

# THE WATERS OF THE THIRD POLE: SOURCES OF THREAT, SOURCES OF SURVIVAL

## EXECUTIVE SUMMARY



## Summary

[1] The purpose of **The waters of the Third Pole** report is to open up a dialogue on an issue that could put the lives and livelihoods of millions of people at risk in the foreseeable future. This issue is water – water as a vital resource and as a potential crisis driver in the Hindu-Kush Himalaya (HKH) region. In seeking to foster that dialogue, the report has three specific objectives: [i] to survey various types of potential water-related hazards and crisis drivers that could affect the region; [ii] to foster new types of alliances – including greater attention to what will be called humanitarian policy-maker/science dialogues – for addressing the threats that the region may face; and [iii] to propose first steps that must be taken now to lead to prevention and preparedness measures commensurate with the nature and scale of threats facing the region.

### The importance of the HKH region as a water source

- [2] More than one in five people, including the populations of Bangladesh, China, India and Pakistan, depend to some degree on water from ten major river systems originating in the HKH region. This region is sometimes referred to as the Third Pole because it hosts the largest expanse of frozen water outside the polar regions. Its drainage basins are one of the world's most dynamic, complex and intensive risk hotspots. This water system could be involved in future crises concerning dams, river diversions, floods, water shortages and contamination.
- [3] From Afghanistan in the west, through Pakistan, India, Nepal, Bangladesh and Bhutan to Myanmar and China in the east, the HKH region extends 3,500km over eight countries and is the source of ten major Asian river systems, including the Ganges, the Brahmaputra and the Yangtze, Mekong and Yellow rivers. However, the region is susceptible to high levels of climate warming, earthquake activity, extreme weather events, glacial melting and relative sea-level rise. The region's glaciers, rivers, wetlands, grasslands and coasts are all therefore affected.
- [4] Despite the uncertainty surrounding projected changes, it seems highly likely that many of the changes already observed will continue in future decades. Warming in many parts of the region is likely to continue and it is probable many glaciers will continue receding. Rainfall and extreme events such as storms and floods are likely to increase throughout much of the HKH region. The apparent increasing variability in the summer monsoon rains, coupled with the unsustainable use of water resources, may increase the probability of more severe drought during dry seasons.

### Human activity in the HKH region

[5] Large, fast-growing and rapidly urbanising populations, described in Section 2, are placing heavy demands on water and related environmental resources. Governments in the region are working to increase agricultural productivity and electricity generation, but with likely devastating effects on the environment. Longstanding antagonisms between countries and sub-regions are being exacerbated by disputes over increasing demand for diminishing or increasingly variable water resources. There are growing numbers of environmental migrants. These include both those people moving away from drying or degraded farmland or fisheries, and the millions displaced by ever-larger dams and river-diversion projects.

## Vulnerabilities and crisis drivers

[6] The main natural hazards in the HKH region are earthquakes, mass movement, extreme weather, windstorms, droughts, floods and wildfires. Groundwater contamination is also a major concern. As outlined in Section 3, the impacts of all of these may be magnified by environmental and climatic changes, population growth, globalisation and increasing demands on resources; and all in various ways dramatically affect water availability and are affected by water as a crisis driver. Consequently, such hazards, particularly those relating to water quantity and quality, will continue to hamper socio-economic development and poverty reduction in the region, and could contribute to a range of humanitarian crises, from conflict and mass migration to famines and cataclysmic floods.

### Humanitarian perspectives

- [7] There is much that remains uncertain and unknown about potential humanitarian threats across the HKH region. Yet, at the same time, as reflected in Section 3, there is ample expert opinion to suggest that the region offers a plethora of humanitarian threats that could severely affect the lives and livelihoods of millions of people. While this report is not intended to comment on the science that underpins those expert views, Section 4 of this report does suggest that in light of new and traditional types of crisis drivers affecting and affected by water, those with humanitarian roles and responsibilities need to develop new approaches to crisis prevention and preparedness.
- [8] To date, there is a general belief that too little attention is being paid to the region as an inter-related system, that short-termism dominates the thinking of too many governments in the region and that too many gaps in knowledge and information-sharing are constraining the planning and action essential to meet the types of crises that the region may well have to face in the future.

## Conclusions

This report attempts to point out risks that need to be considered when dealing with what has been defined as the region affected by the waters of the HKH region. While recognising the abundance of initiatives that have already been undertaken in the region by governments, research organisations and community-based organisations to deal with many aspects of potential future threats, this report nevertheless concludes that there are issues which must be recognised and addressed as soon as possible:

- **The HKH region is already in a state of crisis, affecting many vulnerable people.** While there are indicators throughout the region that humanitarian crises are already taking place, their impacts on and implications for the region are all too often ignored, handled in geographic or sectoral isolation or not adequately understood
- **Threats in the future.** A growing number of experts in and outside the region are concerned about the region's prospects over the next two decades. They see the dimensions and dynamics of water-related crises increasing significantly
- **Intensification of insecurity.** In a region already sadly familiar with conflict, further conflict could result from the natural and human-made pressures facing the HKH region over the next twenty years. Water in this instance will be a significant factor

- **Development catastrophes.** This report emphasises the nexus between natural hazards and human intervention. It has been suggested that the development initiatives being undertaken throughout much of the region could lead to crises that will readily deserve the epithet ‘catastrophes’
- **Lack of effective water management.** There is inadequate long-term water management at almost every level in the HKH region. At national and international levels, water management is marked by short term-ism and solutions that lack sectorally integrated approaches
- **Lack of systems perspectives.** One factor which continues to inhibit a proper understanding of the region is the failure to adopt a *systems perspective* of regional issues. Only in this way will the scale necessary to deal with the longer-term threats and means to offset them be identified
- **Knowledge gaps and lack of understanding.** There is no adequate shared understanding about the region as a whole, no “map” of potential risks and opportunities that would serve as a useful planning instrument. It is evident that there are considerable uncertainties in the HKH region
- **Lack of coordinated, comprehensive research.** While there are considerable pools of research on various aspects of the HKH region, data gathering and interpretation have been carried out without cohesion or continuity. There remains a great deal of academic and policy research that is uncoordinated and carried out by organisations without the institutional capacity to support effective information exchange

## Recommendations

The recommendations that follow are intended to suggest ways to strengthen humanitarian crisis prevention and preparedness activities in a region that may become increasingly vulnerable to large-scale water-related disasters and emergencies:

- **HKH region to move up the planning agenda.** In a world in which the types, dimensions and dynamics of humanitarian threats will increase exponentially, the attention given to the potential vulnerabilities of a region which is home to 20% of the world’s population has to increase
- **Need for a new planning construct.** The complexities which will underpin so many of the crisis drivers that may affect the region require a new planning construct, or, framework. The proposed construct will have to have four core components: [i] *vulnerability* needs to be the main focus; [ii] a regional approach to vulnerability mapping; [iii] greater integrated modelling of the interactive nature of future threats; [iv] preparedness planning based upon *futures* scenarios
- **Need for non-intrusive means for international support.** Given the highly complex and politically sensitive nature of potential future crisis drivers in the region, humanitarian intervention from traditional humanitarian organisations will have to be less intrusive, and more able to support local and regional prevention, preparedness and response capacities. This would include [i] creation of humanitarian professionalisation programmes for sharing best practices and standards; [ii] means for regular sharing of data on regional dimensions of vulnerability; [iii] regionally-developed scenario exercises to assess and test appropriate approaches for international support for regional crises; [iv]

pre-response arrangements between relevant regional bodies and international counterparts

- **Foster cross-regional humanitarian policy-maker/science dialogue.** Measures are needed to promote essential policy-maker/scientist dialogue, including: [i] greater sharing of scientific information amongst countries in the region; [ii] accessible forum – including online capacities- for policy-makers to interact with natural and social scientists; [iii] proposed forum’s focus to give attention to interactive nature of possible regional threats; [iv] practical results of dialogue to be made accessible to threatened communities; [v] strengthened scientific and humanitarian research capacities in the region
- **Promote innovation consortia.** Linked to the previous recommendation, a forum to help identify, prioritise and implement scientific and technological innovations to offset potential humanitarian threats. Of particular importance in this context is to work with local communities to identify innovative solutions that directly relate to local needs
- **Address knowledge gaps and coordination for comprehensive research.** The numerous knowledge gaps touched upon in this and related studies need to be closed, and so it would be timely to bring together leading sectoral and regional experts to establish a prioritised programme of essential futures-oriented analyses to narrow knowledge gaps where possible. This initiative has to focus not only upon knowledge gaps within the region, but also upon those gaps in understanding about the ways that global issues, e.g. subsidised agriculture, that could impact upon the region’s vulnerability
- **Vulnerability mapping exercise.** A platform for developing a regional mapping exercise and system is required to identify and monitor those factors that will create humanitarian crises at local and regional levels. With an established platform, the mapping exercise in the first instance will need to focus on how such factors interact, their dynamics and probable dimensions of impact





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