

Policy brief – May 2022

Policy Brief: Climate Security and Disaster Risk Reduction – Resilience against Flood Risks in Central Asia

Main Findings

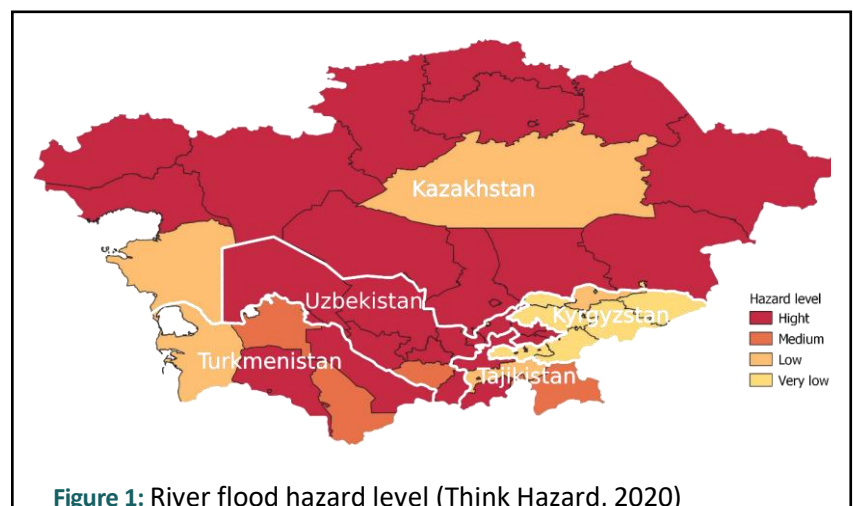
- Cooperative regional mechanisms and multi-stakeholder dialogue; adoption of local cross-border perspectives
- Strengthening resilience of vulnerable communities
- Monitoring and assessment of climate disaster risks in mountainous regions
- Fast response mechanisms and disaster simulation drills
- Investment in research on climate adaptation and disaster risk reduction; knowledge transfer and better established links between science and practitioners

Introduction

Climate change represents a challenge to governments, economies, and societies, most crucially, to the resilience of the people in Central Asia. Weather extremes such as floods are responsible for large-scale monetary losses each year (see Appendix). In addition, human costs take a significant toll on the region. Precipitation-related secondary effects such as glacial lake bursts as well as land- and mudslides swallow infrastructure, erode livelihoods, impede health service delivery and thereby adversely affect 1 mio people in Central Asia each year (GFDRR 2017). Floods displaced more than 90.000 people in the region last year alone and further erode the resilience of local populations (IDMC).

Adding to this, the region grapples with challenges regarding social cohesion and community resilience.

This dynamic adversely affects resilience and further lowers the community’s ability to respond adequately. Such developments can contribute to social unrest and increase instability. Existing grievances are exacerbated by a failure to adequately address climate-driven hazards and their impacts on local populations. This may contribute to unrest and intercommunal tensions and can threaten regional stability.



Hence, for one of the region's most vulnerable to climate change, disaster risk reduction and management are crucial elements in combating the socio-economic fallout of climate change.

Policy Issue

Climate-related natural disasters have severe adverse consequences in many parts of Central Asia: The retreat of glaciers, the melting of permafrost, and a change in precipitation permanently affect the flow of mountain-rivers. Moreover, the upstream-downstream topography of the region strongly contributes to the threat of gravitational hazards. This has direct implications for preparedness to disaster risk, including soil erosion, mudflows, ice-, snow- or rock avalanches, landslides, debris flows, and finally glacial lake outburst floods. Additionally, there is potential for flash floods and inundations associated with the rapid melting of snow and glaciers. Given the vulnerability of mountain areas to climate change, security threats in the context of climate change are rated high. Mountain areas experience more frequent natural disasters and floods with associated risks such as loss of lives, destruction of infrastructure, and bacterial contamination of runoff. This has cascading consequences for regional supply chains and can adversely affect local availability of goods as well as regional economic exchange.

In order to mitigate the consequences listed above, adaptation projects are undertaken by an array of actors in the region. However, more widespread coverage of adaptation projects is necessary in order to be able to counteract some of the more severe climate impacts projected to hit the region by the middle of the century.

In the case of climate-related natural disasters, transboundary preparedness is much needed. For that purpose, regional organizations such as the Centre for Emergency Situations and Disaster Risk Reduction (CESDRR) could play an even more pivotal role in facilitating cross-border multi-

stakeholder dialogue. This could help to identify synergies between States, harmonize disaster risk preparedness as well as provide political clout as a transboundary organization in front of the international community. However, commitments and the level of participation among the five Central Asian States within this inter-governmental body varies greatly, creating a need to increase transboundary cooperation in the field of disaster risk reduction as well as management. The organization could, for example, play a pivotal role with regards to regular transboundary monitoring and assessment of climate disaster risks as well as conceptualizing and implementing fast response mechanisms that are coordinated across national borders.

Policy Options

Governance structures are at the core of integrated disaster risk management and disaster risk reduction. Particularly in regions prone to instability, natural disasters can severely impact human lives, cause mass displacement, and spark potential outbreaks of violence. In order to mitigate potential security risks, policy options should incorporate local cross-border perspectives, especially in areas where tensions over access to water run high.

Cooperative regional mechanisms

One of the components of good governance is cooperative regional mechanisms, which can improve mutually beneficial relationships between states and prevent security risks in the region. Due to the cascading nature of climate impact interactions, experts from different fields need to work together in order to address the interwoven complexities of climate crisis. Given the at times antagonistic economic priorities among upstream and downstream states in Central Asia, cooperation is essential. Regional transboundary water cooperation bodies such as the Inter-State Commission for Water Cooperation (ICWC) are an essential pillar in regional governance and provide an essential platform for multi-stakeholder dialogue, as

well as research and knowledge generation. At the same time, the resolution of regional issues may occur at the local level. Flexible local governance with strong public participation can be an effective approach in the search for solutions. Community based solutions might become a good approach especially in the more remote regions.

Dialogue and strategic planning

Formally established in 2016, the Centre for Emergency Situations and Disaster Risk Reduction (CESDRR) is a regional institution facilitating dialogue and strategic planning for disaster risk management. The Centre aims at consolidating efforts and mobilizing support for preparedness and effective response to emergencies. It also provides policy advice as well as support in planning and implementing the Sendai Framework for Disaster Risk Reduction (DRR). Kazakhstan and Kyrgyzstan have signed the agreement for the establishment of the Centre and provided funding to cover operating costs. The involvement of the other countries of Central Asia in the activities of the Centre is a practical step in order to strengthen regional cooperation. The ongoing development of a regional strategy for climate resilience in DRR is indispensable in the near to medium term future to avoid discord on the potential transboundary floods and other climate-related disasters.

Monitoring and assessment

Lack of adequate monitoring of critical environmental variables is a relevant limitation in understanding past and future trends. Investment in monitoring networks also requires capacity in data gathering, management and interpretation as well as maintenance of systems. Climate change risks need to be assessed within the specific exposure and vulnerability context of the region as well as the local population in order to devise appropriate adaptation solutions for water and disaster management.

Crisis prevention and response

In order for governmental bodies to be able to react adequately to climate-related natural

disasters, climate adaptation measures need to be based on future high-emissions scenarios. With climate extremes becoming more prevalent, an increasing number of natural disasters is expected. The primary focus of climate adaptation should be to invest in preventive measures which strengthen the resilience of human settlements, taking vulnerable populations and marginalized communities into account. In case of a natural disaster such as flooding, however, governmental bodies need to react fast and decisive. Regional and local governmental bodies can prepare with disaster simulations and trainings for policy-makers and practitioners.

Investment in DRR and Climate Adaptation

Investments in DRR and climate change adaptation decrease future costs of catastrophic events and disaster recovery, improve community resilience and directly contribute to development. Communities, institutions, and private entities at the local, national or regional level need to integrate DRR and climate change adaptation into their development plans. Insurance might be the investment solution for reducing flood and other disaster losses.

Recommendations

In order to reduce climate-related hazard risk for human security, the following recommendations are made:

Cross-border multi-stakeholder dialogue

Central Asian States should utilize and expand upon existing dialogue platforms and institutions at the State level, such as the Sendai Framework for DRR, and the joint CESDRR. Scaling back bureaucratic hurdles and shortening decision-making channels within the respective ministries may also simplify communication and thereby contribute to overall effectiveness. Moreover, pursuing regional integration can further incentivize cooperative mechanisms. In addition, States should bring together cross-sectoral experts to avoid disconnected approaches. At the local

level, involving border communities in participatory approaches has the potential to transform intercommunal relations.

Preventive measures on climate adaptation and resilience

Governments should implement adaptive measures based on high emissions scenarios for both slow-onset as well as fast onset climate impacts. A particular focus should be on communities that are marked by high exposure but lack adaptive capacities, such as marginalized groups. At the heart of DRR and Management should be the setting up of early warning systems (EWSs) at all levels of government and society in order to prevent human casualties and safeguard vital infrastructure. This is particularly crucial with respect to flooding and mudslides in mountainous areas, where situations develop rapidly, and time is a vital factor. Fast response mechanisms should be developed on all governmental levels, and regular disaster simulation drills should be undertaken in order to raise awareness among the general population. It is vital to ensure the running of such EWSs beyond any designated project-running period as continuity is essential.

Monitoring and assessment of disaster risks

Governments should invest in improving the regional density of meteorological stations for the purpose of data collection. Reliable forecasts should be easily accessible beyond EWSs. Furthermore, local governments should regularly monitor and assess high-risk environments such as glacial lakes and steep mountainsides in close proximity to settlements and infrastructure. Legislative documents should establish climate risk indicators in order to allow for regular monitoring and evaluation.

Fast Response Mechanisms and Disaster Simulation Trainings

While the focus should be on prevention rather than response, in case of natural disasters governmental bodies need to react

fast and decisive. Clear reporting lines and responsibilities can help develop fast response mechanisms. Regular disaster simulations and trainings should be held, practicing emergency measures based on worst-case scenarios. With an increasing number of extreme weather events expected within the next decades, disaster scenarios should be part of the planning process.

Investment in DRR research and knowledge transfer

Policy-makers, practitioners, and civil society organizations should receive adequate training on climate and hydrological models. Local scientists should be involved in setting up regional models. Targeted international partnerships can buttress capacity-building measures, taking into consideration and applying existing local knowledge. Technology transfer with respect to IT equipment featuring high computing power is paramount. Data exchange between countries is key for the development of scientific capacities and implementation of early warning systems in transboundary regions.

References

- Global Facility for Disaster Reduction and Recovery (GFDRR, 2017).
<https://www.gfdr.org/en/publication/europe-and-central-asia-country-risk-profiles-floods-and-earthquakes>.
IDM. <https://www.internal-displacement.org/>: Think Hazard. 2020 <https://thinkhazard.org/>.
Worldbank, 2017: Central Asia and Caucasus Disaster Risk Management Initiative.
https://www.unisdr.org/files/11641_CentralAsiaCaucasusDRManagementInit.pdf.

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