

Comparative Analysis of Disasters Management in Tajikistan: Challenges and Issues

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by

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ABSTRACT

Natural disaster represents one of the significant challenges in the high-altitude regions of Tajikistan. The inadequate integration of disaster risk reduction strategies within sectoral policies and strategies further exacerbates the problem, underscoring the urgent need for a comprehensive and coordinated approach to disaster management in the region. This research aims to provide a comprehensive study of disaster management in Tajikistan, focusing on the critical aspects of preparedness necessary to effectively combat natural disasters. Situated in a region with complex geography, Tajikistan's vulnerability to various types of natural disasters requires a robust and well-coordinated approach to study disaster management. Through a comprehensive exploration of existing literature, policy documents, and empirical data, this research seeks to provide an in-depth analysis of the challenges and issues that Tajikistan faces in its efforts to enhance preparedness for managing natural disasters. The main objective of this study is to assess the challenges and issues the country faces in its attempts to enhance preparedness, with a specific focus on, economic support mechanisms, medication availability, availability of rescue teams and the establishment of secure capacities for civilians.

Key words: Natural Disasters, Tajikistan, management, challenges, rescue teams, legislation

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List of Abbreviations

AAL - Average Annual Loss

AFAD - Disaster and Emergency Management Authority

AKAH - Aga Khan Agency for Habitat

AKDN - Aga Khan Development Network

DRR - Disaster Risk Reduction

GDP - Gross Domestic Product

GBAO - Gorno Badakhshan Autonomous Region

IFRC - International Federation of Red Cross and Red Crescent Societies

IDRL - International Disaster Response Laws, Rules, and Principles

IHL - International Humanitarian Law

IMF - International Monetary Fund

MDSD - Most Different System Design

MSSD - Most Similar System Design

NGO - Non-Governmental Organization

UNDRO - United Nations Disaster Relief Organization

CHAPTER I. INTRODUCTION

1.1. Introduction

Tajikistan's susceptibility to a range of disasters stems from its unique geographical features. Tajikistan is a mountainous country of Central Asia, with approximately 93 percent of its territory classified as mountainous. These mountainous regions are situated along a seismic rift, making the country highly susceptible to various natural disasters. Additionally, the nation experiences recurrent extreme weather events, including floods and droughts, which are exacerbated by its dependency on agriculture and hydropower generation. The frequency of these disasters has increased due to the effects of climate change. As a result, Tajikistan faces significant vulnerability to a range of hazards, including flooding, mudslides, rock falls, avalanches, landslides, and earthquakes.

Many communities in these remote mountainous areas are located in moreover challenging and isolated terrain, making it extremely hazardous and challenging to provide effective disaster relief and assistance. Natural disasters have also caused significant damage to the country's infrastructure, economy and human lives over the years. In Tajikistan after the Soviet era, poor management of land and water use, along with dwindling forests, have made rural communities more vulnerable to spring floods caused by heavy rainfall and melting snow. This situation calls for a change in how land is used and managed, which should help adapt to short-term weather changes and long-term climate shifts. This is especially important in Tajikistan, where 65% of the population lives in rural areas and about 75% of people earn a living from farming.¹ The areas where people farm are fragile and provide essential income, food, and fuel from wood. However, changes in weather, like droughts and unpredictable rain patterns, make it difficult to access enough clean water for drinking and farming, leading to food insecurity in rural areas. The productivity of the land has declined, pushing people to farm in less suitable areas such as hillsides and former forested zones. This expansion of farming into vulnerable places increases the risk of disasters like landslides, floods,

¹ "The Global Economy.com." "Rural Population (% of Total Population) - Tajikistan."

and mudslides. While the current focus is primarily on disaster response to save lives and property, it is becoming a key to consider how these disasters impact people's livelihoods in agriculture and how these livelihoods are connected to the risk of disasters.

The combination of its geographical location, socio-economic conditions, and limited resources has given rise to a complex array of problems in disaster preparedness, response, and recovery efforts. These environmental vulnerabilities, exacerbated by the changing climate patterns, underscore the pressing need for a robust and adaptive disaster management strategy, shedding light on the multifaceted nature of the challenges and the need for comprehensive solutions.

1.1.1. Research Significance

The significance of this study primarily stems from the ongoing challenges that the Tajik government encounters annually. These challenges significantly affect the lives of hundreds of citizens, especially those living in remote areas and places where the risk of natural disasters is higher. Tajikistan's socioeconomic realities exacerbate the country's disaster management complexities. The country is primarily affected by the combination of poverty, inadequate infrastructure, and a mostly rural population lacking access to modern facilities. These variables work together to hinder the development of comprehensive disaster preparedness mechanisms, making it difficult to distribute timely alerts and implement efficient evacuation procedures. Moreover, Tajikistan faces the serious issue of limited infrastructure and resources, in addition to these socioeconomic challenges. The lack of well-connected networks, both in terms of physical infrastructure and communication, is a major obstacle to disaster management efforts. During a time of emergency, remote villages that are far from urban areas face problems in receiving rapid aid. Furthermore, a lack of financial resources and contemporary equipment limits the government's ability to perform timely support to impacted populations. These obstacles mostly get worse by institutional and organizational shortcomings. Collaboration among governmental authorities, non-governmental organizations, and foreign partners is essential for successful disaster management. Tajikistan faces

institutional fragility, limited inter agency cooperation, and knowledge exchange constraints. This lack of coordination substantially limits the effectiveness of disaster response and recovery efforts.

Understanding the humanitarian consequences are crucial as it helps assess the potential loss of life, injuries, and displacement experienced by affected populations. In the realm of public health and safety, the availability of essential medications during and after disasters plays a pivotal role in mitigating risks and ensuring the resilience of affected communities. Many communities in the remote mountainous areas of Tajikistan are located in moreover challenging and isolated terrain, making it extremely hazardous and challenging to provide effective disaster relief and assistance. Annual avalanches in the Gorno Badakhshan Autonomous Oblast (GBAO), a mountainous region in eastern Tajikistan, disrupt transport and communications networks and raise concerns about the safety of local residents and tourists. Taking into account the country's economic status, unemployment rate, the cost of food products, and other essential resources in these remote regions, annual avalanches and subsequent road closures create even more difficulties for people in terms of accessing goods in these high mountains.

By identifying and analyzing the key challenges in Tajikistan's disaster management framework, this research aims to contribute valuable insights to both scholarly discourse and practical policy considerations. Additionally, Tajikistan's challenges in disaster response offer insights into the importance of international collaboration and support. The research findings can encourage international organizations and donor agencies to provide assistance in the form of funding, technical expertise, and capacity building. This collaboration can significantly enhance Tajikistan's disaster response infrastructure, benefiting the country and serving as a model for other regions facing similar challenges. By sharing valuable lessons and recommendations, the research fosters knowledge exchange and promotes improvements in disaster response worldwide.

1.1.2. Thesis question and Hypothesis

This thesis aims to address the following question:

'How well does Tajikistan's disaster management system align with international best practices, considering factors such as economic support mechanisms, effectiveness of rescue teams, capacities for civilians, inter-agency coordination, and community resilience, with a specific focus on preparedness, response, and recovery strategies?'

Inadequate disaster response infrastructure, limited financial resources, insufficient coordination among response agencies, and gaps in public awareness and education contribute to the government's struggles in effectively managing natural disasters in Tajikistan. The government's disaster management efforts investment in strengthening disaster response infrastructure, allocating additional resources for disaster preparedness and response, and implementing comprehensive public awareness campaigns will lead to a more resilient and adaptive disaster response system.

The issue of coordination, or the lack thereof, among various response agencies is another critical factor impeding effective disaster management in Tajikistan. In many instances, the absence of a cohesive and unified approach leads to inefficiencies and delays in response efforts. This disjointed approach often results in the duplication of efforts and a lack of clear communication channels, which are crucial in times of crisis.

Moreover, public awareness and education regarding disaster preparedness and response are not sufficiently widespread. The general population, especially in remote and rural areas, often lacks basic knowledge about disaster risk reduction strategies and the steps to be taken in the event of a disaster. This gap in public awareness can lead to increased vulnerability and hinder the effectiveness of disaster response efforts.

The government's disaster management efforts investment in strengthening disaster response infrastructure, allocating additional resources for disaster preparedness and response, and implementing comprehensive public awareness

campaigns will lead to a more resilient and adaptive disaster response system. Enhancing the disaster response infrastructure involves not only upgrading physical facilities and equipment but also integrating advanced technologies for early warning and efficient coordination. Allocating additional resources would enable the development of robust emergency response plans, training of personnel, and stocking of essential supplies and equipment.

Furthermore, implementing comprehensive public awareness campaigns is a main deal for empowering citizens with the knowledge and skills necessary to respond effectively to disasters. These campaigns should be tailored to reach diverse audiences, utilizing various mediums and languages to ensure wide accessibility. Education initiatives should focus on schools and community groups, embedding disaster preparedness into the curriculum and local community activities.

In addition to these measures, fostering collaboration among government agencies, non-governmental organizations, international partners, and local communities is essential. This collaborative approach would ensure a more coordinated and effective response to disasters, leveraging the strengths and resources of various stakeholders.

By addressing these key areas – infrastructure enhancement, financial resource allocation, inter-agency coordination, and public awareness – Tajikistan can significantly improve its disaster management capabilities. A more resilient and adaptive disaster response system will not only mitigate the impact of natural disasters but also enhance the overall preparedness and response capacity of the nation.

1.2. Literature review

In examining the landscape of disaster management, particularly in Tajikistan, a convergence of global insights, economic implications, and specific regional challenges emerges. Coppola's foundational text "Introduction to International Disaster Management" (Coppola, 2006) sets the stage by offering a broad historical and conceptual overview of disaster management. This global perspective is essential for contextualizing Tajikistan's strategies within the wider

scope of international practices and developments. The text's emphasis on the evolution of disaster management from a reactive to a more holistic, proactive approach resonates with the challenges faced by Tajikistan, particularly in the face of increasing climate change impacts.

The economic and social ramifications of these climatic shifts are further expounded in the work of Heltberg, Reva, and Zaidi (2012), who delve into the specific economic and social impacts of climate change in Tajikistan. Their analysis provides a crucial link between environmental factors and their broader societal effects, a connection that is vital for understanding the comprehensive nature of disaster management in the region.

Complementing these broad perspectives are more focused studies, such as the World Bank's report on Tajikistan's Preparedness and Resilience to Disasters Project (PRDP) (World Bank, 2022), and the United Nations Development Programme's assessment of development results in Tajikistan (UNDP, 2009). These reports highlight the importance of institutional frameworks, like the National Disaster Management Agency (NDMA) in Tajikistan, and the role of international organizations in bolstering local capacities. They emphasize the need for integrating disaster risk reduction into national development strategies, a theme that aligns with broader debates on sustainable and resilient development.

Adding to this narrative, the Asian Development Bank and UNDP's CAREC Risk Profiles Report for Tajikistan (ADB & UNDP, 2022) offers a critical analysis of the country's vulnerabilities, pointing out its reliance on remittances, weak infrastructure, and high poverty rates. These factors, often overlooked, play a significant role in shaping the nation's capacity for disaster response and recovery. The CAREC report underscores the interconnectedness of economic stability, infrastructure robustness, and effective disaster management, highlighting the multifaceted challenges Tajikistan faces.

Moreover, the United Nations Development Program's report on the National Platform for Disaster Risk Reduction in Tajikistan (UNDP, 2019) adds another layer to this analysis. It emphasizes the importance of community resilience and the development of early warning systems, advocating for an integrated

approach that involves multiple stakeholders. This emphasis on a comprehensive and collaborative strategy is echoed in Maria Kanwal's study on the hypothetical earthquake response in Turkey and Syria (Kanwal, 2023), which advocates for effective coordination among international organizations, local governments, and NGOs in disaster response.

Lastly, the Sendai Framework for Disaster Risk Reduction 2015-2030 (UNISDR, 2015) provides a global blueprint that is relevant to Tajikistan's context. It advocates for a people-centered, all-of-society approach, emphasizing the role of local communities, governments, and the private sector in disaster risk reduction efforts. The framework's objectives and principles offer a roadmap for Tajikistan, suggesting how the nation can align its disaster management strategies with global standards and best practices.

Despite the wealth of information and analysis available, significant gaps remain in the literature, particularly in the seamless integration of global disaster management practices within Tajikistan's unique context. For instance, while Coppola (2006) provides a comprehensive overview of disaster management strategies, the application of these global strategies to the specific environmental, economic, and cultural landscape of Tajikistan is not deeply explored. The intricacies of how international best practices can be adapted to the distinct topographical and socio-political realities of Tajikistan remain under examined. This oversight is critical, as the successful implementation of disaster management strategies heavily depends on their relevance and adaptability to local contexts.

Similarly, reports like the World Bank's on the Preparedness and Resilience to Disasters Project in Tajikistan (World Bank, 2022) offer valuable insights into institutional frameworks and policy implementations. However, there is a lack of comprehensive analysis on the ground-level effectiveness of these policies, particularly in the remote and varied terrains of Tajikistan. The reports focus on structural and strategic developments, but less is known about their practical impact, especially in rural and vulnerable communities. This disconnect between policy and practice is a significant barrier to the effective management of disasters in Tajikistan.

Furthermore, while the CAREC Risk Profiles report by the Asian Development Bank and UNDP (2022) provides a detailed assessment of economic, social, and political risks in Tajikistan, the literature often falls short in correlating these risks with specific disaster management challenges. How these broader risks translate into tangible challenges in disaster preparedness and response is an area ripe for exploration. Understanding this correlation is essential for developing disaster management strategies that are not only effective but also resilient in the face of evolving economic and social conditions.

The existing literature also tends to overlook the importance of local knowledge and community-based approaches in disaster management. The emphasis on community engagement and local capacity building, as seen in the PRDP, is crucial, yet detailed studies on how these initiatives have been received, implemented, and their efficacy in Tajikistan are sparse. This gap signifies the need for research focused on community participation and the adaptation of disaster management strategies at the local level. In-depth studies exploring the role of community dynamics, traditional knowledge, and local leadership in disaster management could provide valuable insights into more effective and culturally sensitive approaches.

In bridging these gaps, this study aims to provide a nuanced understanding of disaster management in Tajikistan, considering the unique interplay of global practices and local realities. It seeks to contribute to the field by offering a more holistic view of disaster management that encompasses not just institutional and policy frameworks, but also the on-the-ground realities and community perspectives in Tajikistan. By integrating theoretical knowledge with practical insights and local experiences, this research aspires to enhance the overall effectiveness and adaptability of disaster management strategies, making them more responsive to the specific needs and conditions of Tajikistan. This approach not only aids in addressing the immediate challenges of disaster management but also contributes to the long-term resilience and sustainable development of the region.

1.3. Theoretical Framework

The concept of securitization, developed by the Copenhagen School, suggests that certain things or issues can be presented as urgent and critical threats to important values or interests within a political community. This process is achieved through speech acts, such as public statements by political leaders, creating vivid images through the media, confirming expert opinions, mobilizing public opinion, and highlighting potential consequences of inaction. Presenting a threat as urgent and requiring exceptional measures enables society and the government to unanimously take action to ensure security and protect interests.

The impact of natural disasters on political stability and security in Tajikistan can be analyzed through the lenses of the Copenhagen School theory, particularly by using the concept of securitization and environmental security. Natural disasters in Tajikistan, such as earthquakes, floods, landslides, and avalanches, have the potential to cause significant human and economic losses, and they can destabilize communities and the state. The government and relevant authorities may perceive these disasters as security issues, especially if they threaten critical infrastructure, essential resources, or population centers. As a result, they may securitize natural disasters by framing them as threats to national security and stability, justifying the allocation of resources and extraordinary measures to address them.

Natural disasters in Tajikistan have far-reaching impacts on political stability and security. The government's response to these disasters directly affects its legitimacy and capability in the eyes of the public. Inadequate disaster management can lead to social unrest and erode trust in the government. Additionally, resource allocation dilemmas during disaster recovery can exacerbate socio-economic challenges, heightening political tensions. The country's multi-ethnic composition adds complexity, as disparities in disaster response may deepen inter-ethnic and regional tensions. From a security perspective, natural disasters disrupt human security, leading to increased vulnerability, migration, and criminal activities. Water and food security are affected, potentially triggering resource-related conflicts with neighboring countries. Transboundary effects can strain regional cooperation, impacting diplomatic relations. Moreover, critical

infrastructure destruction leaves the nation susceptible to security threats.

In the context of Tajikistan, the process of securitization becomes even more pertinent when considering the nation's strategic geopolitical position in Central Asia. Being a landlocked country with complex regional dynamics, Tajikistan's approach to disaster management can have broader implications for regional stability and security. The geopolitical significance of its water resources, for instance, places Tajikistan in a pivotal role in regional water security. Natural disasters affecting these resources could, therefore, extend beyond national borders, influencing diplomatic relations and regional cooperation. This scenario highlights the importance of a holistic approach to disaster management that considers both national and regional security implications.

Furthermore, Tajikistan's reliance on agriculture and its susceptibility to climate-induced disasters underscore the critical link between environmental security and socio-economic stability. Disruptions in agricultural productivity due to natural disasters can lead to food insecurity, impacting not only the livelihoods of rural communities but also the overall economic stability of the country. This interplay between environmental factors and economic conditions demonstrates how securitization of natural disasters is not merely a response to immediate threats but also a proactive measure to safeguard long-term national interests.

Securitization theory also suggests that how a threat is framed can influence policy responses and resource allocation. In Tajikistan, framing natural disasters as national security issues could mobilize greater political will and resources towards strengthening disaster resilience and response capabilities. This could lead to more comprehensive disaster management strategies that integrate risk reduction, emergency response, and sustainable development.

Moreover, the impact of natural disasters on human security in Tajikistan cannot be overstated. The vulnerability of communities, particularly in remote and mountainous regions, to disasters poses a significant challenge to ensuring human security. Addressing these vulnerabilities requires not only effective disaster response mechanisms but also long-term strategies aimed at reducing risk and enhancing community resilience. This includes improving infrastructure, strengthening local governance, and enhancing public awareness and preparedness.

In analyzing Tajikistan's disaster management through the lens of securitization, it becomes evident that natural disasters are not just environmental or humanitarian issues but also key factors in the country's overall security landscape. The integration of environmental security within the broader context of national and regional security strategies are significant for Tajikistan. It is essential for policy-makers and disaster management authorities to recognize the multifaceted nature of natural disasters and their implications for Tajikistan's security. This recognition should translate into a comprehensive approach that aligns disaster management strategies with broader national security objectives. The development and implementation of these strategies must be inclusive, involving local communities, civil society organizations, and international partners to ensure a coordinated and effective response to disasters.

Given Tajikistan's geographic and socio-economic context, its disaster management policies must be adaptable and resilient to the changing nature of threats, especially those exacerbated by climate change. The integration of modern technologies for early warning systems, data analysis, and communication networks can significantly improve the country's disaster response capabilities. Additionally, investing in infrastructure that is resilient to natural disasters is crucial, particularly in areas prone to earthquakes, floods, and landslides.

The role of education and public awareness in the process of securitization is also vital. By educating the populace about disaster risks and preparedness measures, the government can foster a culture of resilience. This empowerment of citizens not only aids in immediate response efforts but also contributes to a more secure and stable society in the long term. Effective communication strategies that disseminate information before, during, and after disasters are key to managing public perception and response.

Tajikistan's disaster management strategies must also consider the needs of vulnerable populations, including women, children, the elderly, and those with disabilities. These groups often face greater risks during disasters and require specific attention in disaster preparedness and response plans.

Internationally, Tajikistan can strengthen its position by actively participating in regional and global disaster management initiatives. This participation not only

enhances its capacity to manage disasters but also contributes to regional stability and cooperation. It allows Tajikistan to share its experiences, learn from others, and build partnerships that are crucial in the face of transboundary natural disasters.

Understanding and applying the concept of securitization within the realm of disaster management offers a strategic pathway for Tajikistan to enhance its national security. By viewing natural disasters through the lens of securitization and aligning them with broader security and development goals, Tajikistan can build a more resilient, secure, and stable future for its citizens. This approach necessitates a shift in how disasters are perceived, managed, and prepared for, ensuring that the nation is equipped to handle the multifarious challenges posed by natural disasters.

1.3.1. Research Design

To answer its research question, several research methods are being used for this thesis. Qualitative analysis is one of the main methods used in this research. Case study of Tajikistan's disaster preparedness, interviewing the key stakeholders, such as government agencies, NGOs, and local communities, to identify and address specific challenges in Tajikistan's disaster management system. Interviews involve engaging with individuals or groups to gather in-depth information, opinions, experiences, and perspectives related to the topic of this research. This method would involve a cyclical process of planning, action, reflection, and evaluation, with the goal of improving the effectiveness and sustainability of the system. This method would allow to gain an in-depth understanding of the challenges and opportunities in Tajikistan's disaster management system and provide insights into how to improve its effectiveness

Historical analysis also encompasses a significant portion within the methodology. This part is conducted based on collecting all possible cases of natural disasters that have occurred in Tajikistan in the past. An analysis of the country's past natural disasters and its management will give us a chance to see the greater picture and understand how the government used to work in the past, and how accessible were the tools and mechanisms in those times. Correspondingly, historical analysis will provide us with a ground to find the basis of the problem by

recognizing the main shortcomings on the issue that have continued to exist for several years and try to start working with them and try to come up with ways to prevent their recurrence.

The thesis also consists of case study. Using “small N comparison”, for making comparative analysis by taking different cases of natural disasters from several countries (comparing the case of natural disasters that occurred in Tajikistan with countries such as Turkey, Japan and neighboring Central Asian countries) to analyze the availability and preparedness of rescue teams of these countries at the time of natural disasters. Moreover, if we talk about the design of comparative analyses, then Most Different System Design (MDSD) and Most Similar System Design (MSSD) will be applied. The essence of the application of this method is that although all these countries are different in their economic development, the availability of natural resources and their climates, however each of these countries suffered from natural disasters. As we know, in the fight against the rescue of people during natural disasters, the presence of the infrastructure and other needed sources in each country is different from the other. By analyzing the practice of each country, we will be able to come to some result that will help us identify main gaps regarding disaster management in Tajikistan. This research will make a ground for taking right decisions on the way to overcome this problem in the future.

The analysis is also based on a selection of key texts, as part of the process of discourse analysis. Doing a qualitative legal examination of how legal principles connect with disaster management strategies. To provide a foundation for understanding the legal framework in disaster situations, the technique comprises a thorough analysis of important legal literature, including the legal regulations of the Tajik republic, and other scholarly works. This will be followed by a comprehensive examination of IHL principles taken from legal sources such as Geneva Conventions and their applicability to disaster-affected Tajik populations. The identified IHL principles will be interpreted in the context of Tajikistan's disaster management, with the goal of establishing if they are in line with existing policy. The research will assess how Tajikistan's disaster management techniques correspond with IHL obligations through a comparative analysis, highlighting

differences and areas for improvement.

1.3.2. Methodology

There are several methods which will be used in the scope of this research:

Qualitative. Case study of Tajikistan's disaster preparedness and rescue teams, working with key stakeholders, such as government agencies, NGOs, and local communities, to identify and address specific challenges in Tajikistan's disaster management system. This method would involve a cyclical process of planning, action, reflection, and evaluation, with the goal of improving the effectiveness and sustainability of the system. This method would allow one to gain an in-depth understanding of the challenges and opportunities in Tajikistan's disaster management system and provide insights into how to improve its effectiveness.

Historical Analysis. The historical analysis will be conducted based on collecting all possible cases of natural disasters that have occurred in Tajikistan in the past. An analysis of the country's past natural disasters and its management will give us a chance to see the greater picture and understand how the government used to work in the past, and how accessible were the tools and mechanisms in those times. Correspondingly, historical analysis will provide us with a ground to find the basis of the problem by recognizing the main shortcomings on the issue that have continued to exist for several years and try to start working with them and try to come up with ways to prevent their recurrence.

Comparative methods. Case Study: using "small N comparison", where I will make comparative analysis by taking different cases of natural disasters from several countries (comparing the case of natural disasters that occurred in Tajikistan with countries such as Turkey and Japan) to analyze the availability and preparedness of rescue teams of these countries at the time of natural disasters. Moreover, if we talk about the design of comparative analyses, then Most Different System Design (MDS) and Most Similar System Design (MSSD) will be applied. The essence of the application of this method is that although all these countries are different in their economic development, the availability of natural resources and

their climates, however each of these countries suffered from natural disasters. As we know, in the fight against the rescue of people during natural disasters, the presence of the infrastructure and other needed sources in each country is different from the other. By analyzing the practices of each country, we will be able to come to some results that will help us identify main gaps regarding disaster management in Tajikistan. This research will make a ground for taking right decisions on the way to overcome this problem in the future.

International Humanitarian Law (IHL). Adding International Humanitarian Law (IHL) into this study technique entails doing a qualitative legal examination of how legal principles connect with disaster management strategies. To provide a foundation for understanding the legal framework in disaster situations, the technique comprises a thorough analysis of important legal literature, including the Geneva Conventions and scholarly works. This will be followed by a comprehensive examination of IHL principles taken from legal sources and their applicability to disaster-affected Tajik populations. The identified IHL principles will be interpreted in the context of Tajikistan's disaster management, with the goal of establishing if they are in line with existing policy. The research will assess how Tajikistan's disaster management techniques correspond with IHL obligations through a comparative analysis, highlighting differences and areas for improvement.

1.3.3. Data Collection Plan

The data collection plan for this research consists of a carefully structured approach, integrating diverse methodologies to ensure a comprehensive understanding of disaster management:

Academic research and studies: The core of this plan will involve a systematic review of existing academic literature, research papers, and case studies that focus on disaster response and emergency management. These scholarly sources are instrumental in providing well-established theoretical frameworks, offering insights through comparative analysis, and presenting empirical evidence to underpin the research. This extensive literature review will not only encompass studies that provide global perspectives on disaster management but also those

specifically addressing the unique challenges faced in Tajikistan and similar regions. By analyzing these academic works, the research aims to build a solid foundation of knowledge, drawing from a wide array of expert opinions and research findings in the field.

Document analysis: In addition to scholarly literature, the research will include an in-depth analysis of relevant official documents. This encompasses a thorough examination of national and international regulations on disaster management, such as policy documents, strategic reports, and guidelines issued by both Tajik authorities and international bodies. The intention is to collate a comprehensive body of information that reflects the current state of disaster management at both the national and international levels. This analysis will enable the identification of prevailing trends, policy directions, and the extent of alignment between Tajikistan's disaster management strategies and international norms and standards. By dissecting these documents, the research aims to uncover the intricacies of policy frameworks and their practical implications on disaster management efforts in Tajikistan.

1.4. Limitations and Risks

In the process of researching disaster management within Tajikistan, a range of constraints must be acknowledged. One of the foremost is the difficulty in securing comprehensive and accurate data, which can be attributed to inconsistent documentation practices or incomplete historical data. Additionally, securing active participation from main stakeholders, which is fundamental to the study's success, presents its own set of challenges, as it depends on the cooperation of government bodies, local authorities, and community members.

The allocation of adequate time and resources is essential for an exhaustive and detailed exploration of the topic. However, aligning this requirement with the practical limitations imposed by research timelines presents a delicate balancing act. The mitigation of biases and the maintenance of objectivity, particularly in qualitative research methods, is imperative to ensure the authenticity and impartiality of the research findings. Guaranteeing that the sampling is

representative is essential to ensure that the conclusions drawn reflect the wide array of experiences and viewpoints present across Tajikistan, including in its more remote regions.

Navigating ethical considerations is paramount, especially when addressing sensitive issues such as the impact of disasters on local communities. Overcoming linguistic and cultural differences is critical for effective communication and comprehension during data collection, considering Tajikistan's varied linguistic and cultural landscape. It is also crucial to remain cognizant of external influences and the dynamic context within which disaster management operates, such as political, economic, and climatic changes, as these can significantly impact both the practice and perception of disaster management.

Resource limitations, both in terms of research funding and access to certain locations or information, are significant obstacles that need to be addressed. Ensuring the accuracy and reliability of data, particularly in dealing with self-reporting and response biases in surveys or interviews, is another challenge. Determining the extent to which the findings can be generalized, and evaluating the historical data's reliability for analytical purposes, are critical for validating the research's applicability and relevance. Additionally, ensuring that the findings are applicable across different types of disaster scenarios Tajikistan might encounter, and preventing interpretive biases in qualitative analysis, are essential to maintain the integrity and value of the research.

By identifying and strategically addressing these limitations and challenges, the research aims to uphold the robustness and credibility of its findings, thereby contributing significantly to the understanding of disaster management practices in Tajikistan.

CHAPTER II. THE NOTION OF DISASTER MANAGEMENT AND ITS HISTORICAL PERSPECTIVE

2.1. Definitions and Basic concepts

Undertaking research on a topic poses challenges when the exact definitions of its terms are not clearly delineated. The term "natural disaster" has been delineated through four distinct perspectives. According to the American Geological Institute (1984), it is characterized as "a naturally occurring or man-made geologic condition or phenomenon that presents a risk or is a potential danger to life or property." White (1973) offers an alternative definition, framing it as "an interaction of people and nature governed by the co-existent state of adjustment of the human use system and the state of nature in the natural events system." Burton and Kates (1964) contribute another viewpoint, describing natural hazards as "those elements in the physical environment [which are] harmful to man and caused by forces extraneous to him." Lastly, the United Nations Disaster Relief Organization (UNDRO) in 1982 conceptualizes it as "the probability of occurrence within a specified period of time and within a given area of a potentially damaging phenomenon."²

From these varied perspectives, it is evident that the term "natural disaster" expresses a range of phenomena, highlighting its complexity. Natural disaster can be defined as an unexpected and severe disruption caused by the forces of nature, unleashing immediate and widespread adverse effects on communities, ecosystems, and the overall well-being of societies. It is a moment when the delicate balance between the natural environment and human existence is disrupted, leading to significant, often overwhelming, consequences that challenge our ability to cope and recover.

Disaster management involves planning, organizing, and efforts to prepare for, respond to, recover from, and mitigate the impacts of disasters. It seeks to reduce the negative impact of disasters on people, property and the environment through strategic management and concerted action. Disaster management in Tajikistan involves a systematic approach to address the entire disaster management

² White, Gilbert F. "Natural Hazards, Local, National, Global." Oxford University Press, 1974. Accessed December 29, 2023.

cycle, comprising preparedness, response, recovery, and mitigation strategies. Preparedness involves activities and measures to enhance the country's ability to respond effectively to disasters. This encompasses the development of early warning systems, evacuation plans, and the establishment of rescue teams. Response mechanisms focus on immediate actions taken during and after a disaster to save lives, protect property, and meet basic needs. Recovery efforts aim to restore normalcy and rebuild communities post-disaster. This involves rehabilitation of infrastructure, provision of healthcare and social services, and reconstruction of homes and livelihoods. Response mechanisms focus on immediate actions taken during and after a disaster to save lives, protect property, and meet basic needs.

Recovery efforts aim to restore normalcy and rebuild communities post-disaster. This involves rehabilitation of infrastructure, provision of healthcare and social services, and reconstruction of homes and livelihoods. A comparative analysis of disaster management in Tajikistan would delve into the effectiveness of these strategies, considering regional variations, the role of governmental and non-governmental entities, and the incorporation of community engagement and resilience-building initiatives. Such an analysis provides insights into the challenges faced by Tajikistan in managing disasters and offers a foundation for identifying best practices and areas for improvement in disaster management strategies.

2.2. Geographical, climatic, and socioeconomic characteristics of Tajikistan.

Geography

Tajikistan is a small landlocked country located in Central Asia. Covering an area of 143.1 thousand sq.km, it spans 700 km from west to east and 350 km from north to south. The country shares borders with Uzbekistan and Kyrgyzstan to the north and west, Afghanistan to the south, and China to the east, totaling a perimeter of 3,000 km.³ The country is known for its picturesque valleys, deep gorges, and abundant rivers, including the Amu Darya and Syr Darya.⁴ Tajikistan is home to a

³ National Action Plan of the Republic Tajikistan for Climate Change Mitigation" (Dushanbe: Tajik Met Service, 2003).

⁴ National Action Plan of the Republic Tajikistan for Climate Change Mitigation" (Dushanbe: Tajik Met Service, 2003).

population of approximately 10.2 million people.

Administrative divisions include the Sogd Region, Khatlon Region, Mountain-Badakhshan Autonomous Region, and Regions under Republican Administration.⁵ Dominated by mountains, Tajikistan boasts a landscape where about 93% of the terrain is mountainous, with approximately half of the country situated above 3,000 meters above sea level (masl). Altitudes vary from 300 to 7,495 masl. The diverse natural conditions stem from its geographical positioning, with the Ferghana Valley and the Kuramin Range in the north, the Kuhiston mountain ranges in the central region, and the Pamirs, the most severe and mountainous part, in the east (with the highest peak, Ismoil Somoni, at 7,495 masl). The Western Pamir is characterized by high mountain ranges and deep river valleys, with valleys at 1,700-2,500 masl and mountain range heights exceeding 6,000 masl, resulting in rugged terrain.⁶ In contrast, the Eastern Pamir has a smoother relief despite its high elevation, featuring wide valleys at 3,500-4,000 masl.⁷ Although the absolute elevations in Eastern Pamir are high, local mountains rise only 1,000 to 1,500 m above the valley floor.⁸

The southwest part of Tajikistan is marked by low mountain ranges and wide valleys, including plains like Western Ferghana, Penjikent, Kulyab, Gissar, Vakhsh, and the lowland Kafirnigan. The plains vary in height above sea level, ranging from 300 to 1,000 m. This diverse topography contributes to the unique and varied landscapes found throughout the country.⁹

Climate

Tajikistan's climate is characterized by aridity, high temperatures, and notable variability in climatic elements. The local climate spans a broad spectrum of temperatures, humidity levels, precipitation, and solar irradiation intensity. Annual mean temperatures range from +17°C in the south to -6°C in the Pamirs,

⁵ National Action Plan of the Republic Tajikistan for Climate Change Mitigation" (Dushanbe: Tajik Met Service, 2003).

⁶ National Action Plan of the Republic Tajikistan for Climate Change Mitigation" (Dushanbe: Tajik Met Service, 2003).

⁷ National Action Plan of the Republic Tajikistan for Climate Change Mitigation" (Dushanbe: Tajik Met Service, 2003).

⁸ Ibid.

⁹ Ibid.

with July recording maximum temperatures and January experiencing minimums. The East Pamir region stands out for its extremely harsh climate, with minimum temperatures reaching -63°C , while the south can see maximum surface air temperatures exceeding $+47^{\circ}\text{C}$. In terms of precipitation, lowland hot deserts in Northern Tajikistan and cold mountain deserts in East Pamir receive an annual average of 70 to 160 mm. Conversely, Central Tajikistan can experience precipitation exceeding 1,800 mm per year. The country enjoys an annual average of 2,100-3,170 hours of sunshine, with mountainous areas being more overcast. Cloud cover affects solar radiation, reducing direct radiation by 32-35% in lowlands and 50% in the mountains. Total solar radiation peaks during May-July, ranging from 280 to 925 MJ/sq.m in foothill areas and 360 to 1,120 MJ/sq.m in mountain areas throughout the year.

Tajikistan's specific climate conditions and landscape make it the primary glacial center of Central Asia. Glaciers, covering about 6% of the country's total area, play an essential role in regulating river flow and climate. The Fedchenko Glacier, the largest in Tajikistan, stretches over 70 km in length, 2 km in width, and reaches a maximum thickness of 1 km. It holds a volume of 144 cubic km.¹⁰ The country boasts around 8,000 glaciers, with seven exceeding 20 km in length.¹¹ These glaciers, along with rivers, serve as vital sources of freshwater for the Aral Sea, supporting downstream areas with irrigation, power generation, and water supply.

Climate change affects every aspect of human development and livelihood. While some regions see it as a future concern, Tajikistan experiences it as a daily reality, with the most vulnerable being the poor and marginalized. The UNDP Human Development Report emphasizes that: “...*fighting poverty and combating the impacts of climate change should be viewed as complementary efforts. They need to strengthen each other, and both sides need to thrive together.*”¹² The UNDP Human Development Report highlights the importance of tackling poverty and climate change together, recognizing how they are connected. In Tajikistan, where climate

¹⁰ United Nations Development Programme. "Human Development Report 2007/8: Fighting Climate Change: Human Solidarity in a Divided World." 2008.

¹¹ United Nations Development Programme. "Human Development Report 2007/8: Fighting Climate Change: Human Solidarity in a Divided World." 2008.

¹² Ibid.

change is already affecting daily life, this becomes crucial. The country's challenging geography and susceptibility to natural disasters make it vulnerable to climate-related problems, affecting things like farming and water resources. So, it's essential to address both poverty and climate change simultaneously. This means not only helping communities overcome poverty but also making them more resilient to the impacts of climate change. This way, Tajikistan can work towards a sustainable and adaptable future.

Furthermore melting of the Pamir-Alai glaciers, intensified flash floods and mudflows, heavy rains and abnormal air temperatures put Tajikistan's security at risk. Aridity of the country only accelerates it.¹³ Due to geographic location and high inter-annual rainfall variability and dependence on snow melt, the country is already facing droughts and arid seasons. To grasp Tajikistan's development in the face of climate change, it is crucial to examine existing development plans, socio-economic progress, understand current and future climate risks, and identify adaptation policies and challenges for climate resilience and development in the country. Climate change projections introduce a new layer of complexity to Tajikistan's climate narrative. By the 2050s, annual mean precipitation could increase by 10-20% in the north-eastern Sughd Region and much of central to eastern Gorno-Badakhshan Autonomous Region.¹⁴ During the January to March period, mean precipitation in these regions may witness a rise of up to 20%. On the flip side, the western half of the Regions Under Direct Republican Jurisdiction and southern Sughd Region might experience a 10-20% decrease in precipitation during April to June, the primary flood season.¹⁵

Moreover, extreme abrupt events are expected to intensify. 24-hour sudden intensities for various return periods are projected to increase by the 2050s.¹⁶ The western half of the Regions Under Direct Republican Jurisdiction and central and southern Sughd Region may face more intense extreme sudden events. This heightened intensity raises concerns about increased flash flooding risk, alongside

¹³ Ibid.

¹⁴ Nailya Mustaeva, Heinrich Wyes, Benjamin Mohr, and Abdulkhamid Kayumov, "Tajikistan: Country situation assessment," Working paper, August 2015, Pathways to Resilience in Semi-arid Economies (PRISE) project, Regional Environment Center for Central Asia (CAREC).

¹⁵ Nailya Mustaeva, Heinrich Wyes, Benjamin Mohr, and Abdulkhamid Kayumov, "Tajikistan: Country situation assessment," Working paper, August 2015, Pathways to Resilience in Semi-arid Economies (PRISE) project, Regional Environment Center for Central Asia (CAREC).

¹⁶ Ibid.

the potential for mudflows and landslides, particularly in the mountainous regions.

Socioeconomic Status

Tajikistan, a low-income landlocked country in Central Asia, rich in hydropower potential and some natural resources like silver, gold, coal, antimony, and precious stones. Despite lacking large oil or natural gas reserves, it has steadily recovered from its status as the poorest part of the Soviet Union after the 1991 collapse.

Tajikistan's economic stability hinges significantly on the invaluable support derived from remittances, primarily sourced from its substantial migrant workforce employed in Russia. This intricate economic interdependence underscores the profound impact of cross-border labor migration on Tajikistan's financial resilience and developmental trajectory. Beyond being simple financial transactions, these remittances serve as a lifeline for numerous Tajik families, offering essential financial assistance and fostering economic activity within the country. The symbiotic relationship extends beyond mere numerical contributions to the GDP, playing a multifaceted role in sustaining households and influencing economic dynamics in Tajikistan. Families dependent on remittance inflows utilize the funds for basic needs, contributing to an improved quality of life, while the injection of remittance capital into local economies acts as a catalyst for small-scale businesses, fostering entrepreneurship and job creation. In essence, this reciprocal relationship between Tajikistan and its migrant workforce in Russia goes beyond the economic realm, significantly impacting the daily lives of families and contributing to the broader economic landscape of the nation. These remittances not only provide financial stability to households but also play a pivotal role in shaping the entrepreneurial spirit and economic development at the grassroots level.

The COVID-19 pandemic, however, has impacted its economic growth with reduced remittances, declining domestic consumption, and setbacks in tourism and hospitality.¹⁷ The recovery in 2021 hinges on factors such as vaccine availability, Russia's border policies for Tajik migrant workers, and the restoration of remittances. The country's economy has faced challenges, with the Tajikistan somoni depreciating

¹⁷ Tajikistan Country Report 2022," BTI Transformation Index, 2022.

against the dollar since 2016. In 2020, currency depreciation and decreased trans-border goods exchange led to a 30% increase in basic food prices.¹⁸

Despite progress in poverty reduction since 2003, disparities persist, particularly affecting rural communities and slowing down since 2015.¹⁹ The economic slowdown during the pandemic has exacerbated these disparities, contributing to increased inequality in Tajik society. The country ranks as the poorest among post-Soviet states, and remittances from migrant workers, primarily in Russia, have played a crucial role in its economic growth. Remittances, which reached \$3.7 billion (42% of GDP) in 2014, experienced a decline of almost 40% in 2015 and a further 20% in 2016 due to Russia's economic crisis.²⁰ Although remittances had increased to 28% of GDP, the pandemic and closed borders significantly reduced their flow in 2020. The decline in GDP per capita was reported to \$833, below the 2011 level, according to the IMF.²¹

The government's response to the pandemic varied, but international aid was eventually sought and granted. Social assistance programs, including a one-time \$45 COVID-19 assistance payment, were introduced from July 2020.²² To counter inflation and depreciation, public sector wages and pensions were increased by 10-15% in September 2020.²³ Poverty and social exclusion are extensive, particularly in rural areas, where around two-thirds of the population face economic challenges. Female-headed households and those with children are particularly vulnerable. Geographically, regions like GBAO, Rasht Valley, and non-cotton growing districts in Sughd and Khatlon are identified as high-incidence poverty areas.²⁴ Approximately one-third of the population is estimated to be undernourished, with the COVID-19 pandemic posing a severe risk of food insecurity.²⁵

¹⁸ Tajikistan Country Report 2022, "BTI Transformation Index, 2022.

¹⁹ World Bank. "Poverty in Tajikistan 2021."

²⁰ World Bank. "Building a Stronger Tajikistan in the Wake of the COVID-19 Crisis".

²¹ World Bank. "Building a Stronger Tajikistan in the Wake of the COVID-19 Crisis."

²² Ibid.

²³ Ibid.

²⁴ World Bank. "Poverty in Tajikistan 2021."

²⁵ World Bank. "Building a Stronger Tajikistan in the Wake of the COVID-19 Crisis."

CHAPTER III. MAIN CHALLENGES OF THE DISASTER MANAGEMENT OF TAJIKISTAN.

Situated in Central Asia, Tajikistan contends with a complex interplay of economic shifts, demographic changes, and a susceptibility to natural disasters. To grasp the intricacies of its situation, we must delve into key aspects.

For a disaster response to be effective, it is truly vital to have smooth coordination among different agencies, both within the country and on the international front. The 2017 mudslides brought attention to the intricate challenges involved in coordinating efforts. The struggles to align actions among government bodies, non-governmental organizations (NGOs), and international aid agencies led to delays in providing vital assistance to communities in need.²⁶ This situation highlights how vital it is to have well-organized coordination mechanisms for a rapid and efficient disaster response. Improved communication channels and collaborative strategies play a key role in addressing this challenge, boosting the overall effectiveness of Tajikistan's disaster management. Tajikistan's efforts to collaborate internationally are praiseworthy, but the results do not quite measure up to the magnitude of the disasters it faces. The limited involvement and support from international organizations impede the effectiveness of these collaborations. There's a call for the government to reevaluate and fine-tune its approach, ensuring a more effective leverage of partnerships. This includes securing tangible contributions that can significantly enhance its capabilities for responding to disasters.

Tajikistan's unique landscape, with its rugged mountains and seismic activity, requires a strong disaster response system. The earthquakes in 2015, especially one

²⁶ Helmholtz-Centre Potsdam, GFZ German Research Centre for Geosciences. (2015,7. Dezember). Geophysical background information: earthquake in Tajikistan. *Earth System Knowledge Platform*, 2. <https://www.eskp.de/en/natural-hazards/geophysical-background-earthquake-tajikistan-935752/>.

significant quake, showed that Tajikistan struggled to respond effectively.²⁷ It became clear that buildings weren't structurally sound, highlighting the urgent need for stronger infrastructure that can withstand earthquakes. Additionally, the aftermath of the earthquake revealed the shortcomings in Tajikistan's emergency services, stressing the importance of a more resilient disaster management system

As Tajikistan deals with these challenges, being financially prepared takes center stage. The meager 0.34% penetration of the insurance market in 2018 highlights a significant financial vulnerability. While ex-ante sovereign and local government instruments could potentially provide around \$11-11.5 million, there exists a gap in addressing major disasters.²⁸ This, compounded by the country's demanding fiscal landscape, underscores the pivotal role of international development partnerships during crises.

Financial limitations pose a substantial hurdle in Tajikistan's disaster management endeavors. The aftermath of the 2010 floods serves as a poignant illustration of how limited financial resources intersect with the effectiveness of disaster response and recovery.²⁹ The government's struggle to allocate timely and sufficient resources vividly demonstrated the profound impact of financial constraints on delivering essential assistance. This highlighted the critical link between financial capabilities and the ability to respond promptly and effectively to natural disasters.

Corruption remains a significant concern in Tajikistan, despite the existence of anti-corruption laws. Enforcement of these laws appears to be influenced by political motives, rendering them largely ineffective in addressing corruption among public officials. Transparency International's 2022 Corruption Perceptions Index ranks Tajikistan 150th out of 180 countries, reflecting the country's challenges in curbing corruption. In 2016, amendments to the criminal code allowed individuals convicted of bribery-related offenses to avoid imprisonment by paying fines

²⁷ Helmholtz-Centre Potsdam, GFZ German Research Centre for Geosciences. (2015,7. Dezember). Geophysical background information: earthquake in Tajikistan. *Earth System Knowledge Platform*, 2. <https://www.eskp.de/en/natural-hazards/geophysical-background-earthquake-tajikistan-935752/>.

²⁸ United Nations Economic and Social Commission for Asia and the Pacific. 2021. "Risk and Resilience Portal - Methodology." <https://rrp.unescap.org/sites/default/files/media/Methodology.pdf>.

²⁹ Ibid.

equivalent to approximately \$25 per day of their potential prison sentence.³⁰ The legal framework for combating corruption in Tajikistan is primarily outlined in key documents such as the Law "On Combating Corruption" (dated August 7, 2020), the Law "On the Agency for State Financial Control and the Fight against Corruption of the Republic of Tajikistan" (dated March 20, 2008), the Criminal Procedure Code, and the Criminal Code.³¹ Tajikistan's legislation addresses conflicts of interest in contract awards. However, the government does not mandate private companies to establish internal codes of conduct prohibiting bribery of public officials. Despite becoming a signatory to the UN's Anticorruption Convention in 2006, Tajikistan is not a party to the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. Furthermore, authorities in Tajikistan do not offer protection to non-governmental organizations (NGOs) engaged in corruption investigations. U.S. businesses have identified corruption as a hindrance to investment, citing instances of corrupt practices in government procurement, license and concession awards, dispute resolutions, regulations, customs, and taxation. Tax inspections are highlighted as the most prevalent form of corruption faced by foreign investors in Tajikistan.

Despite the trajectory of economic growth, societal changes, and corruption issues Tajikistan is grappling with a profound and persistent challenge—natural disasters. The recurring threat of earthquakes, an ever-present specter in the region, has sparked widespread concerns, compounded by an average annual loss (AAL) amounting to \$63.5 million.³² Within this landscape, the Khatlon region bears the brunt, grappling with the highest risk and an AAL of US\$20.3 million. The looming potential for a once-in-a-century earthquake is deeply disconcerting, projecting annual losses soaring to US\$885.6 million and adversely affecting the lives of over

³⁰ Sultonzoda Sulaimon Sulaimon. 2023. 'Tajikistan.' U.S. Department of State. <https://www.state.gov/reports/2023-investment-climate-statements/tajikistan/> (accessed December 27, 2023).

³¹ Sultonzoda Sulaimon Sulaimon. 2023. 'Tajikistan.' U.S. Department of State. <https://www.state.gov/reports/2023-investment-climate-statements/tajikistan/> (accessed December 27, 2023).

³² United Nations Economic and Social Commission for Asia and the Pacific. 2021. "Risk and Resilience Portal - Methodology."

70,000 people³³ This unsettling narrative is further punctuated by an average of 37 fatalities each year, with Dushanbe, the capital, displaying the highest relative risk (AALR). These sobering statistics underscore the pressing need for immediate and targeted disaster management interventions in Tajikistan, emphasizing the urgency of bolstering resilience to seismic events to safeguard both the populace and the nation's socio-economic fabric

In addition to seismic threats, floods emerge as pivotal contributors to Tajikistan's vulnerability. The economic toll of floods is substantial, evidenced by an average annual loss (AAL) of \$60.8 million.³⁴ The financial repercussions of a one-in-100-year flood event are even more alarming, with estimates reaching an astounding \$550 million.³⁵ The Khatlon region, responsible for 80% of the AAL, is emerging as a focal point of concern, warranting heightened attention. The annual toll of these floods is starkly outlined by statistics, with 29,800 people affected and 45 fatalities recorded annually.³⁶ These figures evoke memories of the catastrophic floods in 1992, a historical event that left an indelible mark by displacing 15% of the population. As such, the multifaceted landscape of natural disasters in Tajikistan necessitates a comprehensive and nuanced approach to disaster management that considers the varied and complex challenges posed by both seismic and flood-related events.

The imperative of public knowledge and awareness in disaster management for Tajikistan cannot be overstated. In a region susceptible to frequent earthquakes, floods, and other natural disasters, the role of an informed populace becomes a linchpin in resilience-building efforts. Firstly, public awareness serves as a catalyst for proactive measures. When individuals are cognizant of potential risks and equipped with the knowledge of appropriate responses, they are better prepared to take preventive actions and secure their well-being. Moreover, a well-informed public acts as an extended arm of the disaster management apparatus. In times of crises, individuals who are aware of evacuation procedures, emergency contacts, and

³³ Ibid.

³⁴ *World Bank Climate Change Knowledge Portal* (2021) *Vulnerability | Climate Change Knowledge Portal*. Available at: <https://climateknowledgeportal.worldbank.org/country/tajikistan/vulnerability>.

³⁵ Ibid.

³⁶ Ibid.

essential safety measures can not only safeguard themselves but also contribute to collective community resilience. This distributed approach enhances the overall efficacy of disaster response efforts. Education and awareness initiatives also play a pivotal role in dispelling myths and misconceptions surrounding natural disasters. By disseminating accurate information, Tajikistan can combat fear and panic, fostering a culture where citizens are not only responsive but also resilient in the face of adversity. Furthermore, public knowledge is instrumental in ensuring the successful implementation of infrastructure resilience measures. When communities understand the importance of constructing earthquake-resistant buildings or adopting flood-resistant practices, they actively participate in these initiatives, creating a built environment that is inherently more resilient to disasters.

Tajikistan recognizes the importance of early warning systems, but turning this awareness into practical action is hindered by financial constraints. The sporadic implementation of readiness measures, like drills and training, leaves communities not well-prepared for the inevitable arrival of disasters. The urgent need for consistent and well-funded preparedness initiatives is evident and calls for immediate attention

In the realm of disaster management, envisioning a dedicated and well-equipped rescue apparatus is a commendable goal. However, the existing landscape in Tajikistan paints a challenging picture, primarily characterized by resource constraints and insufficient training. The result is a scenario where on-the-ground responses are often delayed and fall short of meeting the demands posed by emergencies. The transformative potential of adequately equipped and trained rescue teams cannot be overstated. It extends beyond the immediate response phase, rippling into a swifter, more effective, and well-coordinated approach during times of crisis. This underscores the critical need for substantial investments in training programs, resource allocation, and technological upgrades to bolster the capabilities of these essential units.

Furthermore, the importance of resilient infrastructure is undeniable, yet the sluggish pace of retrofitting critical buildings and facilities post-disaster hampers progress. The extended periods of reconstruction not only prolong the vulnerability of communities but also impede the overall resilience-building process. Expedited

action is imperative to hasten reconstruction efforts, fortifying infrastructure against future disasters and mitigating their enduring impact. In essence, the challenges faced in current disaster management practices underscore the urgent demand for comprehensive improvements in both rescue team capabilities and infrastructure resilience measures. Tajikistan's commitment to addressing these issues is not just a response to immediate concerns but a forward-looking investment in a safer, more resilient future for its populace.

In navigating the intricate challenges posed by a complex interplay of economic shifts, demographic changes, corruption and susceptibility to natural disasters, Tajikistan stands at a critical juncture. The need for a well-coordinated disaster response mechanism, both domestically and internationally, is underscored by past incidents such as the 2017 mudslides and the 2015 earthquakes, revealing deficiencies in coordination and infrastructure. While commendable efforts have been made to collaborate globally, limited support necessitates a reevaluation of strategies to secure more substantial contributions. Financial vulnerabilities, reflected in meager insurance penetration and the profound impact of limited resources on disaster response, highlight the urgency of addressing this aspect. The recurring threat of earthquakes and floods, coupled with alarming annual losses, demands immediate attention. Public knowledge and awareness emerge as essential in resilience-building efforts, emphasizing the need for proactive measures, collective community resilience, and dispelling misconceptions. Despite Tajikistan's awareness of early warning systems, financial constraints hinder practical implementation, leaving communities ill-prepared. Existing challenges in rescue team capabilities and infrastructure resilience call for substantial investments, training programs, and expedited reconstruction efforts. Tajikistan's commitment to addressing these issues signifies not just a response to immediate concerns but a forward-looking investment in a safer, more resilient future for its populace.

Where does the budget go?

Consistently across every news portals, scientific articles, and various other sources, Tajikistan is acknowledged as one of the world's poorest countries, characterized by low economic indicators and developmental challenges. However it

is worth mentioning that despite the difficult financial situation in the country and the lack of the state budget, Tajikistan constantly receives financial support from the international organization and the developed partner states. This chapter initiates a discourse on the prospective allocation of a substantial financial influx from international sources invested in

In recent times, Tajikistan has faced a notable decline in living standards, a situation largely attributed to the repercussions of Russia's invasion of Ukraine. The complex interplay of factors, including a reduction in remittances sent home by Tajik migrant laborers in Russia and the looming specter of inflation, has led to an alarming estimate of around 800,000 people struggling with severe food insecurity. Against this challenging backdrop, the U.S. Agency for International Development (USAID) stepped in, making a significant announcement in February. A financial infusion of \$13 million was earmarked to assist Tajikistan's vulnerable families.³⁷ The primary focus of this support is to extend crucial aid to 270,000 children and 240,000 pregnant and lactating women, ensuring their access to vital nutrition care services.

As Tajikistan navigates economic challenges, Dushanbe finds itself on the receiving end of diverse aid from various quarters, requiring minimal reciprocal commitments towards implementing economic or political reforms. A noteworthy event unfolded in October during the EU-Central Asia summit in Astana, Kazakhstan, where European Union Council President Charles Michel unveiled the Sustainable Energy Connectivity in Central Asia (SECCA) project. This EU-backed initiative promises 29 million euros (\$32 million) in grants to Tajikistan, with a specific allocation of 14 million euros for providing potable water to rural areas.³⁸

Simultaneously, Tajikistan copes with securing funding for its ambitious *Roghun* hydropower project, envisioned to produce ample electricity for export to neighboring countries. Despite the considerable scale of the undertaking, foreign investors, including Russian companies, have shown limited enthusiasm. However, a

³⁷ "Tajikistan Pleads Poverty, Spends Money on Unneeded Luxuries," eurasianet, April 26, 2023, <https://www.msn.com/en-us/news/world/tajikistan-pleads-poverty-spends-money-on-unneeded-luxuries/ar-AA1asEKA>.

³⁸ Eurasianet, "Tajikistan Pleads Poverty, Spends Money on Unneeded Luxuries".<https://www.msn.com/en-us/news/world/tajikistan-pleads-poverty-spends-money-on-unneeded-luxuries/ar-AA1asEKA>.

potential shift occurred as the EU signaled interest in July, with the European Investment Bank emerging as a major player. The primary aim is to diminish Tajikistan's reliance on Russia and China's expansive Belt and Road Initiative.

Parallel to these developments, the World Bank entered the scene, approving a \$15 million grant in January to fortify the financial and commercial frameworks of the Roghun project.³⁹ The World Bank's involvement also extended to addressing broader concerns. In December, a substantial \$50 million was disbursed to fortify Tajikistan's agriculture sector and in January witnessed another boost, with an additional \$50 million allocated for a reform program designed to expedite sustainable and resilient economic growth.⁴⁰ Subsequently, in February, another \$50 million in grant financing was sanctioned, this time with the goal of enhancing the quality of teaching and learning in Tajikistan's secondary education. While these financial injections are substantial, questions naturally arise regarding the oversight and accountability mechanisms for the funds. The World Bank, despite its pivotal role, has not provided explicit details on how it ensures the judicious utilization of these funds.

This Western generosity unfolds against the challenging backdrop of Tajikistan's authoritarian regime, marked by relentless suppression of government critics, imprisonment of opposition figures, and the near obliteration of independent media and civil society. High-level corruption remains a concern, but daring to address this issue comes at a high personal cost, often resulting in arrests. Experts, including Temur Umarov, a Central Asia specialist associated with the Carnegie Russia Eurasia Center, suggest that the West's unwavering financial support is likely driven by a strategic objective – minimizing Tajikistan's reliance on Russia.⁴¹ In response to appeals from Central Asian countries about their dependence on Russia, Western nations are stepping forward with grants, signaling their commitment to weakening this dependency. However, a nuanced perspective emerges from an

³⁹ Ibid.

⁴⁰ Eurasianet, "Tajikistan Pleads Poverty, Spends Money on Unneeded Luxuries", <https://www.msn.com/en-us/news/world/tajikistan-pleads-poverty-spends-money-on-unneeded-luxuries/ar-AA1asEKA>.

⁴¹ Eurasianet, "Tajikistan Pleads Poverty, Spends Money on Unneeded Luxuries", <https://www.msn.com/en-us/news/world/tajikistan-pleads-poverty-spends-money-on-unneeded-luxuries/ar-AA1asEKA>.

anonymous Tajik analyst, who emphasizes the geopolitical shifts at play. The analyst contends that the West's ability to set ultimatums and link financial assistance to political reforms has diminished. Furthermore, they suggest that Central Asia, in the current geopolitical landscape, stands to benefit from increased Russian investment redirected from other regions. As Tajikistan navigates these complexities, the injection of funds from various international entities serves as a lifeline, offering both critical support and raising broader questions about the dynamics of aid, governance, and geopolitical alignments.

In essence, the observations point to a critical shortfall in Tajikistan's ability to effectively manage its state budget and strategically prioritize its objectives. The fact that the country is underdeveloped in terms of geographical location, political destabilization, and other factors now serves as justification or defense for Tajikistan's inaction, which the country tends to mention during every international negotiation or summit. It is fair if one may wonder, "*where this endless investment in the country is flowing to?*". The unvarnished truth reveals that Tajikistan tends to allocate its budget towards initiatives of dubious necessity. Financial resources are often channeled into state activities that may not align with the paramount priorities of its people. Furthermore, funds find their way into unnecessary luxuries that primarily benefit high-ranking state officials, fostering an environment conducive to corruption. This scenario prompts critical reflections on the allocation of resources and its impact on the overall governance landscape.

CHAPTER IV. CASE STUDY & COMPARATIVE ANALYSES

Families across Tajikistan contend with the persistent challenges of earthquakes and various hazards, impacting their daily routines and economic stability throughout the year. Avalanches, mudslides, and floods frequently disrupt transportation links and communication networks, isolating communities and hindering swift access to emergency aid. Beyond the immediate threats, these disasters also undermine ongoing development efforts, eroding the progress made in improving the overall quality of life. According to the European Commission's Humanitarian Aid Department, over the past decade, natural disasters have claimed approximately 2,500 lives and affected nearly 10% of Central Asia's population.⁴²

Undertaking a profound exploration of the recent challenges faced by Tajikistan, this captivating case study chapter delves into the touching aftermaths of disasters that have left indelible marks across the diverse regions of the country. At the heart of our investigative journey lies a meticulously crafted interview process, thoughtfully designed to extract not just data, but the human stories from disaster management experts and witnesses who have weathered the impact firsthand. By immersing ourselves in the lived experiences of individuals who have faced the storms, both metaphorically and literally, our approach is an earnest endeavor to connect with the human dimension of Tajikistan's disaster management landscape. The qualitative tapestry woven from these firsthand narratives is not merely information; it is a collection of voices, shedding light on the nuanced challenges intricately woven into the fabric of disaster management in this resilient nation.

⁴² Blondin, Suzy. "Staying despite disaster risks: Place attachment, voluntary immobility and adaptation in Tajikistan's Pamir Mountains." *Geoforum* 126 (November 2021): 290-301.

As we smoothly delve into the narratives of these events, the second part of this chapter widens the horizon, skillfully drawing comparisons between Tajikistan's approach to disaster management and the practices of more developed counterparts like Japan and Turkey. This comparative analysis acts as a guiding light, casting illumination on areas where Tajikistan can learn, adapt, and fortify its strategies, paving the way for a more resilient future. Through this expansive exploration, we unravel the intricate dance of disaster responses, crafting a narrative that not only articulates the challenges faced but also delicately illuminates the pathways for growth within Tajikistan's captivating disaster management landscape.

4.1. Sarez Lake

Lake Sarez came into existence in 1911 when a massive landslide, triggered by an earthquake in Tajikistan's Pamir Mountains, buried the village of Usoy and blocked the Murgab River. In just two years, a lake stretching about 60 km long and holding nearly 17 cubic kilometers of water formed. The natural dam, named Usoy, sits at an altitude of 3,200 meters, making it the world's tallest natural dam at over 550 meters high and about 2 km long.

The focal point of concern revolves around the natural dam, named Usoy, that now stands as the world's tallest at over 550 meters in height and approximately 2 km in length, perched at an altitude of 3,200 meters.⁴³ This geographical marvel, while awe-inspiring, also poses a potential threat that looms over the region. The risk lies in a precarious balance, where a landslide, situated about 4 km upstream on the right bank of the lake, holds the potential to disrupt the equilibrium. Reports suggest that a significant seismic event nearby could dislodge approximately three cubic kilometers of material, precipitating a chain reaction that might lead to the catastrophic collapse of the Usoy dam⁴⁴

Lake Sarez is under surveillance from a small facility near the dam, where a monitoring and early warning system was set up in 2004. Some components of this system serve to sound the alarm and are integrated into an early warning system

⁴³ ReliefWeb. "Tajikistan: Lake Sarez Disaster Preparedness Proceeding Well." ReliefWeb, March 27, 2003.

⁴⁴ Ibid.

crafted to notify downstream villagers in case of any potential disaster. The people in the area have undergone training in the early warning system and participated in disaster preparedness programs. Each district has formed its own rapid response committee, and every village possesses its emergency evacuation map. Safe assembly areas have also been designated. "In every community, there are VHF radios. If there's an emergency, the community leader will instruct the villages to evacuate. Evacuation zones are stocked with first aid kits," explained Husani.⁴⁵ In the event of flooding, the initial waves from Lake Sarez could reach the nearest village in 25 minutes, and the farthest districts bordering Uzbekistan would experience the impact in 38 hours. Maskaev noted, "Through training and practice, the local population has demonstrated they can evacuate those villages in just 12 minutes."⁴⁶

The Lake Sarez issue first caught the attention of the IDNDR Secretariat in May 1997, during a meeting in Moldova. The countries in the Commonwealth of Independent States (CIS) asked the IDNDR Secretariat to create awareness and develop a plan to reduce the threat. In 1998, Tajikistan's government also raised the matter during a visit by Mr. Sergio Vieira de Mello, the Under-Secretary General for Humanitarian Affairs. In response, the IDNDR Secretariat started getting ready for a Risk Assessment Mission to Lake Sarez.⁴⁷ In June 1999, a group of experts conducted the mission, summarizing their observations and recommendations in this document to shed light on the issue and suggest specific actions. According to the report, a full or partial collapse of the Usoi landslide dam and its catastrophic impact are considered highly unlikely. However, the threat of the right bank collapsing, though smaller than initially thought, is still a real concern. Even a medium-sized surge wave over the dam could affect the 7,800 people in the Bartang valley and possibly extend to Rushan and the first three major towns along the Panj river, where another 25,000 people live.⁴⁸ Therefore, the report emphasizes that Lake Sarez and the Usoi landslide dam need urgent attention from the international community.

The case of Lake Sarez presents a multifaceted narrative encompassing geological phenomena, environmental risk, and humanitarian preparedness. The

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

genesis of the lake in 1911, arising from seismic activity in Tajikistan's Pamir Mountains, not only underscores the dynamic nature of our planet but also exemplifies the potential consequences of such events. The formation of the Usoi landslide dam, standing as the world's tallest natural dam, serves as a poignant reminder of the delicate equilibrium between natural processes and human settlements. The identified risks associated with Lake Sarez, particularly the potential landslide upstream and its implications for downstream communities, necessitate a comprehensive and proactive approach. The implemented monitoring and early warning system, coupled with community training and preparedness initiatives, exemplify steps toward mitigating potential disasters. The ability of the local population to swiftly evacuate, as demonstrated through training exercises, adds a layer of resilience to the overall preparedness efforts. The gravity of the Sarez Lake situation persists, and the report emphasizes that the international community must urgently address the real concerns, as the echoes of 1911 serve as a sobering reminder. Lake Sarez is not just a chapter in history but a living testament that demands collective action, as the serious nature of the threat signals that this compelling and perilous narrative might unfold again.

4.2. Panjakent mudslide (July 2021)

An illustrative case is the July 2021 mudslides in the Panjakent region, resulting in a tragic toll of 12 lives, including four children. Boymurod Ismoilov, an 86-year-old head of a family, vividly recounted the ordeal, emphasizing the unprecedented nature of heavy rains and mudslides during July. The tragedy unfolded in Kataier, a summer pasture 30 kilometers from the village, where people migrate for cattle grazing and live in tents during the warmer months.⁴⁹

The tragedy of the mudslides not only took lives but also shattered the lives of families like Boymurod's, who relied on farming and support from relatives working abroad. In the aftermath, the challenges in responding to the disaster became evident, with emergency teams and villagers working together to recover bodies buried under the mud. Families in affected villages, including Kishtudak, Veshist,

⁴⁹ CABAR.asia. "Disasters in Central Asia: From Preparedness to Prevention." Longreads, November 29, 2019.

Dashti Kazi, and Amondara, faced hardships compounded by the destruction of homes, infrastructure, and the loss of human and livestock lives.

Official data for 2021 highlights the economic toll of these natural disasters, affecting 15 towns and districts.⁵⁰ The May 11 disaster alone resulted in nine fatalities and significant destruction. Responding to these disasters is fraught with challenges, as Muhammadsodir Safarzoda, the first deputy mayor of Panjakent, emphasized the perpetual risk inherent in the region's geography. With annual threats like mudslides, floods, landslides, rockfalls, strong winds, and avalanches, the importance of stabilizing dams along the region's more than 80 rivers is underscored.

Efforts to prevent disasters are currently underway, with a particular focus on vulnerable areas; however, the existing limitations in disaster response capabilities are unmistakable. Lieutenant Parviz Amonzoda, serving as the head of the Panjakent Emergency and Civil Defense Committee, shed light on the formidable challenges faced by the emergency committee.⁵¹ These challenges encompass a lack of a dedicated building, specialized equipment, and skilled workers, creating significant obstacles in the way of an effective response to potential disasters. In emphasizing the urgency of a stronger disaster prevention system, local expert Turdi Solehzoda highlighted critical issues, including an inadequacy of staff, low salaries for emergency services positions, and a scarcity of fuel for necessary equipment.⁵² To address these concerns, he proposed the activation of a modern prevention system and the establishment of a national fund specifically dedicated to disaster relief efforts. Despite ongoing efforts to secure flood- and mudflow-prone areas and relocate families to safer places, the occurrence of the Kishtudak mudslide served as a stark reminder of the inherent unpredictability of natural disasters.

Residents, such as those in the village of Kishtuk, express doubt about authorities learning from past tragedies and fear the recurrence of disasters without adequate preventive measures. This skepticism aligns with a broader timeline from 1992 to 2020, during which Tajikistan faced various natural disasters affecting seven million people and causing approximately \$2 billion in economic damage. Identified

⁵⁰ CABAR.asia. "Disasters in Central Asia: From Preparedness to Prevention." Longreads, November 29, 2019.

⁵¹ Ibid.

⁵² Ibid.

risk zones with a high potential for landslides, avalanches, and mudflows highlight the urgent need for a more comprehensive and well-equipped disaster prevention and response system in Tajikistan.

4.3. Khorog Avalanches (February 2023)

In the heart of the southwestern Pamirs range in Tajikistan lies Khorog, a town housing around 30,000 predominantly Ismaili Muslim residents. The distressing event unfolded on February 15, 2023, as heavy snow and rain engulfed the Shoshkhorog microdistrict of the town. Reports from Reuters depicted one-story buildings submerged up to their roofs in snow and ice, prompting rescue teams to diligently search for survivors.⁵³ Tragically, the avalanche claimed 13 lives in Khorog, with two female students missing in Ishkoshim and heart-wrenching scenes of crowds digging through deep snow for survivors.

In response to the government's urgent request, the Aga Khan Agency for Habitat (AKAH), an integral part of the Aga Khan Development Network (AKDN), swiftly mobilized trained teams for search and rescue operations. Reports from AKAH revealed that more than 50 avalanches had struck the Badakhshan regions of Tajikistan and Afghanistan in recent days, causing multiple casualties and substantial damage to approximately 20 buildings and houses in Khorog.⁵⁴ Recognizing the persistent threat posed by heavy snowfall, Aga Khan Agency for Habitat (AKAH) played a pivotal role in orchestrating the relocation of people from vulnerable areas. Their efforts extended beyond mere relocation, encompassing the provision of temporary shelter for those displaced, offering a crucial lifeline during challenging times. Simultaneously, Aga Khan Development Network's (AKDN) Pamir Energy demonstrated unwavering dedication by diligently working to repair damaged power lines. Their commitment aimed at swiftly restoring energy services in the towns affected by the adverse weather conditions, ensuring the resumption of normalcy in

⁵³ "Aga Khan Agency for Habitat Responds to More Than 50 Avalanches in Khorog and the Badakhshan Regions of Tajikistan and Afghanistan, Which Have Claimed Lives and Damage to Properties." Simerg, February 17, 2023.

⁵⁴ "Aga Khan Agency for Habitat Responds to More Than 50 Avalanches in Khorog and the Badakhshan Regions of Tajikistan and Afghanistan, Which Have Claimed Lives and Damage to Properties." Simerg, February 17, 2023.

the lives of the local population.

Year after year, the mountainous region of Khorog grapples with the recurring occurrence of avalanches during the winter season. Paradoxically, despite the predictable nature of this annual hazard, the government's capacity to proactively anticipate and implement preventive measures for the avalanche-prone areas appears notably deficient. This consistent challenge underscores the urgent need for an improved strategy to protect the region from the recurrent threat of avalanches.

The persistence of this challenge prompts a critical examination of the government's efficacy in formulating and executing strategies to mitigate the impact of avalanches in the region. The collaborative efforts of AKAH highlight the urgent role of non-governmental agencies in disaster response, especially in situations where the government faces challenges in managing the crisis. AKAH's rapid and efficient response to the government's call for assistance underscored the importance of well-prepared initiatives and demonstrated the agency's capability in addressing emergencies. This collaborative approach emphasized the significance of coordinated disaster management efforts, showcasing how various entities can work together to ensure timely and comprehensive assistance in the face of natural disasters.

To gain deeper insights into the recurrent avalanche situations in Khorog, a comprehensive series of interviews was meticulously conducted. The primary objective was to delve into the multifaceted perspectives of the local residents, authorities, and experts who intimately understand the nuances of this recurring natural hazard. Through these insightful conversations, the aim was not only to comprehend the technical aspects of the annual avalanche occurrences but also to unravel the intricate dynamics that shape the community's experiences with the government's response strategies. By engaging with diverse voices, ranging from those directly impacted to the experts who contribute their insights, a more holistic understanding was sought, allowing for a nuanced exploration of the challenges and successes in managing this recurrent threat.

Expert interview takeaways:

In the pursuit of a comprehensive understanding of disaster management practices, a key facet of this research involved conducting interviews with an expert

from the Ministry of Emergency Situation from Khorog and two other respondents that have witnessed the destructive impacts of an intense snowfall in Khorog

The interview with the expert from the Ministry of Emergency Situations from Khorog Tajikistan provided a comprehensive examination of the country's disaster management landscape, revealing both successes and notable challenges. Tajikistan's unique geographical features, characterized by mountainous terrain and seismic activity, have set the stage for a range of natural disasters. Despite this, there have been notable successes in disaster management, including ongoing efforts to integrate risk reduction strategies into sectoral policies. This approach, however, is not without its challenges, as identified during the interview.

According to the expert, one of the notable successes lies in the proactive measures taken to enhance disaster preparedness. The country has made progress in training rescue teams and conducting simulation exercises. These efforts contribute to a more robust and responsive disaster management system. The commitment to collaboration and coordination among different agencies is another noteworthy success, fostering a more unified response to disasters. However, economic setbacks pose a considerable challenge to Tajikistan's disaster management capabilities. Limited financial resources hinder the implementation of proactive measures, including infrastructure improvements and community resilience programs. The interviewee emphasized the need for innovative funding mechanisms and increased budget allocations to overcome these challenges. Collaborative efforts with international organizations were also highlighted as a potential avenue for securing additional support.

Rescue team preparedness showcases successes in training and resource availability, yet the limitations in training frequency due to resource constraints are acknowledged. Strategic resource allocation and innovative training approaches are proposed solutions to enhance the readiness of rescue teams, underlining a commitment to continuous improvement. The establishment of secure capacities for civilians is another area with both successes and challenges. Successes include community engagement initiatives and awareness campaigns. However, setbacks arise from factors such as low literacy rates, language barriers, and a lack of participation in preparedness programs. Tailored communication strategies and

targeted education campaigns are proposed as means to address these challenges.

Climate change introduces a dynamic aspect to disaster management. While Tajikistan is actively adapting strategies to changing climate patterns, the evolving risks pose ongoing challenges. The interviewee stressed the importance of adopting adaptive policies, investing in research, and ensuring swift adjustments based on emerging climate trends.

Infrastructure challenges in disaster-prone areas reflect a mixed scenario of success and downfall. The commitment to infrastructure assessments and stricter building codes demonstrates a proactive approach. However, the limitations of existing infrastructure to withstand extreme events, especially in remote areas, present ongoing challenges. Comprehensive solutions, including targeted investments, are proposed to address these challenges.

In conclusion, Tajikistan's disaster management efforts showcase a blend of successes and challenges. While proactive measures and collaborative strategies contribute to resilience, economic constraints, logistical hurdles, and community-related obstacles require continuous attention and innovation. The insights gained from the interview contribute to a nuanced understanding of Tajikistan's disaster management landscape, emphasizing the need for adaptive strategies to navigate the complex realities of natural disasters in the region.

Witnesses interviews analysis:

This analysis draws upon the in-depth interviews with two anonymous respondents who faced the devastating effects of a severe snowfall in GBAO Khorog, Tajikistan. The respondents' narratives provide nuanced insights into the immediate challenges, community support mechanisms, government response, and overarching recommendations for enhancing resilience in the aftermath of the disaster.

The first respondent vividly recounted the extent of damage inflicted by the snowfall, emphasizing the collapse of their home's roof and walls. This physical destruction not only left them without shelter but also underscored the vulnerability of existing housing infrastructure. Immediate challenges post-snowfall included the urgent need for temporary shelter and difficulties accessing basic necessities like

food and water. The respondent acknowledged the paramount role played by the local community, with neighbors, the Pamiri community, and AKAH volunteers offering critical support. However, the delayed financial aid from the government highlighted systemic inefficiencies in relief delivery. The respondent recognized the eventual government support for reconstruction but underscored the limitations in local rescue teams, techniques, and infrastructure. This experience prompted a thoughtful analysis, calling for comprehensive disaster-resilient planning, advanced training for local rescue teams, and climate-resilient infrastructure. The need for proactive measures to prevent future disasters and streamline aid distribution was emphasized.

The second respondent echoed the challenges faced by the community, emphasizing the severe damage to their home and the immediate need for temporary shelter. These challenges reflected the vulnerabilities in the region's housing infrastructure and underscored the urgent necessity for more resilient structures. Immediate hurdles included a lack of access to basic necessities, prompting reliance on neighbors and community volunteers for support. The respondent commended the collaborative efforts of the local community and AKAH volunteers during the initial phase. Similar to the first respondent, concerns were raised about the delayed financial aid from the government, indicating potential flaws in the existing relief structures. The respondent acknowledged the community-driven initiatives but called for urgent reforms in aid delivery to ensure swift and comprehensive government support. The shared recognition of limitations in local rescue teams, techniques, and infrastructure emphasized the systemic gaps in disaster management capabilities.

Both respondents underscored the collaborative strength of the local community, highlighting the main role played by neighbors, the Pamiri community, and AKAH volunteers in the immediate aftermath. The delayed government financial aid emerged as a shared concern, indicating a need for streamlined and efficient relief protocols. The limitations in local rescue teams, techniques, and infrastructure pointed to systemic shortcomings in disaster management capabilities, urging the importance of ongoing investment and technological advancements.

The experiences of the respondents collectively shed light on the necessity for comprehensive community-driven resilience initiatives. The delayed financial aid

and limitations in disaster management capabilities highlighted opportunities for proactive improvements. Recommendations include advanced training for local rescue teams, climate-resilient infrastructure development, and streamlined government aid delivery protocols. Additionally, a call for anticipatory disaster planning and community awareness initiatives emerged as critical components to foster a resilient community.

The interviews with the two anonymous respondents revealed the multifaceted impact of the severe snowfall on GBAO Khorog residents. The insights offer a detailed understanding of the immediate challenges faced, the collaborative strength of the community, and the systemic limitations in disaster management. The recommendations provided by the respondents underscore the urgent need for comprehensive reforms and proactive measures to enhance community resilience and effectively respond to future disasters.

Commencing what the expert from the Ministry of Emergency Situations and two individuals impacted by the severe snowfall in GBAO Khorog shared reveals a mix of challenges, resilience, and some issues in the system. The expert points out the complexity of disaster management in Tajikistan. While it is pivotal to integrate risk reduction strategies into policies, it seems there's a gap that needs a more coordinated approach. The unique geography, frequent extreme weather events, and socioeconomic factors make managing disasters in this region quite intricate.

On the flip side, the personal stories of the victims paint a vivid picture of struggles. Their homes were seriously damaged, and there were immediate challenges for finding shelter and basic necessities. The community, including neighbors and volunteers, stepped in when government aid was delayed, highlighting some inefficiencies in the system. The victims' stories also emphasize the strength of community bonds. Neighbors, the Pamiri community, and volunteers played a consistent role, showing that the real power in overcoming challenges lies in communities coming together. Amidst all these challenges, there is a shared call for better planning and proactive measures. The need for improved training for local rescue teams, infrastructure that can withstand extreme weather, and smoother government aid processes emerges as practical solutions for handling future crises.

In this mix of expert analysis and personal stories, there's a clear message —

recognizing challenges, celebrating resilience, and urging for a more efficient and compassionate disaster management approach. It is a human story that goes beyond the complexities, highlighting the potential for positive change.

4.4. Comparative analysis of disaster management of Tajikistan to other countries

4.4.1. Japan

Japan, renowned for its leadership in disaster preparedness, particularly with advanced seismic alert systems for earthquakes, is the second country selected for the comparative analysis in this thesis. Japan's approach to disaster management is anchored in the Disaster Countermeasures Basic Act, which was enforced in 1962.⁵⁵ This legislation establishes a comprehensive and strategic disaster management system. The key elements include defining responsibilities for disaster management, establishing disaster management organizations, implementing a planning system, focusing on disaster prevention and preparedness, formulating emergency response strategies, and addressing recovery and rehabilitation. Additionally, financial measures are integrated to ensure a robust response.

At the core of Japan's disaster management structure is the Central Disaster Management Council, chaired by the Prime Minister and comprising ministers, heads of public institutions, and experts. The council plays a vital role in formulating and promoting the implementation of the Basic Disaster Management Plan. Japan recognizes the significance of Disaster Risk Reduction (DRR) investment as a crucial element in minimizing disaster damage. This investment encompasses both structural and non-structural measures, requiring a dedicated budget each year. By appropriately allocating resources to DRR, Japan aims to proactively reduce the impact of disasters, showcasing a forward-thinking and proactive approach to disaster management.

Analyzing the Japan disaster management strategy more in practice, the Hyogo earthquake case can be the best example to show the aftermath actions of the state. The Hyogo earthquake, also known as the Great Hanshin Earthquake, struck

⁵⁵ United Nations Office for Disaster Risk Reduction. "The Central Disaster Management Council Basic Disaster Management Plan, etc.".

the Kobe region in Japan on January 17, 1995 was a devastating earthquake with a magnitude of 6.9 that caused widespread destruction and loss of life. The seismic event was named after the Hyogo Prefecture, where the city of Kobe is located.⁵⁶

In the aftermath of the Hyogo earthquake, the Japanese government, local authorities, and communities embarked on extensive reconstruction efforts. Lessons learned from the disaster prompted a reevaluation of earthquake preparedness and resilience measures across the country. The case of earthquake-resistant school construction in Hyogo reflects one aspect of Japan's commitment to implementing measures that mitigate the impact of seismic events. This proactive approach to disaster management has become a hallmark of Japan's resilience strategy, emphasizing not only response and recovery but also a strong focus on preparedness and risk reduction.

The Japanese model of disaster management, particularly in the context of earthquakes, exemplifies a multi-layered and comprehensive approach. The country's emergency management system is designed to be adaptive, allowing for swift and efficient responses to various disaster scenarios. Japan's meticulous attention to detail in disaster preparedness is evident in its public awareness campaigns, regular drills, and investment in technology to improve early warning systems. These measures have significantly contributed to reducing casualties and mitigating damage in subsequent seismic events.

Additionally, Japan's disaster management framework emphasizes community participation and public education. The government actively engages with citizens to enhance their understanding of disaster risks and the importance of preparedness. This community-centric approach fosters a culture of resilience, where individuals are not only aware of potential hazards but are also equipped with the knowledge and skills to respond effectively.

Japan's experiences and strategies offer invaluable insights for Tajikistan in enhancing its disaster management capabilities. Particularly, the emphasis on community engagement, investment in DRR, and the integration of advanced technologies for early warning systems are areas where Tajikistan can draw valuable

⁵⁶ Ibid.

lessons. Adapting these strategies to the Tajik context, considering the country's unique geographical and socio-economic landscape, could significantly enhance its disaster preparedness and response mechanisms.

The comparison with Japan's disaster management system provides a compelling framework for Tajikistan to consider. By analyzing Japan's successes and challenges in dealing with natural disasters, particularly earthquakes, Tajikistan can identify and implement strategies that bolster its own disaster management framework. This comparative analysis underscores the importance of learning from global best practices and adapting them to local contexts to build more resilient communities and nations.

4.4.2. Turkey

Turkey, ranking third globally in earthquake-related casualties and eighth in the number of people affected, faces frequent 5 magnitude earthquakes, emphasizing the critical need for effective disaster management.

The roots of Turkey's disaster policy trace back to the 1939 Erzincan earthquake, prompting the adoption of Law No.7269 in 1958 and further legislation in 1988.⁵⁷ The pivotal moment occurred with the 1999 Marmara earthquake, prompting the establishment of the Disaster and Emergency Management Authority (AFAD) in 2009 and its recent reformation under the Ministry of Interior in 2018.⁵⁸

AFAD introduced the Integrated Disaster Management System, emphasizing a shift from crisis management to risk management. With 81 provincial branches and 11 search and rescue units, AFAD collaborates with various institutions and NGOs.⁵⁹ Over seven years, AFAD has effectively managed responses to earthquakes and floods, aiding survivors. Internationally, Turkey, through AFAD, has provided humanitarian assistance to over 50 countries. In 2018, Turkey led in humanitarian aid globally, contributing 8.07 billion US Dollars with a 0.85% ratio of national income, earning the title of the "most generous nation." This international outreach reflects Turkey's commitment to global humanitarian efforts and disaster response.⁶⁰

⁵⁷ Disaster and Emergency Management Authority (AFAD). "About Us."

⁵⁸ Disaster and Emergency Management Authority (AFAD). "About Us."

⁵⁹ Ibid.

⁶⁰ Ibid.

AFAD remains dedicated to developing strategies and assisting people both domestically and internationally. Its role in international disaster relief operations has not only elevated Turkey's profile on the global stage but also provided valuable learning opportunities for enhancing its domestic disaster management capabilities.

Tajikistan, Turkey, and Japan exemplify diverse strategies in disaster management. Tajikistan contends with economic challenges and heavy reliance on remittances, impacting its ability to cope with and recover from disasters. In contrast, Turkey has made significant strides, particularly through AFAD's Integrated Disaster Management System, showcasing proactive measures, international humanitarian contributions, and efficient collaboration. Japan stands out with a sophisticated earthquake early-warning system and a comprehensive disaster management framework, including the Central Disaster Management Council.

These examples underscore the critical role of adaptive strategies, international collaboration, and robust institutional frameworks in mitigating the impact of natural disasters. Tajikistan faces several challenges in disaster management compared to Turkey and Japan. One major gap is its economic vulnerability, hindering effective disaster response and recovery. The heavy reliance on remittances poses a risk, as seen during the pandemic when remittances sharply declined. The country also lacks a comprehensive disaster management framework and clear regulations, contributing to difficulties in coordinating efforts and implementing effective strategies.

The experience of Turkey and Japan emphasizes the importance of proactive planning, robust institutions like AFAD, and international collaboration. Tajikistan could benefit from strengthening its economic resilience, developing a clear disaster management framework, and fostering international partnerships to enhance its preparedness and response capabilities. Learning from Turkey's evolution in disaster management, particularly AFAD's model, could offer insights into establishing a more integrated and responsive system. Similarly, adopting elements of Japan's technological advancements and community-focused approaches could significantly bolster Tajikistan's disaster preparedness and mitigation efforts.

The comparative analysis of disaster management in Tajikistan, Japan, and Turkey presents a rich area of strategies and lessons. Japan's experience demonstrates the value of technological sophistication, particularly in early-warning systems, and the benefit of ingraining disaster preparedness into the cultural and educational fabric of society. Turkey's journey, particularly with AFAD's model, showcases the importance of transitioning from a reactive to a proactive disaster management approach. This involves not only the strategic allocation of resources for disaster risk reduction but also a strong commitment to international humanitarian assistance, reflecting a global perspective on disaster management.

For Tajikistan, these insights offer a pathway to reformulate and strengthen its own disaster management practices. By integrating advanced technological systems, Tajikistan can improve its capabilities for early warning and rapid response. Furthermore, cultivating a community-centric approach, similar to Japan's model, can enhance public awareness and readiness for disasters. This involves not only government initiatives but also engagement with local communities, NGOs, and educational institutions to foster a culture of preparedness.

Moreover, the economic resilience of a nation significantly influences its ability to effectively manage disasters. Tajikistan's economic vulnerability, particularly its reliance on remittances, presents a challenge that must be addressed. Strengthening the national economy, diversifying income sources, and developing sustainable economic strategies are decisive steps in enhancing the nation's capacity to respond to and recover from disasters.

Adopting a more integrated approach to disaster management, similar to Turkey's AFAD system, could also benefit Tajikistan. This would involve enhancing coordination among various governmental and non-governmental entities, establishing clear protocols for disaster response, and ensuring effective resource allocation. Furthermore, Tajikistan can benefit from actively participating in international disaster management networks, learning from global best practices, and contributing to the collective knowledge and resources in this field.

Ultimately, the comparative analysis underscores the need for Tajikistan to adopt a multifaceted and adaptable approach to disaster management. This should encompass technological advancements, economic resilience, community

engagement, and international collaboration. By learning from the experiences of Japan and Turkey, Tajikistan can develop a more robust, efficient, and proactive disaster management system, better equipped to handle the challenges posed by natural disasters.

CHAPTER V. NATIONAL ACTION PLAN OF TAJIKISTAN ON DISASTER MANAGEMENT

5.1. The National Legal Framework regulating climate change and natural disasters

Tajikistan's approach to managing the complexities of climate change and natural disasters is encapsulated within an extensive legal framework that involves a wide array of government entities. This intricate network, comprising the Majlisi Oli of the Republic of Tajikistan (Supreme Assembly), the Government of the Republic of Tajikistan, various ministries, departments, and agencies, extends to collaborations with both national and international development partners.⁶¹ Over the span of nearly three decades, from 1991 to 2020, a substantial number of national laws, resolutions, and strategic frameworks have been developed, shaping the landscape of disaster risk management in Tajikistan..⁶² The legislative instruments include resolutions and laws such as Government Resolution No. 547, outlining the structure of the Committee for Emergency Situations and Civil Defense under the Government of the Republic of Tajikistan (January 29, 2017), Government Resolution No. 799, defining the functions of the State Commission for Emergency Situations under the Government of the Republic of Tajikistan (December 30, 2015), and the Law "On the Emergency Situations Elimination Fund" (December 27, 1993). Despite the existence of legal instruments, there remains a challenge in the effectiveness and implementation of these measures. Key legislative instruments in this framework include Government Resolution No. 547, which establishes the structure of the Committee for Emergency Situations and Civil Defense (January 29, 2017), and Government Resolution No. 799, defining the functions of the State Commission for Emergency Situations (December 30, 2015). Additionally, the Law "On the Emergency Situations Elimination Fund" (December 27, 1993) stands as a pivotal element in Tajikistan's disaster management legislation.

⁶¹ Central Asia South Asia Disaster Risk Reduction and Emergency Preparedness Portal. "Overview of the National Legal Framework in the Field of Disaster Risk Management and Climate Change, Laws, Rules, and Principles."

⁶² National Action Plan of the Republic of Tajikistan for Climate Change Mitigation," UNEP Law and Environment Assistance Platform.

Despite this comprehensive legal framework, challenges persist in the effectiveness and practical implementation of these measures. The National Strategy for Disaster Risk Reduction (2019-2030), the National Strategy for Adaptation to Climate Change (up to 2030), and the National Action Programme on Combating Desertification (2021) represent significant efforts in establishing a theoretical basis for disaster management.⁶³ However, gaps in implementation often limit their impact, highlighting a disconnect between policy intentions and actual outcomes on the ground. This discrepancy points to a need for assessing the efficacy of these strategies in real-world scenarios, particularly in how they address the unique challenges faced by different regions within Tajikistan.⁶⁴

The challenges are manifold, ranging from bureaucratic hurdles, limited resources, to varying levels of disaster preparedness across different regions. These factors underscore the necessity for a more dynamic and adaptable approach to disaster management. A critical aspect of this approach involves regularly reviewing and updating the legal and strategic frameworks to reflect changing environmental conditions and emerging challenges. Additionally, there is a need for enhancing inter-agency coordination and fostering a culture of proactive disaster risk management, which involves not only government entities but also local communities and civil society.

Given these challenges, the role of international law and guidelines in shaping effective disaster management strategies becomes increasingly significant. For Tajikistan, aligning its national legislation with international standards is central for ensuring a coordinated and effective response to disasters. This alignment involves not only adopting global protocols but also integrating lessons learned from other countries' experiences in disaster management. Such an approach would enhance Tajikistan's capabilities in disaster response and recovery, ensuring that its strategies are both globally informed and locally applicable.

Furthermore, the integration of international standards offers Tajikistan an opportunity to contribute to global discourse on disaster management. By aligning

⁶³ National Strategy for Adaptation to Climate Change of the Republic of Tajikistan for the period up to 2030," UNEP Law and Environment Assistance Platform.

⁶⁴ World Bank, "Tajikistan: Overview of Climate Change Activities,".

with international norms, Tajikistan can participate more actively in international collaborations, sharing its experiences and learning from others. This participation is needed for building a global community that is better equipped to handle the increasing frequency and severity of natural disasters.

The national legal framework of Tajikistan plays a pivotal role in regulating climate change and addressing natural disasters. Despite its robust structure, the ever-changing landscape of disaster management necessitates a continuous process of evaluation and adaptation. The dynamism inherent in disaster challenges calls for an ongoing commitment to refining and fortifying this legal foundation. Beyond serving as a regulatory imperative, the harmonization of Tajikistan's legal framework with international standards presents a strategic opportunity. This alignment not only elevates the country's resilience to evolving threats but also fosters a platform for enhanced global cooperation in disaster risk management. Embracing international standards not as mere benchmarks but as collaborative touchpoints ensures that Tajikistan remains at the forefront of proactive disaster governance, ready to face the intricacies of an ever-changing world.

5.2. Regulation of natural disasters at the level of international legislation.

In the domain of disaster management, the International Federation of Red Cross and Red Crescent Societies (IFRC) stands as a cornerstone for nations seeking to enhance their disaster response capabilities.⁶⁵ This chapter delves into the imperative for countries, Tajikistan included, to harmonize their national legislations with global standards, highlighting the instrumental role of the IFRC in crafting and refining disaster management strategies. The IFRC embarked on a significant initiative in 2001, launching the International Disaster Response Laws, Rules, and Principles (IDRL) program. The aim was to optimize disaster assistance through the power of legal frameworks. By 2007, this effort culminated in the creation of the IDRL Guidelines, a collaborative achievement involving numerous nations, Red Cross societies, and international organizations. These guidelines represent a

⁶⁵ International Federation of Red Cross and Red Crescent Societies. "Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance." 2007.

landmark advancement in global collaboration and coordination in disaster response efforts.

The IDRL Guidelines articulate key principles that underscore the central responsibility of the government and local entities in the affected country in managing disasters. International support, as per these guidelines, is designed to augment, not replace, national efforts. The guidelines impose obligations on international aid providers to comply with established humanitarian standards, encompassing the principles of humanity, neutrality, and impartiality. They encourage governments to facilitate international relief operations by offering legal support mechanisms, such as streamlined visa processes and tax exemptions. The guidelines also suggest that governments provisionally grant certain legal facilities to international aid organizations under the condition of adherence to established standards, ensuring accountability and compliance.

However, the reach and utility of the IDRL Guidelines extend far beyond theoretical concepts. They serve as practical instruments with tangible implications in the real world. National governments can leverage these guidelines as a foundation for formulating their disaster management laws and strategic plans. Ministries and legislative bodies can use them as a blueprint for developing comprehensive regulations and procedures. Executive authorities can refer to these guidelines for establishing emergency protocols and rules. Furthermore, the IDRL Guidelines provide a framework for international agreements, enabling governments to establish cohesive and effective partnerships with other countries.

For humanitarian organizations, the IDRL Guidelines are a multifaceted asset with significant implications. Beyond serving as a foundational document, these guidelines function as a dynamic tool for collaboration with governments, acting as a compass during negotiations to delineate rights and obligations in disaster relief operations. This not only enhances the efficiency of humanitarian efforts but also fosters a cooperative environment crucial for effective disaster response. Additionally, the IDRL Guidelines act as a proactive checklist, providing a structured approach to anticipate and navigate potential legal challenges, particularly in the unpredictable environments of disaster relief work. By addressing legal considerations beforehand, organizations can streamline operations for a more

agile and responsive approach in times of crisis. The comprehensive framework offered by the IDRL Guidelines is instrumental in ensuring both efficiency and compliance with international standards, empowering humanitarian organizations with legal insights and best practices to navigate complex scenarios with confidence. In essence, these guidelines contribute to a more robust and resilient humanitarian ecosystem, equipping organizations to fulfill their critical mission of providing timely and effective relief in the aftermath of disasters.

Moreover, for regional intergovernmental organizations, the IDRL Guidelines are invaluable. These entities can utilize the guidelines to develop agreements and protocols that enhance collaborative disaster response efforts among member countries. Let's imagine a situation where neighboring countries are dealing with the consequences of a major disaster. The IDRL Guidelines act like a guidebook for regional organizations, helping them plan in advance and create protocols that make it easy to share resources, information, and support. This proactive approach allows for a quicker response to the urgent needs of affected communities, avoiding delays that could make the impact of the disaster worse. Additionally, these guidelines encourage a culture of mutual help and unity among member countries, making the best use of resources and building a stronger and more connected response system. With the increasing challenges related to climate, the IDRL Guidelines become a powerful tool, giving nations the ability to work together in responding to disasters that do not care about borders. They stress the vital role of regional partnerships in lessening the impact of shared humanitarian crises.

These guidelines are particularly relevant for cross-border disasters, where seamless coordination and cooperation are critical. The guidelines offer a template for establishing unified procedures, promoting effective and timely disaster response across national boundaries. In the context of Tajikistan, embracing the IDRL Guidelines could significantly bolster collaborative disaster response efforts with neighboring countries. Picture a situation where a shared disaster affects Tajikistan and its neighbors. By following these guidelines, Tajikistan can proactively establish agreements and protocols with neighboring nations. These protocols would streamline the exchange of vital resources, information, and support during a crisis,

ensuring a more efficient and coordinated response. This collaborative approach not only helps Tajikistan address immediate needs promptly but also fosters a sense of mutual support and unity among neighboring countries. It transforms disaster response into a collective effort, optimizing the use of resources and strengthening the interconnectedness of the entire region in the face of disasters. The IDRL Guidelines, therefore, serve as a practical tool for Tajikistan to fortify its disaster resilience and enhance cooperation with neighboring nations when the need arises.

Visualizing it from a lawyer perspective I assume that the process of aligning Tajikistan's national laws with the global standards outlined in the IDRL Guidelines represents a multifaceted strategy with profound implications. It transcends the realm of regulatory compliance, evolving into a strategic imperative driven by the imperative need for comprehensive disaster preparedness. By wholeheartedly embracing the principles embedded in these guidelines, Tajikistan not only elevates the regulatory framework governing its disaster management but also places itself within the global nexus of best practices. This strategic alignment holds the key to a more robust and adaptable disaster management apparatus for Tajikistan. The principles enshrined in the IDRL Guidelines provide a roadmap for enhancing the nation's disaster resilience by fostering coherence in legal frameworks. This coherence, resonating with international benchmarks, serves as a bedrock for efficient cooperation with the global community, ensuring a seamless exchange of expertise, resources, and support during times of crises. The practical implications are tangible and far-reaching. Tajikistan's commitment to adopting and integrating the IDRL Guidelines into its national disaster management laws becomes a cornerstone for effective collaboration in the face of regional and transboundary disasters. The newfound synergy positions Tajikistan to respond promptly and effectively to the immediate needs of its citizens in times of crises while also contributing to broader international efforts. As Tajikistan navigates the intricacies of disaster management, this alignment not only streamlines its domestic response mechanisms but also establishes the nation as a responsible and proactive participant on the global stage. The resonance with global best practices not only ensures the safety and well-being of its citizens but also reinforces Tajikistan's standing as a reliable partner in the international community's collective efforts to

address the challenges posed by disasters. This strategic alignment, rooted in the principles of the IDRL Guidelines, emerges not merely as a regulatory maneuver but as a forward-looking initiative positioning Tajikistan at the forefront of international disaster preparedness and response.

In summary, the IDRL Guidelines provide a robust, versatile tool for governments, humanitarian organizations, and regional bodies alike. They are more than just a set of principles; they are a roadmap for effective, compliant, and coordinated disaster management efforts. For Tajikistan, adopting these guidelines is a step towards achieving a more resilient and prepared nation, capable of both addressing its unique disaster management challenges and collaborating effectively on the international stage.

CONCLUSIONS AND RECOMMENDATIONS

In Tajikistan, a range of laws and regulations form the backbone of disaster management strategies, including pivotal documents like the National Strategy for Disaster Risk Reduction (2019-2030), the National Strategy for Climate Change Adaptation (up to 2030), and the 2021 National Action Programme on Combating Desertification. However, these regulatory frameworks often lack detailed provisions for addressing the multifaceted impacts of disasters. This trend is similarly observed in sector-specific laws and policies, where the integration of disaster risks and climate change considerations tends to be insufficient. The current regulations, while comprehensive in breadth, fall short in offering specific categorizations or definitions for the array of disasters that Tajikistan is prone to encounter.

Given these observations, it becomes evident that there is a pressing need for a more detailed and targeted approach to disaster management legislation. This would entail not only a thorough categorization of potential disaster types specific to Tajikistan but also the integration of disaster risk reduction and climate change adaptation into all facets of national planning and policy-making. Such enhancements would ensure that disaster management is not treated as an isolated concern but is seamlessly interwoven into the country's broader development strategies.

The proposed recommendations to the current regulations can be summarized in the following manner:

a) ENHANCING RESOURCE ALLOCATION MECHANISMS.

To boost the effectiveness of resource allocation for risk mitigation, Tajikistan could take a comprehensive approach. Establishing a specialized committee, consisting of experts in disaster management and climate science, would be a pivotal step. This committee's primary responsibility would involve assessing the vulnerability of various regions to natural hazards, providing an in-depth understanding of the unique risks each area faces. Subsequently, the committee would formulate detailed plans for resource allocation, tailoring strategies to the

specific challenges identified. Crucially, the proposed mechanism aims for transparency and systematic monitoring. Integrating a monitoring system would not only ensure the judicious utilization of funds but also enable continuous assessment of the implemented measures' effectiveness. By strategically deploying resources where they are most needed, this proactive approach would significantly enhance Tajikistan's overall resilience to the complex array of natural disasters it may encounter. The emphasis is on creating a dynamic and adaptive system that responds effectively to the evolving landscape of environmental risks.

b) ADAPTING TO CLIMATE CHANGE.

Strengthening Tajikistan's capacity to address the challenges posed by climate change necessitates a multifaceted approach. Central to this effort is the integration of climate resilience considerations into the fabric of national development plans. This entails moving beyond generic strategies and developing tailored approaches for vital sectors such as agriculture, water resources, and infrastructure. The specificity of climate adaptation strategies ensures a more targeted and effective response to the unique challenges faced by each sector. Collaborative engagements with international climate organizations emerge as a pivotal aspect of this strategy, bringing in not only valuable expertise but also financial support crucial for implementing robust adaptation measures. By forging partnerships with global entities, Tajikistan can stay abreast of the latest advancements in climate resilience, allowing for the continuous refinement of its strategies in response to an ever-evolving climate landscape. Parallely, fostering public awareness plays a crucial role in climate change adaptation. Empowering local communities with knowledge about effective adaptation measures enables them to actively participate in resilience-building activities. Public awareness campaigns serve as a catalyst for community engagement, encouraging individuals to take proactive steps in adapting to the changing climate. Ultimately, a key strategy for success lies in aligning these adaptation efforts with Tajikistan's broader national development agenda. By seamlessly integrating climate adaptation into the overall development framework, the country ensures a more comprehensive and sustainable response to the impacts of climate change. This synergy not only enhances the effectiveness of adaptation

measures but also promotes a holistic approach towards building a resilient and climate-ready nation.

c) PREVENTING AND MINIMIZING ADVERSE EFFECTS.

Effectively addressing and mitigating the adverse effects of climate change requires Tajikistan to adopt a proactive and comprehensive approach. Key to this strategy is prioritizing strategic investments in early warning systems, infrastructure upgrades, and community-based disaster preparedness programs, ensuring that communities are well-equipped to face impending climate challenges. Simultaneously, there is a need to bolster resilience at the grassroots level by enhancing critical infrastructure and implementing disaster preparedness initiatives tailored to local needs. Recognizing the intrinsic link between climate risks and urban development, Tajikistan should also focus on strengthening building codes and land-use planning regulations to create a climate-resilient built environment. Incorporating climate considerations into planning regulations not only safeguards against vulnerabilities in existing structures but also ensures that future projects align with sustainable practices. In addition, incentivizing the development and adoption of eco-friendly technologies is essential for minimizing environmental impact and fostering a sustainable future. Encouraging industries and communities to embrace sustainable practices not only reduces emissions but also contributes to overall ecological health. This holistic strategy, complemented by continuous public education initiatives, serves to foster awareness and a sense of responsibility among the populace. By integrating infrastructure enhancements, regulatory measures, technological innovation, and public education, Tajikistan can significantly reduce the adverse impacts of climate change on both communities and ecosystems, aligning with a vision of sustainability and resilience.

d) OPTIMIZING SYSTEMATIC OBSERVATION AND RESEARCH.

A strategic approach involves fostering robust partnerships with esteemed research institutions and international organizations, laying the foundation for collaborative initiatives. By engaging in joint research projects, Tajikistan not only builds up its scientific understanding of regional climate patterns but also sets its

position in the global scientific community. Prioritizing the development of local research capabilities and incentivizing innovation in climate science drives the nation towards a more self-reliant and comprehensive knowledge base. Beyond research, the seamless integration of climate findings into policy-making processes becomes imperative. This approach ensures that decision-makers are armed with a wealth of information, empowering them to formulate evidence-based strategies for both climate change mitigation, adaptation and disaster management. Examining Tajikistan's disaster management unveils a complex situation filled with various challenges. There's a detailed network of factors, covering financial support, hospital infrastructure, rescue team efficiency, citizen capabilities, collaboration between agencies, and community resilience. This creates a detailed picture of both strengths and weaknesses. Each factor sheds light on a different aspect of how prepared the country is for disasters, prompting a thorough assessment. Recognizing the need for a comprehensive plan, this research emphasizes specific improvements in how the country responds to, recovers from, and prepares for disasters. Tajikistan can strengthen its disaster management by adopting flexible approaches inspired by successful methods used internationally. The research serves as a call to action for everyone involved to work together, addressing identified issues and providing valuable insights for ongoing discussions on improving disaster resilience.

BIBLIOGRAPHY

"Aga Khan Agency for Habitat Responds to More Than 50 Avalanches in Khorog and the Badakhshan Regions of Tajikistan and Afghanistan, Which Have Claimed Lives and Damage to Properties." Simerg, February 17, 2023. Accessed January 8, 2024.

<https://simerg.com/2023/02/17/aga-khan-agency-for-habitat-responds-to-more-than-50-avalanches-in-khorog-and-the-badakhshan-regions-of-tajikistan-and-afghanistan-which-have-claimed-lives-and-damage-to-properties/>.

Blondin, Suzy. "Staying despite disaster risks: Place attachment, voluntary immobility and adaptation in Tajikistan's Pamir Mountains." *Geoforum* 126 (November 2021): 290-301. <https://www.sciencedirect.com/science/article/pii/S0016718521002438>.

CABAR.asia. "Disasters in Central Asia: From Preparedness to Prevention." Longreads, November 29, 2019. https://longreads.cabar.asia/disasters_eng.

CAREC Program. "CAREC Country Risk Profiles: Tajikistan." CAREC, 2018. https://www.carecprogram.org/uploads/CAREC-Risk-Profiles_Tajikistan-EN.pdf.

Central Asia South Asia Disaster Risk Reduction and Emergency Preparedness Portal. "Overview of the National Legal Framework in the Field of Disaster Risk Management and Climate Change, Laws, Rules, and Principles." <https://cesdr.org/uploads/eptisa/2/%D0%9E%D0%B1%D0%B7%D0%BE%D1%80%20%D0%BD%D0%B0%D1%86%D0%B8%D0%BE%D0%BD%D0%B0%D0%B%D1%8C%D0%BD%D0%BE%D0%B9%20%D0%BF%D1%80%D0%B0%D0%B2%D0%BE%D0%B2%D0%BE%D0%B9%20%D0%B1%D0%B0%D0%B7%D1%8B%20%D0%B2%20%D1%81%D1%84%D0%B5%D1%80%D0%B5%20%D1%83%D0%BF%D1%80%D0%B0%D0%B2%D0%BB%D0%B5%D0%BD%D0%B8%D1%8F%20%D1%80%D0%B8%D1%81%D0%BA%D0%B0%D0%BC%D0%B8%20%D1%81%D1%82%D0%B8%D1%85%D0%B8%D0%B9%D0%BD%D1%8B%D1%85%20%D0%B1%D0%B5%D0%B4%D1%81%D1%82%D0%B2%D0%B8%D0%B9%20%D0%B8%20%D0%B8%D0%B7%D0%BC%D0%B5%D0%BD%D0%B5%D0%BD%D0%B8%D1%8F%20%D0%BA%D0%BB%D0%B8%D0%BC%D0%B0%D1%82%D0%B0%2C%20%D0%B7%D0%B0%D0%BA%D0%BE%D0%BD%D1%8B%2C%20%D0%BF%D1%80%D0%B0%D0%B2%D0%B8%D0%B%D0%B0%2C%20%D0%B8%20%D0%BF%D1%80%D0%B8%D0%BD%D1%86%D0%B8%D0%BF%D1%8B.pdf>

Coppola, Damon P. *Introduction to International Disaster Management*. Elsevier, 2006. <https://books.google.kg/books?id=s6oxEraqWWwC>.

Disaster and Emergency Management Authority (AFAD). "About Us." <https://en.afad.gov.tr/about-us>.

Heltberg, Rasmus, Anna Reva, and Salman Zaidi. "Tajikistan-Economic and Distributional Impact of Climate Change." 2012.

International Federation of Red Cross and Red Crescent Societies. "Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance." 2007.

https://disasterlaw.ifrc.org/sites/default/files/media/disaster_law/2020-09/1205600-I-DRL-Guidelines-EN-LR.pdf

ReliefWeb. "Tajikistan: Lake Sarez Disaster Preparedness Proceeding Well."

ReliefWeb, March 27, 2003. Accessed January 8, 2024.

<https://reliefweb.int/report/tajikistan/tajikistan-lake-sarez-disaster-preparedness-proceeding-well>.

Kanwal, Maria. "Natural Disaster (Earthquake) In Turkey and Syria 2023: Humanitarian Response." SSRN, 2023.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4382051.

National Action Plan of the Republic Tajikistan for Climate Change Mitigation. Dushanbe, Tajik Met Service, 2003. - 234 p.

<https://unfccc.int/resource/docs/nap/tainap01e.pdf>.

Nailya Mustaeva, Heinrich Wyes, Benjamin Mohr, and Abdulkhamid Kayumov, "Tajikistan: Country situation assessment," Working paper, August 2015, Pathways to Resilience in Semi-arid Economies (PRISE) project, Regional Environment Center for Central Asia (CAREC).

https://carececo.org/upload/02/eng_CSA_Tajikistan.pdf.

Pearson, Lucy, and Mark Pelling. "The UN Sendai Framework for Disaster Risk Reduction 2015–2030: Negotiation Process and Prospects for Science and Practice." *Journal of Extreme Events* 2, no. 01 (2015): 1571001.

Pathranarakul, P., and Lin Moe, T. "An Integrated Approach to Natural Disaster Management: Public Project Management and Its Critical Success Factors." *Disaster Prevention and Management* 15, no. 3 (2006): 396-413.

https://www.researchgate.net/profile/Dean-Kyne/publication/235295345_An_Integrated_Approach_to_Natural_Disaster_Management_Public_Project_Management_and_Its_Critical_Success_Factors/links/584a64bc08ae686033a77548/An-Integrated-Approach-to-Natural-Disaster-Management-Public-Project-Management-and-Its-Critical-Success-Factors.pdf

Sultonzoda Sulaimon Sulaimon. 2023. 'Tajikistan.' U.S. Department of State. (accessed December 27,

2023)<https://www.state.gov/reports/2023-investment-climate-statements/tajikistan/>.

Stritzel, Holger. "Towards a Theory of Securitization: Copenhagen and Beyond." *European Journal of International Relations* 13, no. 3 (2007): 357-383.

<https://journals.sagepub.com/doi/abs/10.1177/1354066107080136>.

Specht, Andreas. "Natural Disaster Management." In *Tourism in Turbulent Times: Towards Safe Experiences for Visitors*, 123-142. 2006.

https://books.google.co.uk/books?hl=ru&lr=&id=iBOL6YWgrpIC&oi=fnd&pg=PA123&dq=natural+disaster+management&ots=b5BknMT61b&sig=fdpWRGTs4dUm-ToyYw635U0l_bg&redir_esc=y#v=onepage&q=natural%20disaster%20management&f=false

Tajikistan Pleads Poverty, Spends Money on Unneeded Luxuries." Eurasianet. April 26, 2023.

<https://www.msn.com/en-us/news/world/tajikistan-pleads-poverty-spends-money-on-unneeded-luxuries/ar-AA1asEKA>.

“Tajikistan Pleads Poverty, Spends Money on Unneeded Luxuries,” eurasianet, April 26, 2023,

<https://www.msn.com/en-us/news/world/tajikistan-pleads-poverty-spends-money-on-unneeded-luxuries/ar-AA1asEKA>.

Tajikistan: Preparedness and Resilience to Disasters Project. World Bank, March 11, 2022.

Tajikistan Country Report 2022," BTI Transformation Index, 2022.

<https://bti-project.org/en/reports/country-report/TJK#pos9>.

Thurman, Michael. "Natural Disaster Risks in Central Asia: A Synthesis." UNDP/BCPR, Regional Disaster Risk Reduction Advisor, Europe and CIS, 2011.

https://www.preventionweb.net/files/18945_cadisasterrisksmtd51104.pdf

The Global Economy.com." "Rural Population (% of Total Population) - Tajikistan."

https://www.theglobaleconomy.com/Tajikistan/rural_population_percent/.

United Nations Office for Disaster Risk Reduction. "The Central Disaster Management Council Basic Disaster Management Plan, etc."

<https://www.undrr.org/media/89262/download>.

United Nations Economic and Social Commission for Asia and the Pacific. 2021. "Risk and Resilience Portal - Methodology." Accessed [insert the date you accessed the webpage]. <https://rrp.unescap.org/sites/default/files/media/Methodology.pdf>.

United Nations Disaster Assessment and Coordination. "UNDAC Tajikistan Earthquake 2015 Report." United Nations, December 2015.

https://interagencystandingcommittee.org/system/files/legacy_files/Tajikistan%20UNDAC%20Report.pdf.

UNDP Tajikistan. "National Platform for Disaster Risk Reduction in Tajikistan Meets to Introduce Priorities for Upcoming Decade." UNDP Tajikistan, September 25, 2019.

<https://www.undp.org/tajikistan/press-releases/national-platform-disaster-risk-reduction-tajikistan-meets-introduce-priorities-upcoming-decade>.

United Nations Development Programme. "Human Development Report 2007/8: Fighting Climate Change: Human Solidarity in a Divided World." 2008.
<https://hdr.undp.org/content/human-development-report-20078>.

World Bank Climate Change Knowledge Portal (2021) Vulnerability | Climate Change Knowledge Portal. Available at:
<https://climateknowledgeportal.worldbank.org/country/tajikistan/vulnerability>.

World Bank. "Poverty in Tajikistan 2021."
<https://www.worldbank.org/en/news/infographic/2021/10/15/poverty-in-tajikistan-2021>.

World Bank. "Building a Stronger Tajikistan in the Wake of the COVID-19 Crisis."
<https://www.worldbank.org/en/results/2023/11/24/building-a-stronger-tajikistan-in-the-wake-of-the-covid-19-crisis#:~:text=Building%20a%20Stronger%20Tajikistan%20in%20the%20Wake%20of%20the%20COVID%2D19%20Crisis,-Share%20more&text=For%20the%20past%2030%20years,the%20country's%20full%20development%20potential>.

World Bank, "Tajikistan: Overview of Climate Change Activities".
<https://openknowledge.worldbank.org/handle/10986/17552>.

White, Gilbert F. "Natural Hazards, Local, National, Global." Oxford University Press, 1974. Accessed December 29, 2023.
<https://books.google.co.uk/books?id=YFU8DwAAQBAJ>.

APPENDIX A**INTERVIEW QUESTIONS FOR THE EXPERT**

1. Can you provide an overview of the current state of disaster management in Tajikistan, considering its unique geographical features and susceptibility to natural disasters? How would you describe the key challenges Tajikistan faces in managing natural disasters, especially in the context of its mountainous terrain and seismic activity?
2. From your perspective, how well-prepared is Tajikistan in terms of disaster management, and what aspects need further attention?
3. Can you discuss the existing economic support mechanisms in place for disaster management in Tajikistan?
4. In your view, what financial challenges or limitations does the Ministry of Emergency Situations encounter in addressing natural disasters?
5. What measures are in place to ensure the availability and readiness of rescue teams in the face of natural disasters?
6. In your experience, what are the key factors influencing the effectiveness of rescue operations?
7. In your opinion, what future strategies or solutions could be implemented to address the complex array of problems in disaster preparedness, response, and recovery efforts in Tajikistan?
8. How can the Ministry of Emergency Situations adapt its disaster management strategy to be more robust and adaptive in the face of environmental vulnerabilities?

APPENDIX B**INTERVIEW QUESTIONS FOR THE VICTIMS**

- 1.** What specific challenges did you face in dealing with the aftermath of the snowfall, particularly in relation to your housing situation?
- 2.** What kind of assistance did you receive from the government or local authorities in the aftermath of the snowfall?
- 3.** In your opinion, how effective were the government's response and recovery efforts?
- 4.** Were there any evacuation measures or shelters provided for those affected by the snowfall?
- 5.** How accessible were evacuation facilities, and did they adequately address the needs of the displaced residents?
- 6.** In your opinion, what improvements or changes should be made to enhance the community's resilience to similar events in the future?