Plan has also not been finalized.

Pakistan spends just 5.8 –7.6% of its total federal expenditure on addressing climate change, primarily on mitigation measures in the energy and transport sectors as well as nature-based solutions like afforestation and reforestation for improving air quality. Only 9% of the climate related expenditure is used for adaptation measures for health and social services.[4] Moreover the latest budget plan for FY 23-24 also lacked focus on developing climate resilient health systems.[5]

At the 26th Conference of the Parties (COP26), health was chosen as a science priority area, and included as an action point in Pakistan's Nationally Determined Contributions (NDCs). While the NDCs estimate that between $7- $14 billion is required for climate adaptation in the country, the health specific needs were not calculated. Funding for climate change is an ongoing challenge: though Pakistan effectively advocated for the Loss and Damage Fund at COP27 and also managed to raise $10 billion in pledges at the International Conference on Climate Resilient Pakistan, none of these international funds have materialized so far. Therefore, Pakistan needs a policy and financing strategy that will determine the budgetary needs of different sectors with regards to climate change and demonstrate commitment to positive returns on investment in order to receive required funds. The country has a long journey towards maturing its climate and health agenda.

The first ever Climate and Health Day will be held at COP28[6] and this is an opportunity for Pakistan to highlight health risks from climate by contributing relevant data points to the forum and proposing adaptation solutions. To gather insights from experts and shape a contextual understanding of these risks and solutions, Globesight organized a webinar titled "*Navigating the Nexus of Climate Change, Health, and Nutrition*".

## III. Key Findings and Recommendations

The virtual panel and Globesight's ongoing research have highlighted three key areas for addressing the climate-related health crisis in Pakistan: achieving a holistic understanding of the health crisis, ensuring government and institutional willingness to propel action, and using evidence, research and data for prioritization.

[4] Pakistan - Climate Public Expenditure and Institutional Review (CPEIR), UNDP, 2015
[5] The FY 23-23 federal budget has allocated funds for climate change mitigation and development related projects including the Green Pakistan initiative (aimed at reversing deforestation, and promoting improved agriculture), climate resilient urban human settlements, and increased use of renewable energy.
[6] Next UN climate summit to consider health issues in depth for first time, The Guardian (2023): https://www.theguardian.com/environment/2023/may/02/next-un-climate-summit-to-consider-health-issues-in-depth-for-first-time-cop28

## a. Climate-related health risks need to be analyzed through a multisectoral lens.

- *Pakistan faces direct and indirect health risks due to climate change:* Environmental hazards such as high temperatures and rising water levels increase mortality and morbidity while climate disasters disrupt health service delivery. There are also several indirect health risks through changes to ecosystems, crop losses, disruption of livelihoods and increased displacement. These result in food insecurity, leading to malnourished and unhealthy populations. For example, the 2010 floods in Pakistan made 7.8 million people vulnerable to lasting food insecurity.[7]

- *Health inequities are exacerbated by the impact of climate change*: In Pakistan, government health spending constituted only 1.4% of the GDP[8] in 2022 and 55.4% of total health expenditures are out-of-pocket.[9] As a result, health services are inaccessible to a large segment of the population. Lower-income households are also particularly vulnerable to climate disasters which destroy homes, health facilities and staple food sources. The panel underscored how this exacerbates the challenges of alleviating intergenerational poverty and malnutrition. Social protection initiatives like the Benazir Income Support Program (BISP) have demonstrated some level of shock-responsiveness as in the case of emergency cash transfers during COVID-19 and the 2022 floods. However, there is a need for more adaptive social protection e.g., through integration with health insurance.

- *Gender disparities around health and climate change need to be addressed:* The webinar highlighted the impact of gender disparities on health and nutrition in the context of climate change. For example, reproductive health suffers acutely during climate disasters: in August 2022, there were an estimated 650,000 pregnant women in the flood-affected areas of Pakistan without access to sanitation facilities and maternal health services.[10] Therefore, health infrastructures need to be sensitized to these cross-cutting factors, from recognizing these disparities in the National Adaptation Plan to training the health workforce to manage targeted risks for vulnerable segments.

## b. Institutional willingness, commitment and collaboration is the key to translating climate-related health and nutrition policy to action.

- *Comprehensive inclusion of climate change in federal and provincial policies can create the right incentives in the wider ecosystem:* Relevant ministries need to

[7] Pakistan Flood Impact Assessment, World Food Program, 2010: https://reliefweb.int/report/pakistan/pakistan-flood-impact-assessment-september-2010
[8] Pakistan Economic Survey 2022
[9] World Health Organization Global Health Expenditure database
[10] United Nations Population Fund (2022): https://pakistan.unfpa.org/en/news/women-and-girls-bearing-brunt-pakistan-monsoon-floods

align on the climate agenda and set up climate units that directly liaise with the Ministry of Climate Change and Environmental Coordination (MoCC&EC). This will incentivize contribution from the private sector to tackle health and nutrition as a priority. Climate change and health need to be included in updated sector policies and implementation strategies across energy, education, security, and development sectors. The federal agenda needs to trickle down to the provincial and district levels so that a multisectoral approach to tackling the climate change and health crisis can materialize into actionable solutions on all levels.

- *Climate-Health advocacy can attract innovative financing opportunities*: Pakistan needs a national climate finance framework with specified sectoral financing targets in order to leverage international climate finance opportunities. The country recently launched its SDG Investments & Climate Financing Facility with the UNDP[11] to mobilize private sector and international investments and promote dynamic financing for the development portfolio for Pakistan. Initiatives like this use data to promote financing towards sectors impacted by climate change. A well-studied, evidence-based health strategy can encourage multilateral organizations working in the areas of health, food security and climate resilience to provide missing technical support and finances.

- *Regional collaboration can multiply impact:* Countries in South Asia face similar economic, demographic and climate-change related challenges and their proximity further increases these risks. For example, the surge of malaria in Pakistan can also be a threat for malaria control in Iran and Afghanistan due to human movement and border trade[12]. The region can collectively call for global support and financing for the Global South. Pakistan can use international forums like the COP to propose frameworks that stress the health risks faced by South Asian populations and highlight the significance of sharing real-time data for flood warnings, early disease warnings as well as the exchange of best adaptation practices. Recently, the Minister of Climate Change Sherry Rehman highlighted the need for shared goals in the region during a meeting of the Shanghai Cooperation Organisation (SCO). Such platforms can prove to be instrumental in achieving positive climate diplomacy and collaborative strategic plans. Pakistan must adopt a proactive approach for projects like the power trade deal that is currently being finalized between India, Nepal and Bangladesh[13], which can pave the way for clean energy sharing and related climate change mitigation and adaptation projects.

[11] UNDP (2023): https://www.undp.org/pakistan/press-releases/pakistan-sdg-investments-climate-financing-facility-established-mobilize-private-sector-investments-development

[12] World Health Organization (2023): https://www.who.int/news-room/feature-stories/detail/It-was-just-the-perfect-storm-for-malaria-pakistan-responds-to-surge-in-cases-following-the-2022-floods#:~:text=In%20fact%2C%20Pakistan%20saw%20at,were%20very%20likely%20many%20more

[13] Bangladesh, India, Nepal near 'milestone' electricity trade deal, Nikkei Asia (2023): https://asia.nikkei.com/Politics/International-relations/Bangladesh-India-Nepal-near-milestone-electricity-trade-deal

## c. Comprehensive data collection and dissemination is needed to enhance resilience.

- *Robust scientific and social research is necessary for technological interventions and risk monitoring:* The National Disaster Management Authority and Meteorological Department need to be equipped with up to date facilities and equipment to track meteorological data, while new research and technical institutions must be set up to identify information gaps, design mechanisms for technological interventions and scientific solution-building. The MoCC&EC is in the process of establishing early warning systems for climate disasters; however, these systems need to be further elevated by disease warning systems to identify outbreaks and communicate possible health threats to communities in the wake of disasters through all means of communication (radio, mobile, television etc). Early warning systems for agriculture and adoption of high-yielding climate resilient seeds for farmers need to be scaled up.

- *Accurate and streamlined data can enable timely response*: One of the key takeaways of Globesight's webinar was the potential of data, mapping and forecasting for protecting community health. Data on populations impacted by the risk of diseases such as malaria and dengue should be publicly available through a centralized portal for mapping and preparedness measures. Mapping this data can help identify high-risk areas, sensitize communities and educate them on preventive measures, improve future reporting of cases and guide medical resource allocation. There is also a need for various sectors, such as education, energy, and security, to be informed of the risks on population health and nutrition. Data dissemination streams, which need to include scientists, business communities, policymakers and political leaders, need to be established to engage experts for alignment on positive health outcomes.

- *Local community involvement is integral to solution-building*: Experts on the panel stressed on the role of media, public messaging and digital communication in building resilience to climate-induced health risks. During Covid-19, a needs assessment was carried out using surveys to understand small-scale farmers' challenges and provide personalized tips via their mobile phones on natural agricultural solutions to protect crops when usual supply chains and movements were restricted. The baseline assessment later also revealed the need for hyper local weather reports which can allow farmers to time their plantations and dig water channels to divert flood water as needed[14]. Similar programs need to be scaled in the wake of climate-related challenges. Civil society organizations and local community networks, particularly in vulnerable rural areas, can be mobilized to increase outreach of information and recommended actions to protect the community's health. The influence of local leaders can also be utilized to battle cultural restraints, distrust and

[14] How over one million small-scale farmers in Pakistan got the information they needed to withstand the COVID crisis, IFAD (2022): https://www.ifad.org/en/web/latest/-/how-over-one-million-small-scale-farmers-in-pakistan-got-the-information-they-needed-to-withstand-the-covid-crisis

misconceptions that hinder access to health services, particularly for women. It is also important to include communities in data collection so that imminent threats can be recognized in a timely manner. After the 2015 heatwave, the HEAT study[15] collected data on heat emergencies for low-income households in Karachi, which not only tested life-saving mechanisms but also raised awareness on the growing threat of heatwaves.

## IV. Moving Forward

Pakistan has been grappling with economic and political crises that have taken up much of the government's immediate focus. However the increasing frequency of severe climate events and the far-reaching impact of climate change require the country to prioritize its climate agenda. In the recommendations that have emerged from Globesight's ongoing research and discussions, it is clear that a localized, data-centric, and inclusive approach is required to break down silos, bridge gaps and address health and nutrition in the country in the wake of climate change. Best practices need to be recognised, scaled up and carefully budgeted for broader impact across the country. This starts from a national agenda enabling the public sector and unlocking private investment, encouraging innovative solutions from civil society organizations and research institutions, and equipping affected communities to understand the risks of climate change to take requisite action to protect population health. As important conversations around climate change and health are taking shape globally, particularly at the upcoming COP28, Pakistan can enhance its preparation to make a strong case for its needs and mobilize support, both domestically and internationally, to meet its targets. In order to gather insights, inform policy and catalyze impact, Globesight will continue these discussions across the Global South.

[15] Heat emergencies: Perceptions and practices of community members and emergency department healthcare providers in Karachi, Pakistan: A qualitative study: https://ecommons.aku.edu/cgi/viewcontent.cgi?article=1273&context=pakistan_fhs_mc_emerg_med

## Appendix

### a. Panel Speakers List

- Afia Salam - Journalist and Climate Change Activist
- Dr. Ismahane Eloufi - Chief Scientist, FAO
- Dr. Farhana Shahid, Sr. Associate, Globesight
- Michael Stephens - Policy Lead, Globesight (Moderator)

Globesight is the leading strategy advisory firm and partner for institutions seeking to scale development impact in the Global South, with a primary focus on the Middle East, South Asia, and Africa. Globesight develops strategies, investigates complex issues through relevant research, cultivates insights in data-scarce environments, and aims to reframe the conversation to challenge assumptions on advancing change. Headquartered in Dubai, Globesight operates with a distributed structure.

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