

Managing Natural Disasters in Afghanistan

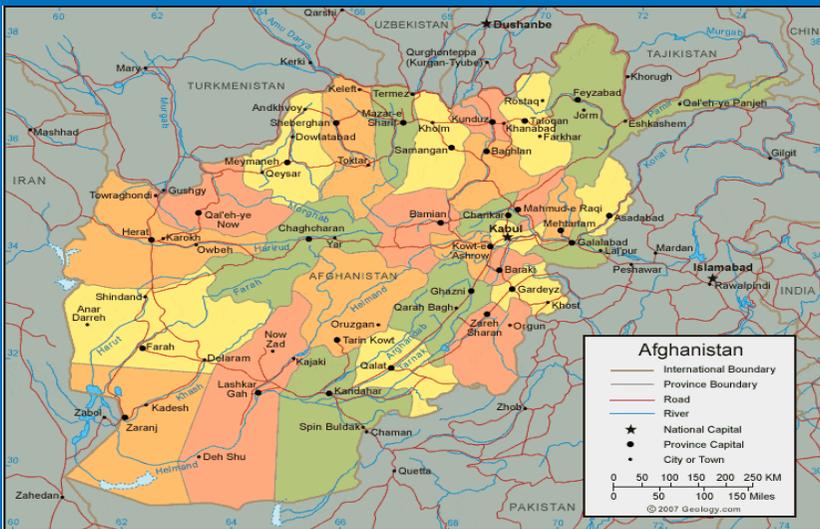
Risks, Vulnerabilities and General Guidelines



ORGANISATION OF ISLAMIC COOPERATION

STATISTICAL, ECONOMIC AND SOCIAL RESEARCH
AND TRAINING CENTRE FOR ISLAMIC COUNTRIES





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Risks, Vulnerabilities and General Guidelines

ABSTRACT: This report provides an overview of the past natural disasters in Afghanistan and evaluates the risks and vulnerabilities in the country. Based on these assessments, the report offers some general guidelines in preventing and mitigating the potential disasters in Afghanistan. It also includes analyses of the effective approaches in response to and recovery from these disasters and provides relevant recommendations.



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FOREWORD

Countries across the globe, including many OIC member countries, are exposed to an increasing number of natural hazards, driven mainly by the climate change and unsustainable development practices. In many countries, such natural disasters bring about serious impact on people and environment due to high vulnerability and low levels of coping mechanisms. In fact, much of these impacts could be avoided if adequate coping mechanisms were developed to reduce vulnerabilities of the communities, which are mostly associated with rapid and inappropriate urban development, socioeconomic inequalities, failures in governance, and environmental sustainability.

Torn by wars and civil conflicts over the last three decades, Afghanistan, as one of the OIC least-developed member countries, is also exposed to frequent natural hazards, which further disrupt economic, political and social systems of society and erode development gains of the country. This pushes the country into a downward spiral, where disaster losses outweigh limited development gains and disaster risks continue to accumulate. Most of the development indicators in Afghanistan show a rather worrying picture, reflecting high vulnerability of the country.

Today, Afghanistan is still witnessing a vicious circle of deepening vulnerabilities and increasing poverty. This indicates that it is challenged by increased fragility and lack of capacities to prevent natural hazards turning into disasters. Reducing the risk of disasters requires viewing disasters as major barriers to sustainable development. Therefore, investing in and enhancing the capacities for preserving the environment and ecosystems, eradicating poverty and inequality, appropriate rural and urban development, and improving the quality of governance are all crucial elements in managing the risks of natural disasters. In this connection, while acknowledging the limited resources available in the country, it is highly critical for Afghanistan and international community to invest in and strengthen national capacities for disaster prevention and preparedness for a more resilient country.

This report has been prepared upon a request from the Islamic Commission for Economic, Cultural and Social Affairs (ICECS) of the Organization of Islamic Cooperation (OIC). I hope this report will add value and useful technical contribution to the national efforts in reducing vulnerabilities and building resilience in Afghanistan.

Amb. Musa Kulaklıkaya
Director General
SESRIC

1 INTRODUCTION

Afghanistan is a landlocked country, which is recurrently hit by natural disasters, mainly earthquake, flood, drought and landslides, causing major losses to lives, livelihoods and property. Since 1970, the country experienced around 170 disasters, with a total number of persons killed exceeding 21,000 and the affected persons exceeding 280,000 excluding those who are affected from droughts, as reported by EM-DAT International Disaster Database. These figures are highly unreliable in presenting the true picture in Afghanistan, where the actual numbers are believed to be far more than the estimated numbers. The impacts are higher not because of high exposure to devastating disasters, but high vulnerability of the country to those disasters, which was constantly exacerbated due to more than 30 years of civil war and violent conflict.

Extreme natural events, the occurrence of which has increased in recent years, especially in the country's Northern provinces, present the authorities and the population with additional challenges. Despite their efforts, the institutions responsible for disaster preparedness at province, district and local levels are overburdened by the situation, and are therefore unable to respond quickly and professionally in the event of a natural disaster. Responsible authorities lack tools and capacities to effectively mitigate and respond to the disasters in the country.

Given the increasing severity of impacts of the natural disasters in Afghanistan, this report evaluates the risks and vulnerabilities of Afghanistan with respect to natural hazards with the aim of providing advice to decision makers on how to improve their resilience to these disasters. In this context, the primary objectives of the report are to assess the risks and vulnerabilities to various types of natural disasters; encourage the disaster-related actions to focus more on mitigation and preparedness instead of response with a view to minimizing the impacts of disasters; and offer policy recommendations for Afghanistan

This report provides an overview of the past natural disasters in Afghanistan and evaluates the risks and vulnerabilities in the country. Based on these assessments, the report offers some general guidelines in preventing and mitigating the potential disasters in Afghanistan. It also includes analyses of the effective approaches in response to and recovery from these disasters and provides relevant recommendations. The guidelines are to a large extent adapted to the case of Afghanistan from a more comprehensive report on managing disasters and conflicts in OIC countries (see SESRIC, 2014).

2 PREVALENCE AND IMPACTS OF NATURAL DISASTERS IN AFGHANISTAN

As a land-locked country, Afghanistan is exposed to different types of natural disasters. In order to provide a basis for better understanding of the importance of taking measures towards strengthening resilience, this section provides an overview of the trends in occurrence and impacts of natural disasters in Afghanistan for the period of 1970-2016. In the context of Afghanistan, it should be noted that many disasters that occurred in remote areas have either not been recorded or, if so, the data available are not that reliable. However, it is assumed that data for recent years are more reliable than those for earlier years during the period under consideration.

2.1 Frequency of Disasters

Globally, the total number of natural disasters around the world significantly increased from a total of 903 occurrences in the 1970s to 4,476 during 2000-2009; meanwhile a total number of 2,553 occurrences are recorded over the last seven years (Figure 1). The increasing trend in the number of natural disasters was mostly driven by the increase in incidences of flood, storm, and epidemic; possibly in direct relation to the impacts of global warming. In OIC countries flood was again by far the most threatening type of disaster, followed by epidemic, earthquake, storm, landslide and drought (SESRIC, 2014).

Figure 1: Trends in Natural Disaster (1970-2016)

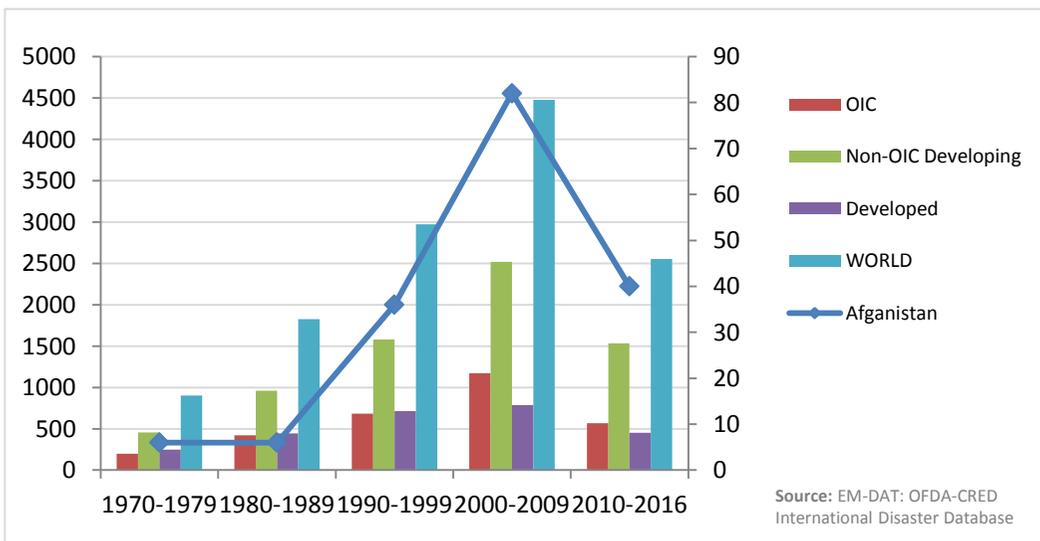
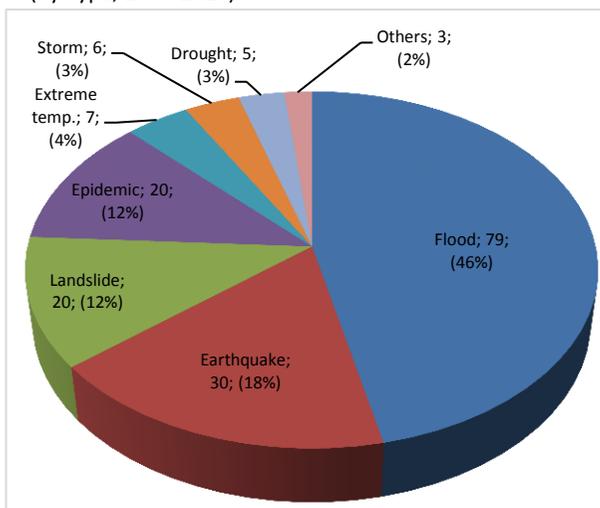


Figure 2: Total Number of Natural Disasters in Afghanistan (by Type, 1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

Similarly, the total number of disasters recorded in Afghanistan shows an increasing trend over the period under consideration. On aggregate, 1.3% of total disasters in the world and 5.3% of all disasters in the OIC countries were recorded in Afghanistan during 1970-2016. While Afghanistan had a share of 0.7% in total number of natural disaster incidents in the world all throughout the 1970s, their share increased to 1.6% during the last six years. While some of

the increase can be attributed to improved availability of data on natural disasters, it is also evident that the country experiences increasingly more natural disasters.

The major drivers of such a fast increase in the number of natural disaster incidents in Afghanistan were flood, earthquake, landslide and epidemic, respectively in order of frequency (Figure 2). In aggregate terms, 79 flood incidents, 30 earthquakes, 20 landslides and 20 epidemics are recorded as the most frequently observed natural disasters during the period under consideration. Out of 170 disasters recorded, flood and earthquake correspond to 46% and 18% of all disasters in Afghanistan.

2.2 Fatal Impacts

A number of natural disasters have caused severe fatal impacts in Afghanistan. Since 1970, more than 21,000 people were killed by different types of natural disasters in Afghanistan, corresponding to 0.6 % in the world (Figure 3). The share of Afghanistan in the world fluctuated over the decades, hitting a record high of 2% in 1990s but decreasing to less than 1% after 2000.

With respect to the fatal impacts of different types of disasters in Afghanistan, earthquake was the deadliest type of natural disaster during 1970-2016. It killed more than 9,400 people; followed by flood with more than 4,500 and epidemics with more than 3,800 people. Fatal impacts of landslide, extreme temperature, storm, drought and mass movement remained rather limited during 1970-2016 in Afghanistan (Figure 4).

Figure 3: Fatal Impacts of Natural Disaster (1970-2016)

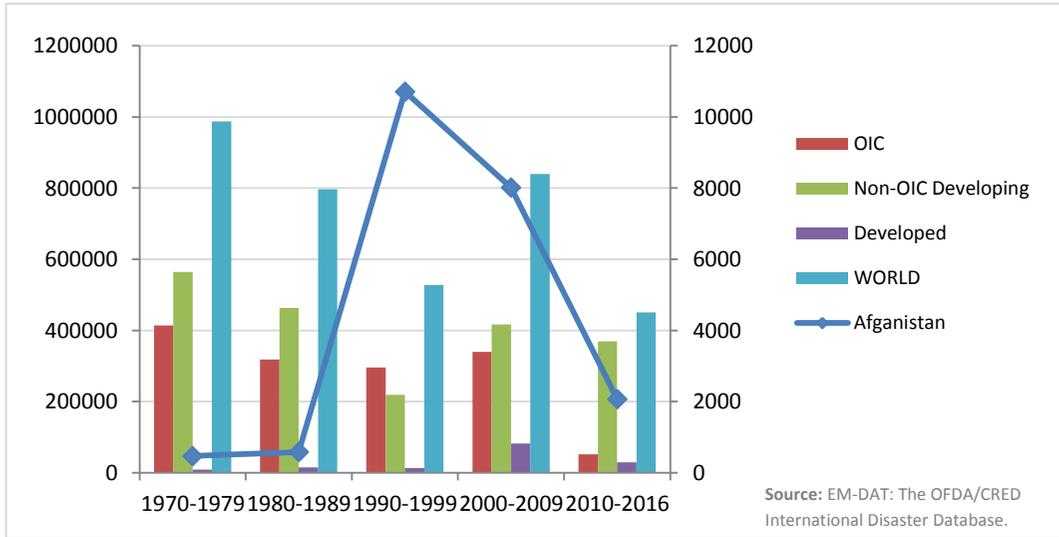
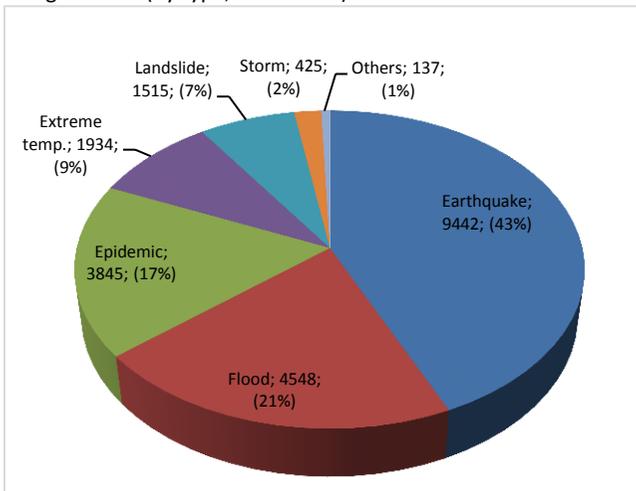


Figure 4: Total Number of Fatally Affected People in Afghanistan (by type, 1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

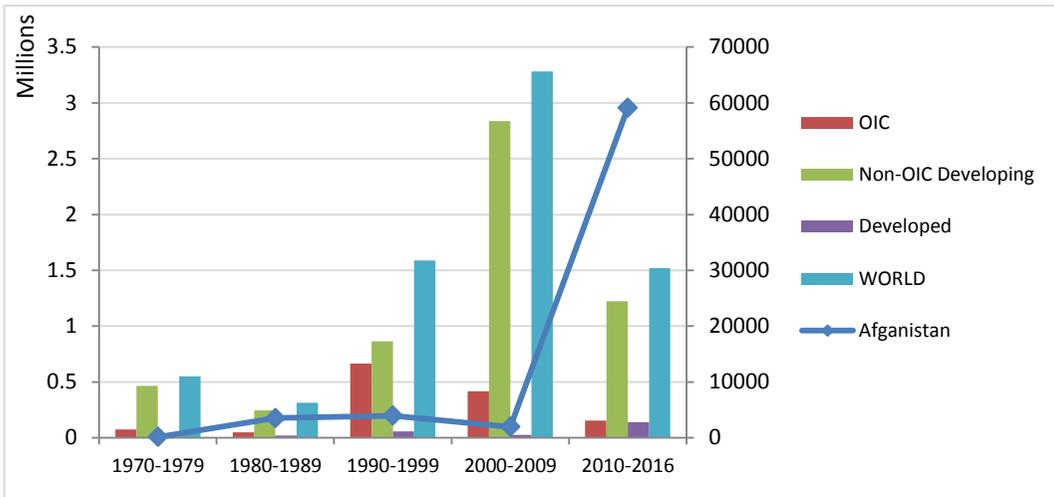
2.3 Non-fatal Impacts

The non-fatal impacts of natural disasters in Afghanistan, in comparison to the other country groups, are reported in Figure 5 and Figure 6. These figures refer to the number of people who have been injured and/or left homeless by a disaster.

According to Figure 5, which shows the number of injured people due to

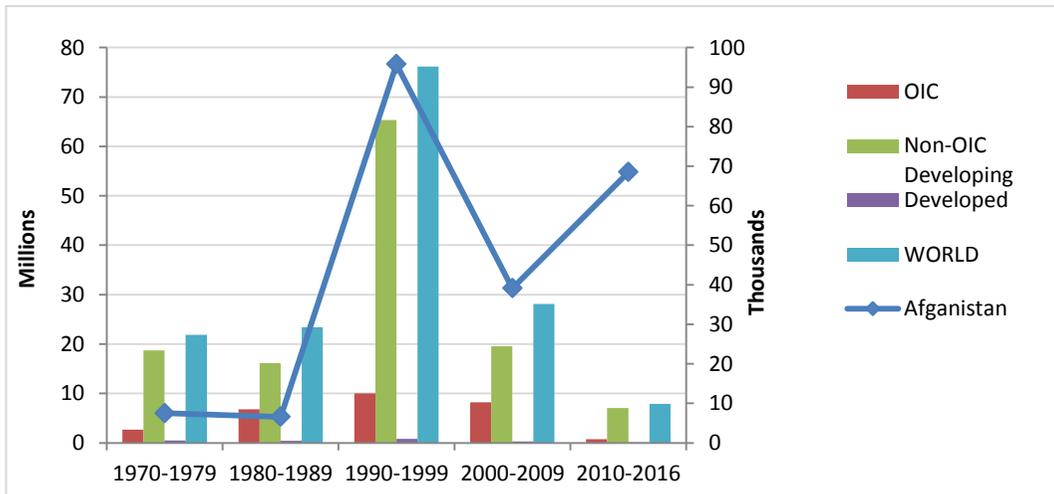
natural disasters, there is an upward trend in Afghanistan during the last decade, by increasing from less than 2,000 people in the 2000s to nearly 60,000 people during 2010-2016. This dramatic increase was mostly driven by the devastating earthquake that took place in 2015. Nonetheless, this increase proves that Afghanistan remains highly vulnerable to natural disasters and there is a need to develop strategies to reduce such vulnerabilities.

Figure 5: Total Number of Injured People in Afghanistan due to Natural Disasters (1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

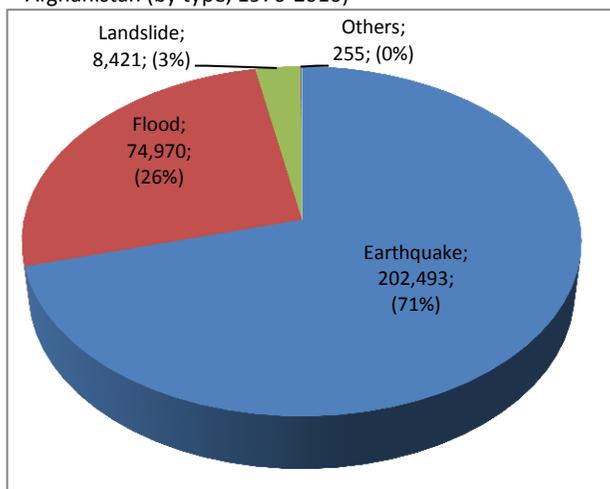
Figure 6: Total Number of Homeless People in Afghanistan due to Natural Disasters (1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

With respect to the number of homeless people because of natural disaster in Afghanistan, it is observed that more than 217,000 people were become homeless since 1970 due to natural disasters. This number fluctuated over the decades, hitting a record high of over 95,700 in 1990s but decreasing to the levels around 39,000 during the years between 2000 and 2009. Yet, during the last seven years an increasing trend is observed, as the number of homeless people because of natural disaster reached over 68,400 in Afghanistan (Figure 6).

Figure 7: Total Number of Non-Fatally Affected People in Afghanistan (by type, 1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

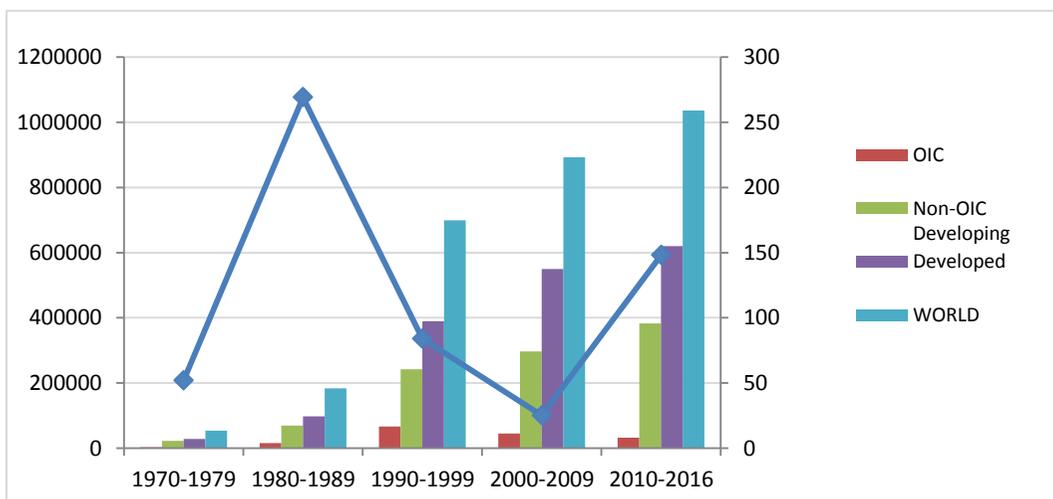
As clearly shown in Figure 7, Earthquake accounted for most of the population who are non-fatally affected by natural disasters in Afghanistan (71%), which reached over 202,000 people during 1970-2016. It is followed by floods with 75,000 (26%) and landslide with 8,400 (3%) people being affected. The impacts of other types of disasters are remained mostly negligible as far as total number of people non-fatally affected is

concerned, which is likely to be explained by unavailability of data.

2.4 Economic Impacts

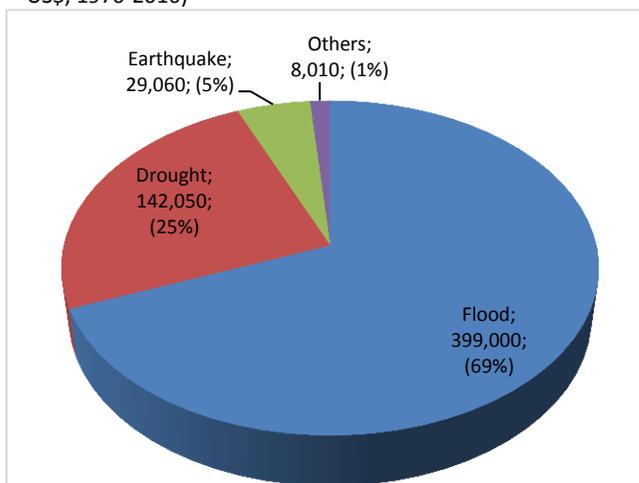
Economic costs of natural disasters in Afghanistan and other country groups during 1970-2016 are reported in Figure 8. It shows that the cost of damages substantially increased in OIC countries in the 1980s, recorded as US\$ 269,000. Although, there was a downward trend in 1990s and 2000s, during the last seven years economic cost

Figure 8: Cost of Damages (Current Price, 1000 US\$) (1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

Figure 9: Cost of Damages of Natural disasters (by type, 1000 US\$, 1970-2016)



Source: EM-DAT: The OFDA/CRED International Disaster Database.

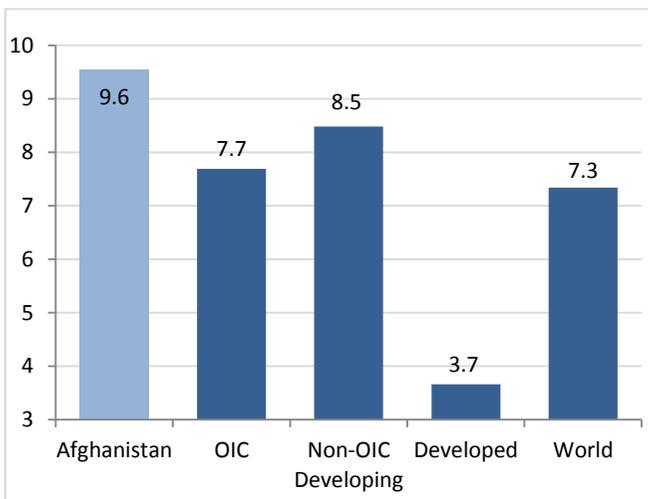
of natural disasters increased again in Afghanistan and estimated to reach US\$ 148,000 during 2010-2016 (Figure 8).

As far as cost of damages by natural disasters are concerned in monetary terms, flood, with almost US\$ 400,000 damages, accounts for 69% of total economic damages of natural disasters in Afghanistan during 1970-2016. It is followed by drought with 25%, amounting to US\$ 142,050 and earthquake with 5%, amounting US\$29,060 during the period between 1970 and 2016 (Figure 9). Again, total cost of natural disasters in Afghanistan is likely to be quite underestimated due to the lack of accurate measures of disaster losses.

3 RISKS AND VULNERABILITIES

Assessing the risks induced by being prone to hazards and the risks induced by vulnerabilities are integral parts of disaster risk assessment. The “vulnerability” is defined as the physical, social, economic, and environmental capacities and conditions of each country for devising effective risk management policies and strategies, and implementing measures for reducing the impact of hazards on vulnerable local communities (UNISDR, 2011), which determine the scale of damage from the impact of a given hazard (UNDP, 2004). Therefore, in assessing the risk of natural disasters for any geographic division (e.g., a country or a group of countries), especially with the purpose of reducing risks, it is necessary to take account of the risks induced by vulnerabilities as well as those induced by being prone to natural hazards. This is particularly true if one considers the fact that disaster or its risk arises when hazards (such as flood, storms, droughts, etc.) interact with physical, social, economic and environmental vulnerabilities and considerably impact systems societies rely on.

Figure 10: World Risk Index, 2016



Source: UNU-EHS. Group scores represent the simple averages.

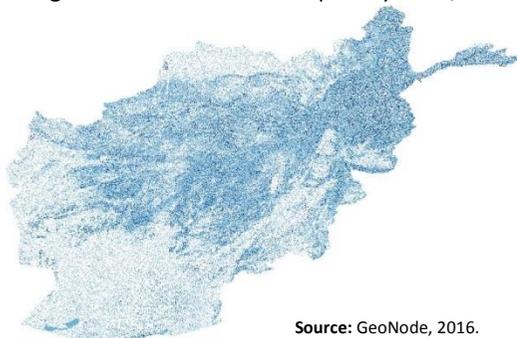
In this context, the World Risk Index (WRI), developed by the United Nations University Institute for Environment and Human Security (UNU-EHS), measures the likelihood that a country or region will be affected by a disaster. WRI is comprised of four main components, namely, exposure to natural hazards, susceptibility, coping capacities, and adaptive capacities – where the latter three components

aim at measuring the vulnerability of the population. Figure 10 gives the distribution of different country groups and Afghanistan with respect to their WRI scores. According to the Figure, although the averages of risk index in the world, OIC and non-OIC developing countries are measured as 7.3, 7.7 and 8.5 respectively, the score of Afghanistan recorded as 9.6, corresponding to the classification in the high risk group.

3.1 Exposure and Vulnerability to Natural Hazards

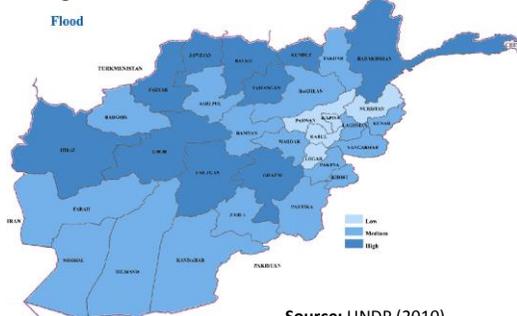
It is crucial for the purpose of risk management to know whether the difference in frequency of natural disasters across countries is due to being relatively more prone to higher number of natural hazards, which is beyond control, or due to lack of capacities and conditions for reducing risks and vulnerabilities that lead natural hazards to become disasters, which can be improved.

Figure 11a: Flash Flood Susceptibility Index,



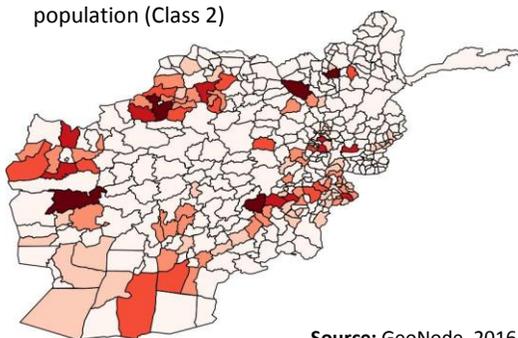
Source: GeoNode, 2016.

Figure 11b: Flood Hazard



Source: UNDP (2010).

Figure 12a: Drought Risk - Affected population (Class 2)



Source: GeoNode, 2016.

Figure 12b: Drought Hazard Map

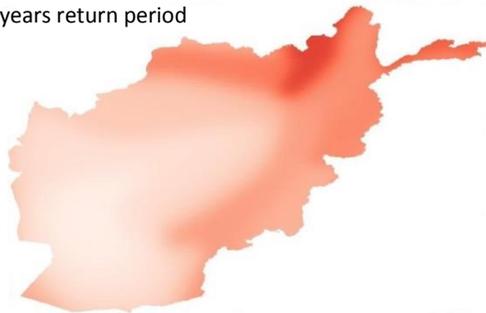


Source: UNDP (2010).

Afghanistan has been vulnerable to the hydro-meteorological hazards (including floods, landslides, droughts and extreme weather). 21 out of 34 provinces in the country are vulnerable to floods. The western part of Afghanistan is highly drought prone, and the Western and central belt is highly flood affected (see Figures 11 and 12). However, the South West and few Northern provinces of Afghanistan are severely affected by both, flood and drought (UNDP, 2010). The country is also vulnerable to medium and large earthquakes, as the country lies along an active tectonic boundary called Indo - Eurasian boundary (see Figure 13). Seismic maps also show that a large proportion of the populations are at risk of earthquakes likely to cause major to moderate damage, including the capital city of Kabul.

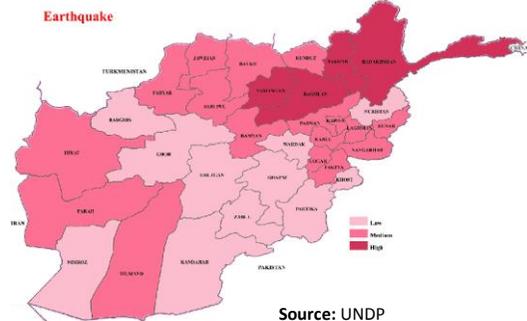
A multi-hazard risk assessment of Afghanistan reveals that northern part of the country is vulnerable to multiple types of natural hazards (Figure 14). Earthquake and landslide are of particular concern in this mountainous part of the country, but flash floods and avalanches also pose risks to the region. Geographic conditions and poor infrastructure reduces accessibility and further increase the vulnerability of residents in this region. While the central region of the country experiences recurrent floods and droughts, the southern region is primarily prone to drought and extreme temperature.

Figure 13a: Earthquake Hazard map for a 250 years return period



Source: GeoNode, 2016.

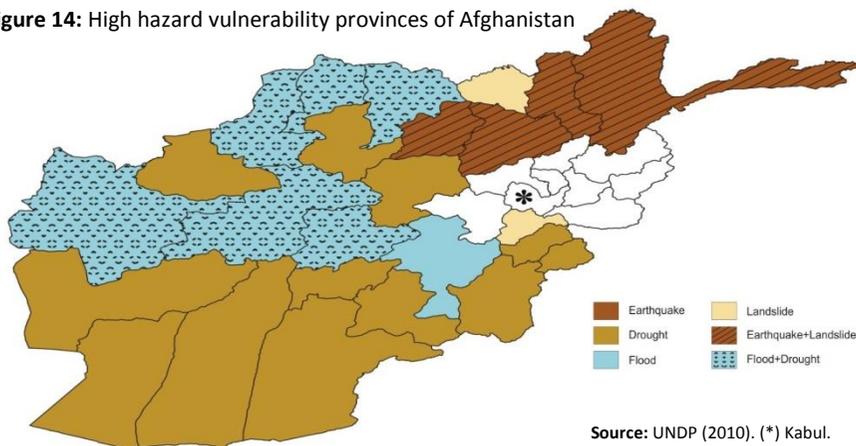
Figure 13b: Earthquake Hazard Map



Source: UNDP

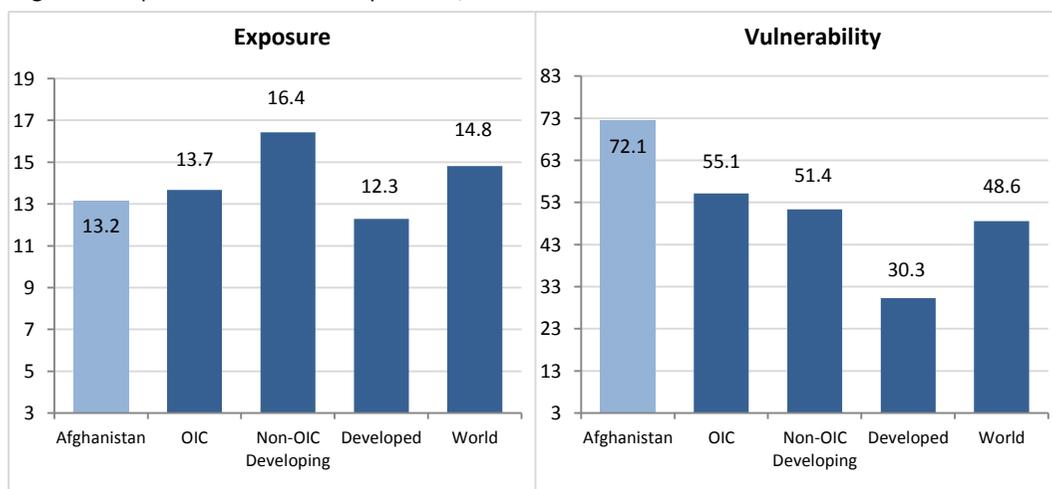
On the other hand, the high level of poverty, lack of livelihood and income generating opportunities, chronic health problems, poor state of infrastructure and very limited knowledge of likely hazards and risks contribute to increasing vulnerability of Afghan people in relation to natural hazards. This is further enhanced by rapid urbanization, unplanned developments in town & city areas and difficult accessibility in rural areas.

Figure 14: High hazard vulnerability provinces of Afghanistan



Source: UNDP (2010). (*) Kabul.

Figure 15: Exposure and Vulnerability Indexes, 2016



Source: UNU-EHS. Group scores represent the simple averages.

Against this background, Figure 15 reveals an important fact: Afghanistan, according to the UNU-EHS database, is much more vulnerable to hazards than physically exposed to them. As marked in the figure, the vulnerability rate of Afghanistan accounted 72, which is higher than the all country groups and world average. At the individual country level also Afghanistan ranked the 4th most vulnerable country in the world according UNU-EHS-2016. Finally, Table 1 shows the vulnerability levels of Afghan cities to different vulnerability indicators. While some cities are extremely vulnerable in terms of several vulnerability indicators, some others appear to be less vulnerable to disasters.

Table 1: Vulnerability of Afghan Cities

Vulnerability indicators	Laghman	Nangarhar	Paktika	Khost	Ghor	Daikundi	Urozgan	Zabul	Ghazni	Kunarfa	Bamyan	Nooristan	Takhar	Kunduz	Sar-e-pul	Badghis	Kandadahar	Helmand	Paktya	Parwan	Kabul	Kapisa	Baghlan	Faryab	Jowzjan	Balkh	Samangan	Badakshan	Logar	Wardak	Farah	Nimroz	Herat	Panjsher	
Poverty	H	H	H	H	H	L	L	H	H	H	H	M	M	M	M	L	L	H	L	L	L	M	M	M	M	M	M	M	L	L	M	L	M	L	
Population density	H	H	L	H	L	L	L	L	M	M	L	L	M	H	L	L	L	L	M	H	H	H	M	M	M	M	L	L	M	M	M	L	L	L	L
Illiteracy	H	M	H	M	M	M	H	H	M	M	M	M	H	M	H	H	H	H	L	L	L	L	M	M	M	L	M	M	M	M	M	M	M	L	M
Access to health facility	M	M	M	L	H	H	H	H	M	M	M	M	L	L	M	M	M	M	L	L	L	L	M	M	L	L	M	M	M	M	M	M	M	L	L

Source: UNDP (2010).

Note: H (High), M (Medium) and L (Low) legends have been allotted based on the following vulnerability criteria:

Poverty (Poverty Headcount Rate, > 44 % - High, Poverty Headcount Rate, 35 to 44% - Medium, Poverty Headcount Rate, < 35% - Low).

Population Density (per sq.km), Pop. Density, 100 and > - High, Pop. Density, 40 to 99 - Medium, Pop. Density, < 40 - Low.

- Illiteracy (Illiteracy Rate, < 15%, - High, Illiteracy Rate, 15 to 30% - Medium, Illiteracy Rate, > 30%, - Low).
- Access to health facility (taking > one hour), population % > 75% - High, population % 25 to 75% - Medium, population % > 25% - Low.

3.2 Determinants of Vulnerability to Impacts of Natural Hazards

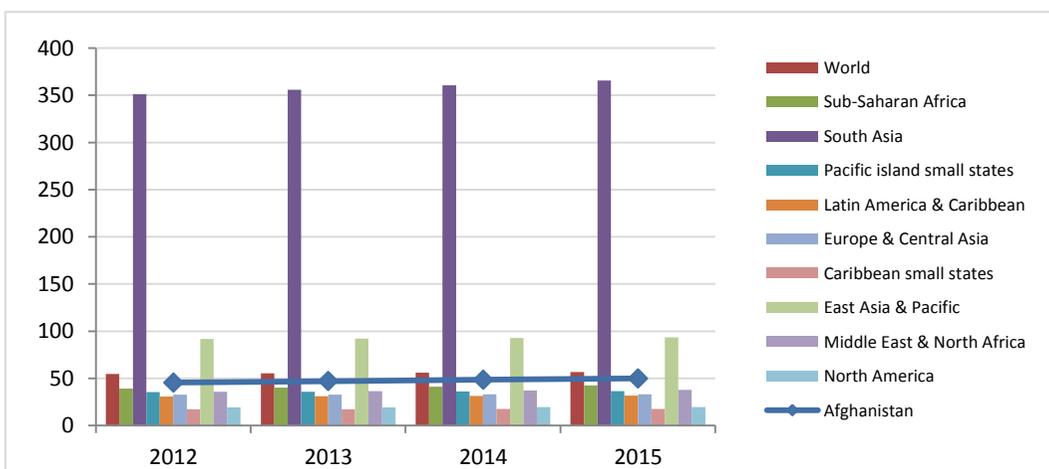
Vulnerability encompasses conditions determined by physical, social, economic and environmental factors or processes that increase the susceptibility of a community to the impact of hazards. In other words, vulnerability amplifies the tolls taken by natural hazards and leads them toward becoming disasters. In the dataset provided by the UNU-EHS, vulnerability refers to social, physical, economic and environmental related factors that make people or systems more vulnerable to the impacts of natural hazards and to the impacts of climate change.

3.2.1 Susceptibility

Susceptibility refers to the conditions of exposed communities or other exposed elements which make them more likely to experience harm and to be negatively affected by a natural hazard or by climate change. Therefore, susceptibility describes structural characteristics and framework conditions of a society. In UNU-EHS dataset, public infrastructure, housing conditions, nutrition, poverty and dependencies, and economic capacity and income distribution represents susceptibility.

Susceptibility of human lives to natural disasters can simply be measured by the land density of population. High population growth rates result in increased population density, resulting in increased susceptibility – thus, vulnerability – to natural disasters. Between 2012 and 2015, the population density in Afghanistan, measured by people living in each square km. of land area, increased from 45.5 to 49.8 (Figure 16). At regional level, except the South Asia and East Asia Pacific regions with a population density of 366 and 93 respectively, Afghanistan has a population density that is more than the average of any other country groups, including Sub-Saharan Africa, Latin, America & Caribbean, Europe & Central Asia and Middle East & North Africa.

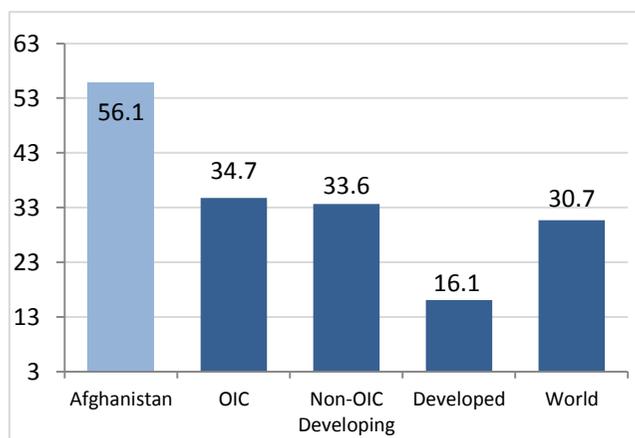
Figure 16: Population Density, 2012-2015



Source: UN Online Database. Group scores represent the weighted averages.

The susceptibility of humans can be mitigated by ensuring a better dispersion of the productive assets and population within the country, and putting in place more effective protection measures. However, it is without doubt that a better understanding of the level of susceptibility to natural disasters in Afghanistan requires an in-depth analysis of a broader spectrum of indicators including those related to the relative size of arable and dependency on agriculture, the quality of public infrastructures, spatial distribution of the population and economic assets, and quality of urban planning, among others.

Figure 15: Susceptibility Index, 2016



Source: UNU-EHS. Group scores represent the simple averages.

To be able to give an overall picture of susceptibility in Afghanistan, the distribution of different country groups based on the susceptibility component of the WRI is depicted in comparative perspective. According to Figure 17, Afghanistan is a highly susceptible country with the score of 55.8, which is almost twofold more than world average, threefold more than the average of

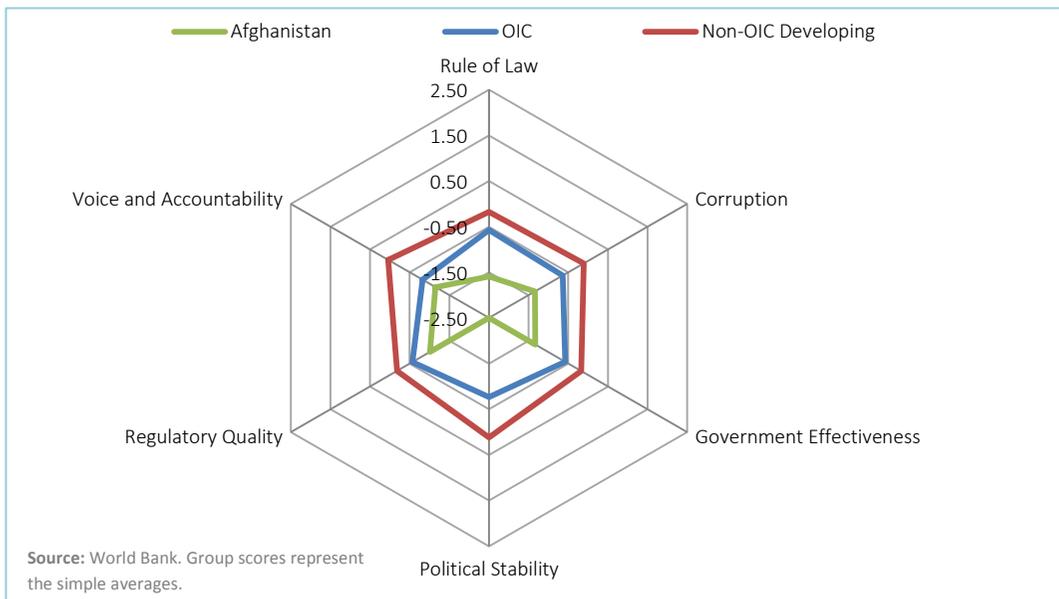
developed country group and higher than other country groups' average.

3.2.2 Coping Capacities

The quality of a country's capacities and conditions for disaster management appears to have a significant influence on the underlying drivers of risk. When similar numbers of people are affected by hazards of similar severity, wealthier and poorer countries generally experience radically different losses and impacts. Whereas relative wealth is a key determinant, other factors such as the strength of democracy, inequality, corruption, and voice and accountability (UNISDR, 2009) also play roles in the social construction of risk. Countries with higher income, lower inequality, lower corruption and more democratic regimes have been found to experience fewer casualties from disasters. Drivers of inadequate capacities for risk management include, among others, badly planned and managed urban and regional development. In this connection, coping capacities and adaptive capacities refer to the ability of societies to use their own resources and their long-term strategy in preventing the natural hazard events.

Poor governance and lack of institutional quality is suggested by the literature to have significant distributional implications – particularly through the channel of efficiency in the allocation of resources. As shown in Figure 16, Afghanistan faces significant challenges in improving governance and quality of institutions. Figure compares the averages of the six governance indicators for Afghanistan with other selected country groups in 2015, as estimated by the World Bank. Afghanistan performs poorly compared to the averages of developing countries (both OIC and non-OIC). In none of the categories, Afghanistan attains a positive score. Rather, political stability category shows very poor performance, with the rank less than -2.5. On the other hand, regulatory quality, and voice and accountability, though negative, are the relatively stronger categories for Afghanistan. All these reflect the lower level of institutional quality in Afghanistan.

Figure 16: Institutional Quality and Governance, 2015

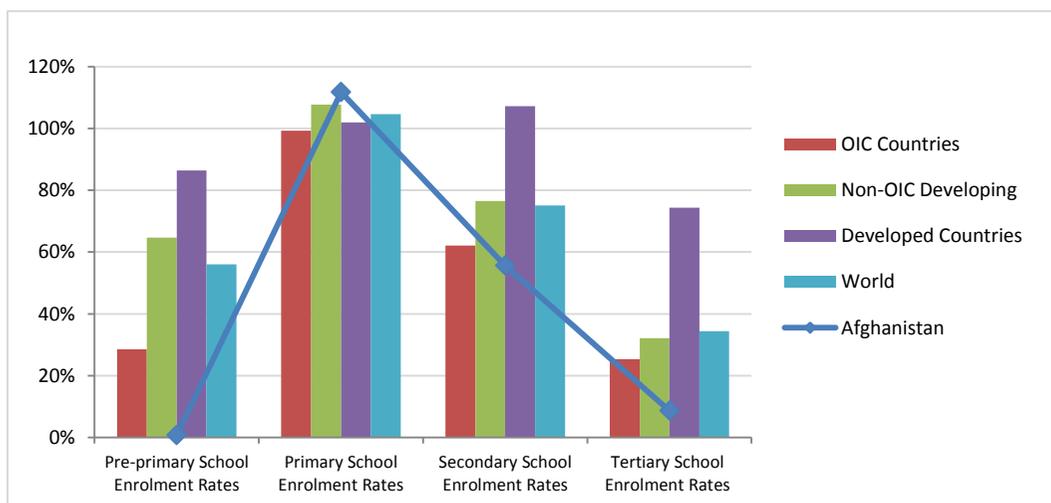


Controllable environmental factors, such as depletion of air, water, and soil, deforestation, and variety of others determine the extent of a society's ability to cope with the adverse effects of triggering events and develop adaptive capacities against them. Therefore, apart from its determining role on the severity of natural hazards, environmental sustainability also plays an essential role in determining the level of vulnerability to natural disasters. Environmental changes are directly related to natural ecosystem change, shift in disease patterns, and degradation of natural resources, deforestation, and some other environmental changes which have a significant impact on the vulnerability patterns. According to SESRIC (2014), a majority

of the land area and population in the OIC region, including Afghanistan is exposed to poorly-managed environmental conditions and the progress over the last decade has been modest.

Education is believed to significantly improve awareness with regard to natural disasters and their underlying factors, and improve the resilience of people to these events by reducing their social impacts. Therefore, investment in education is promoted as being one of the most effective strategies for preparing to cope with the uncertainty associated with future disasters. Figure 17, in this context, introduces another challenge for Afghanistan in terms of schooling rates. It shows that the gross enrolment rate particularly in pre-primary, tertiary and secondary school are lag well behind the other country groups and world average. It may indicate the poor conditions in Afghanistan in terms of educational system. This fact is important to consider, because in the countries with high education level, there is often a greater willingness to take personal actions or to participate in community activities aimed at reducing risks from and vulnerabilities to disasters. Much of this may be tied to a rising capacity to take control of one’s own life. The low levels of education may, however, be a particular challenge to introducing those changes that could reduce disaster risks.

Figure 17: Gross Enrolment Rate, 2014 or latest year available

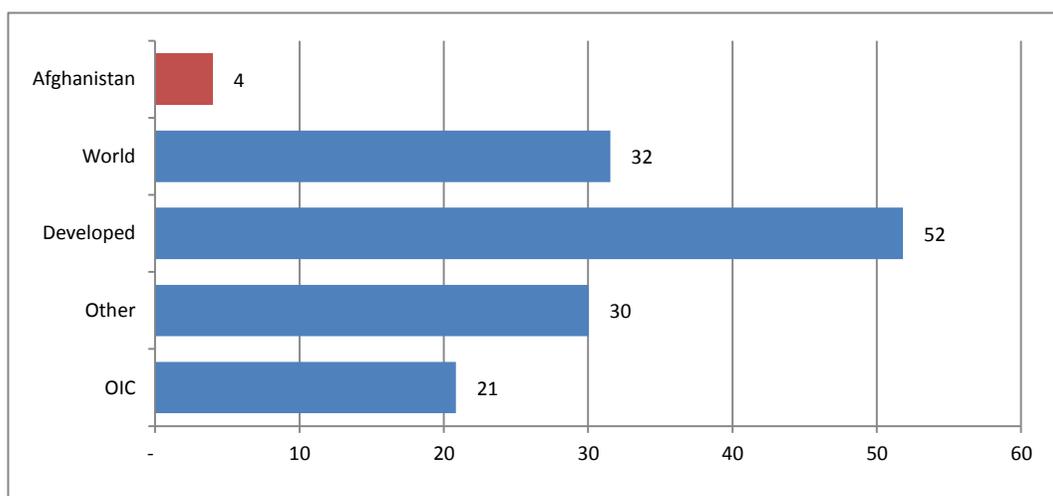


Source: UIS-UNESCO.

Developing countries are particularly vulnerable to an array of disasters because infrastructure, including health infrastructure, tends to be inadequate in both quantity and quality, and thus less resilient to disruptions. The level of disaster vulnerability also involves the measurement of systematic disparities in health

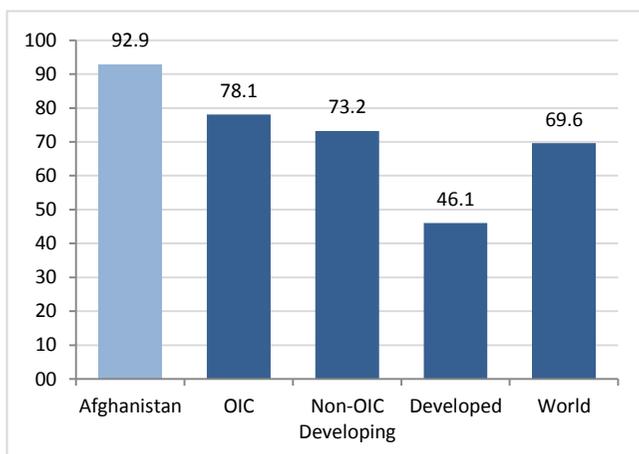
infrastructure and capacity across these groups both before and after a disaster. The extent to which a health system's ability to care for exposed population is subject to disruptions before or during a disaster determines the level of vulnerability of that population to disasters. As a rough measure of this ability, Figure 18 depicts the number of hospital beds for per 1000 people living in the corresponding country group and Afghanistan. It suggests that Afghanistan is facing another challenge in the health infrastructures with only 4 hospital beds per 10.000 people. Moreover, adequacy of skilled health workforce is also a concern with 0.02% physicians in total population in Afghanistan.

Figure 18: Health Infrastructure (Number of Hospital Beds per 10,000 people), 2011 or latest year



Source: World Health Organisation

Last but not least, Information and Communications Technology (ICT) can be used to minimize the impact of disasters in many ways and almost all phases of disasters. For example, in the disaster mitigation and preparedness process, ICT is widely used to create early warning systems and to the extent that official communication is transmitted through ICT media (such as radio, television, telephone and internet), people using these media might be able to obtain critical information. Therefore, it is essential that ICT is given its due place in disaster management. However, the comparative performance of OIC countries including Afghanistan in some other key ICT indicators is not promising as compared to developing as well as developed countries in their ICT infrastructure, when measured by subscriptions to fixed and mobile-cellular telephones as well as fixed low-speed and broadband internet (SESRIC, 2014).

Figure 19: Lack of Coping Capacity Index, 2016

Source: UNU-EHS. Group scores represent the simple averages.

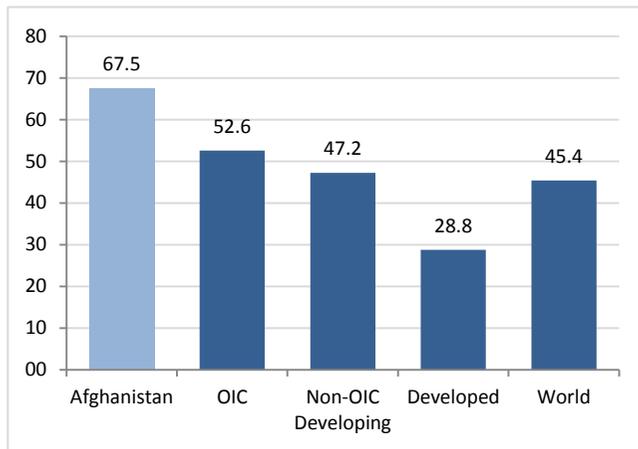
In view of the above analysis, Figure 19 shows the coping capacity of Afghanistan based on its score in the Lack of Coping Capacities Sub-index of the WRI – as compared, again, to other country groups. The index reveals the grievous fact that Afghanistan is associated with the severe lack of coping capacities with the score of 92.4, which is the highest value in evaluating the lack of

coping capacities worldwide at the individual country level.

All in all, Afghanistan still relies on the traditional disaster management structures that are mainly international post-disaster response and relief agencies, and lack the capacities for effective risk reduction. The efforts of Afghanistan particularly for mitigation and preparedness have so far lacked the systemic facilitation and enhancement of collective disaster risk reduction capacities. On the other hand, individual efforts particularly for mitigation and preparedness have so far lacked the systemic facilitation and enhancement of collective disaster risk reduction capacities among the member countries as an effective mechanism for assisting the low income member countries that lack the required coping capacities and are the most at the risk of human and capital losses due to disasters.

3.2.3 Adaptive Capacities

Adaptation is defined as a long-term strategy that not only aims to promote change and transformation but also encompasses measures and strategies dealing with and attempting to address the negative impacts of natural hazards and climate change in the future (UNISDR, 2012). For instance, in order to be able to survive with the changing environmental conditions, a farmer who aims to adapt to drought, may need to change his calendar of cropping or perhaps the crops themselves.

Figure 20: Lack of Adaptive Capacity Index, 2016

Source: UNU-EHS. Group scores represent the simple averages.

country groups and world average. It is also the fifth highest score in the world in terms lack of adaptive capacities.

Having a long-term strategy to deal with the negative impacts of natural hazards is the key factor in preventing in understanding the importance of adaptive capacities. Although the causes and impacts of natural hazards are increasingly well understood, the escalating losses associated with natural hazards indicate that long-term strategies and/or effective implementation mechanisms are still lacking in Afghanistan.

Overall, this section tried to identify the major sources of risks and vulnerabilities to natural disaster in Afghanistan– through examining its performance in a number of areas including susceptibility, and lack of coping and adaptive capacities. This was done through analysing indicators such as the output and productive capital density, population concentration, and, quality of governance and institutional capacity, education, and health and ITC infrastructure. The results confirm the very fact that vulnerability is multi-faceted phenomenon. Analyses suggest that the disaster vulnerability in Afghanistan source from a wide range of factors which, in turn, requires substantial and long-term commitment from all stakeholders, including the public, government institutions, civil society and the private sector to overcome these challenges.

Similar to earlier figures where other two sub-components of WRI were reported, Figure 20 provides the information on the adaptive capacities of different country groups and Afghanistan. It should be noted from the figure that Afghanistan exhibit the most pessimistic look in this type of capacity. Afghanistan scored with 69.3 which are higher than the other

4 GENERAL GUIDELINES ON MANAGING DISASTERS IN AFGHANISTAN

In the light of the analysis in the previous sections, this section provides some general guidelines in managing disasters in Afghanistan in all relevant dimensions of disaster management. As a country with more than three decades of protracted violent conflict and crises, Afghanistan remains highly vulnerable to various types of disasters, particularly earthquake, flood and drought. Although the impacts of wars and civil conflicts were extremely severe on their own, decades of conflict have also undermined the country's coping mechanisms and adaptive capacity. Consequently, natural hazards at even small magnitude caused major impact on human lives and economies.

In order to minimize human and development losses due to disasters, Afghanistan needs to follow a holistic approach involving disaster mitigation, preparedness, response and recovery. In this framework, this section provides the most critical aspects of the proposed holistic approach of disaster management in Afghanistan. These are risk management and vulnerability reduction; promoting public awareness, participation and social protection; information, knowledge sharing and capacity development; coordination of emergency response; sustainable recovery.



4.1 Risk management and vulnerability reduction

The occurrence of hazards often cannot be prevented fully, but their impact can be substantially lessened by various strategies and actions, which are referred to as mitigation. It is a continual process to reduce the adverse consequences of disasters upon people, livelihoods and built environment. Mitigation measures for natural disasters encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. A disaster occurs when a hazard impacts on vulnerable people. Vulnerable people have low capacity to anticipate, cope with, resist and recover from the impact of a natural hazard. Although human capability to avoid hazards is limited, societies can be made more resilient to hazards with effective risk management and vulnerability reduction strategies.

At the operational level different natural hazards entail specific mitigation strategies. It would be perhaps more desirable to provide more focused guidelines on managing flood, drought and earthquake risks in Afghanistan. However, there are higher level approaches which provide a broader framework for disaster mitigation against multiple hazards. This section provides a detailed description of these approaches against the following topics: risk governance; risk assessment; mainstreaming disaster risk management into development strategies; and climate change adaptation and environmental management.

4.1.1 Risk Governance

Effective risk governance is crucial to identifying disaster risks in a timely manner and to implementing schemes to reduce or minimize vulnerabilities and risks from impending hazards. Risk governance requires formulation of national and local policies supported by an appropriate legislative framework and spearheaded by institutional mechanisms that prioritize mitigation. Unfortunately the existing policies in Afghanistan, like many other developing countries, promote mostly a “response-oriented approach”, where government reacts when a disaster strikes. Therefore, a policy shift from response to mitigation is a primary condition for a good system of risk governance. A change in policy will allow the allocation of resources and resetting of institutional priorities and mandates. It will lead to the creation of a “culture of prevention”.

An important requirement is the establishment of effective institutions at national, province and local levels to spearhead efforts for disaster mitigation. Due to its multi-disciplinary nature, disaster mitigation requires multi-sectorial coordination and cooperation. Therefore, the formation of multi-sectorial coordination and policy

making bodies is crucial at all levels. Even coordination within the government system remains a major challenge due to the involvement of multiple ministries, departments, and technical institutions. In recent decades, governments have introduced disaster management committees / council / commissions to facilitate intra-governmental coordination and policy-making. Some countries have also set up national platforms for disaster risk reduction to facilitate coordination amongst multiple stakeholders including government and non-government.

The disaster management committees are forums for making decision, sharing information and agreeing on responsibilities. However, the implementation of those decisions requires constant follow-up, capacity development and accountability. Left on their own, these committees will not be able to provide the requisite support and follow-up. Therefore, it is essential to establish effective organizations which can serve as focal points for policy formation and implementation. These organizations are crucial to ensure the implementation of policies through planning and organizing multiple functions, including disaster risk analysis, information management, training, implementing public awareness campaigns, early warning dissemination and ensuring compliance of land-use policies and building codes.



The experiences from different countries indicate that the setting-up of such focal organizations and coordination committees has helped to harmonize efforts and achieve significant results in terms of disaster mitigation. In the case of Afghanistan, the Afghanistan National Disaster Management Authority (ANDMA) is the principal institution at the national level with the mandate to coordinate and manage all aspects related to disaster mitigation, preparedness, and response through its national and provincial offices. In 2015, the government also appointed a State Minister for Disaster Management and Humanitarian Affairs, with a dual role as Chairman of ANDMA. Some OIC countries accumulated good experience in managing disasters over the years, such as Indonesia and Turkey, from which this Authority can benefit through bilateral technical cooperation.

Another equally important requirement is disaster legislation for a broad framework for disaster management. It is important to prepare supporting legislations or policy documents to elaborate the arrangements for policy implementation including the definition of departmental responsibilities. Such documents can provide guidance, among others, about the risk context, define priorities for disaster mitigation and describe ministerial and stakeholder responsibilities. In this context, there is a National Disaster Management Plan of Afghanistan, which aims to streamline disaster management systems in the country, including identification of roles and responsibilities of the National Disaster Management Commission and the ANDMA along with its provincial offices, the Provincial Disaster Management Committee and associated line ministries, NGOs, and International Organizations. The plan lays out principles, structures and procedures for mitigation, preparedness, impact assessment, rescue and relief, and recovery activities. It is important to ensure that the plan is implemented well for effective disaster risk management in the country.

4.1.2 Risk Assessment

The policies and organizations are not sufficient in themselves to reduce disaster risks, thus Afghanistan should work to implement disaster mitigation schemes. An important first step towards disaster mitigation is disaster risk assessment. This means production of disaster risk maps and accompanied analysis. Since disaster risk assessment is a costly and time-consuming process, it is important to decide the purpose, scale and scope of such assessment. The experiences from different countries indicate that the national level risk assessments shall be kept simple and low cost. This may include preparation of hazard maps to define the general hazard zones. A database of past disasters can be a good tool to understand historical disaster patterns in different regions and their impact. Coupled with hazard mapping and disaster database, an analysis of the socio-economic and environmental

conditions in different regions of the country can be a very useful tool to get insights into the factors that enhance exposure and vulnerability of different segments of society to disasters. It is evident that existing tools and databases are not well developed to reflect the real risks and impacts of disasters in the country.

At the local level, however, more comprehensive assessments are advisable. Such assessment shall include: i) micro-scale hazard zonation, ii) exposure mapping for settlements and infrastructure, iii) and vulnerability analysis. Such detailed local assessments are critical to facilitate land-use planning and application of building codes in different hazard zones. However, the absence of in-depth disaster risk assessment should not hold back governments and/or stakeholders from disaster mitigation activities. In most countries, the hazard exposure of different sub-regions is well known, at least to the scientific community. Therefore, consultations with academia, scientific institutions and civil society organizations can be a good starting point to gain insights about risk exposure in the country and to implement disaster mitigation schemes in high exposure regions.

It is also important that disaster risk assessment is conducted on periodical basis to remain abreast of changing risk scenarios. Afghanistan needs to develop technical capacities in its national institutions to conduct disaster risk assessment. The major gaps in national capacities for disaster risk assessment revolve around lack of sufficient quantity of hazard monitoring infrastructure and lack of technical know-how of various ICT technologies.



4.1.3 Mainstreaming Disaster Risk Management into Development Programs

Disaster mitigation needs to be adopted across all sectors of development in regions that are exposed to disaster risks so that losses to life and assets in all development areas can be minimized. The key strategies for mainstreaming disaster risk management include: i) promoting safer construction of buildings and infrastructure, ii) applying land-use planning to reduce exposure of settlements and infrastructure to natural hazards, iii) education, awareness and training to enhance technical capacities and personal safety, iv) risk transfer through insurance of large scale infrastructure and critical facilities, v) and citizen participation through community based disaster mitigation activities.

In order to achieve mainstreaming of disaster risk management into development programs, the ministries and departments need to reform their approaches to project design, management and monitoring and evaluation. They need to modify the project procedures to ensure that disaster risk assessment and mitigation are integrated into different phases of the project cycle. The ministries and departments also need to develop in-house technical capacities or rely upon external technical resources to organize risk assessments for various mega projects and to incorporate mitigation approaches in them. It is important to set up a small disaster mitigation unit in each ministry. Such unit can serve as the focal point to ensure that disaster mitigation is integrated into all aspects of ministerial planning and management.

4.1.4 Climate Change Adaptation and Environmental Management

Environmental conservation, climate change adaptation and disaster mitigation are closely associated. Global studies indicate that more than 80% of the natural disasters are hydro-meteorological; e.g. floods, droughts, desertification, cyclones, storms and fires etc., which is also the case for Afghanistan. Therefore, environmental degradation and climate change intensify the frequency and severity of hydro-meteorological hazards. Climate change is also expected to intensify disaster risks in Afghanistan significantly, particularly causing more droughts due to reduced rainfall, more flash flooding due to concentrated rainfall, increased riverine flooding due to melting of glaciers, and more storms and fires due to rising temperatures.

In this context prudent environmental management can significantly reduce disaster risks and the adverse effects of climate change. Environmental management as a strategy for disaster mitigation and climate change adaptation would revolve around following key elements: sustainable water resources management and sustainable land-use management.

Effective water resources management is critical for its implications with regards to environment, climate change adaption and disaster mitigation. Afghanistan suffers from flooding, droughts and desertification, mostly because of poor management of water resources. Introduction of efficient irrigation technologies to reduce water losses in agricultural sector is critical, because agriculture sector is one of the largest consumers of water. Integrated Water Resources Management (IWRM) is a very innovative and participatory approach, which is being experimented by many countries. IWRM is implemented at a watershed level, where through active engagement of all key stakeholders water needs of different sectors are identified and through analysis of available water supply, decisions on sectorial water allocation are taken. The decisions on sectorial distribution of water are based upon multiple criteria, such as economic importance of the sector, environmental importance of the sector, the role of sector in providing livelihoods.

BOX 1: FLOOD IN AFGHANISTAN

Flooding is the most frequently occurring natural hazard in Afghanistan. The country is prone to river flooding because of steep slopes in headwaters. Flooding in rivers mainly occurs as a result of heavy rainfall coupled with rapid snowmelt; the sources of most of the rivers lie in the mountains and are fed by snow and glaciers.

Three years ago, the Flash Flood hit the Guzargah-e-Nur district of Baghlan Province on April 25 & June 6 that forced thousands of people to flee and more than 100 of the residence have lost their lives. The Flood destroyed four villages and the water had washed away 2,000 residential houses, agricultural fields, roads and also killed thousands of cattle, that more than 800 families had been affected by the natural disaster (COAR, 2015).

It is not possible to prevent the occurrence of floods in Afghanistan. Nonetheless, disaster mitigation needs to be adopted in Afghanistan that is exposed to floods so that losses to life and assets. The key strategies for risk management from flood include: i) Strengthening dikes and retrofitting houses would improve flood protection in cities and rural areas, ii) Building a local earth embankment along the river in the Kunduz agricultural area in the Phuli Khumri area, and in Fayzabad could significantly reduce the risk from flooding.



Better land-use management can play a crucial role in promoting disaster mitigation and climate change adaptation. Some parts of Afghanistan suffer from desertification, droughts and storms. These phenomena in return are reinforced by poor land-use, in addition to poor water resources management. The poor land-use results from over-exploitation of fragile rangelands. Sustainable rangeland management requires reforestation, soil conservation, communal management arrangements, reduction in livestock populations, and introduction of alternative livelihoods sources amongst others.

The management of riverine and urban lands is another big challenge. Multiple factors are driving increased concentration of populations in riverbeds and the zones next to water resources, thus enhancing the exposure of such populations to floods and inundations. The phenomenon of urbanization contributes significantly to increased societal exposure and vulnerability to natural disasters; including also earthquakes. The growing demand for urban lands, corruption and poor management has resulted in poor environmental management and disaster mitigation practices. The natural drainage systems in the form of small rivers, canals or waterways are occupied and covered with construction. Therefore, a rain which was previously considered “normal” could now lead to major flooding in the urban centres. There are even worse examples of poor urban land use in cases where cities have been built on the path of water drainage.



4.2 Promoting public awareness, participation and social protection

Activities, projects or programs aimed at developing institutional capacity for effective disaster risk management are not sustainable if they lack motivation, namely moral support at communal level. Therefore, the determinant of the success of disaster management works is the level of awareness in the face of existing risks in communities and the creation of safety culture at communal level by means of community-based practices. Safety culture is not only important for reducing risks at individual level but also for attracting public opinion's attention to institutions' disaster management programmes and projects. Consequently any project or programme in disaster management should consider this communal aspect in its formulation.

The best method to create safety culture is to penetrate into society through grassroots communication strategy. Otherwise, the targeted behavioural change could never be achieved effectively through official channels and traditional mass media. Close interaction with people through their involvement is a vital concept for this grassroots communication strategy targeted at behavioural change, this can only be achieved through civil society organisations based on voluntary activities. Civil society organizations engaged in community-based disaster awareness and reduction practices should be supported with a strong mechanism which brings them together with state organisations at central and local level for efficacy.

Based on the previous practices in the world, following a set of criteria for community-based disaster reduction projects are formulated for Afghanistan:

- **Diversification and widening target population:** Access to the maximum number of persons from different segments of population should be achieved to the extent that the targeted effect to seek behavioural change can be achieved.
- **Community participation:** Project target groups should be involved in project management process in all phases. This is necessary to have a correctly formulated framework from beneficiary perspective and also to increase ownership.
- **Grassroots communication:** Respectable community leaders should be engaged as focal points to reach community in the natural flow of life. Traditional ways of communication are very effective to establish a common understanding.
- **Organisational strength:** The undertaking organisation should use its organisational network at local level for outreach. If it does not have such a

network, it should establish partnership with institutions having their extension at local level.

- **Increased involvement of stakeholders:** Disaster management programmes or projects should be supported through the involvement of government institutions at local and central level to reveal political will and priority for disaster reduction.
- **Scientific approach:** Cooperation should be established with universities to ensure that the scientific component is sufficiently incorporated in disaster management programs.
- **Applicable tools:** Methodology for dissemination should be practically applicable and adaptable through capabilities existing in different contexts.
- **Stakeholder information management:** All stakeholders should be continuously informed with regards to disaster management programmes or projects in a timely manner.

4.2.1 Participation

Public awareness and participation is essential at every stage of disaster management. Citizen participation is absolutely crucial for the success of any disaster mitigation programs, because ultimately all disasters are local in term of their impact and all mitigation works are done at the local level. In addition to disaster mitigation, it is also crucial to raise awareness among individuals and organizations involved in early warning and in the implementation of early warning systems, particularly at the community level. For an effective response, it is critical to empower communities and restore the capacities of authorities. There is also a need to develop a proactive strategy to enhance capacities of governments and societies to address recovery processes and to heighten awareness on the importance of disaster resilient recovery.

For that reason, capacities, resources, knowledge and technical know-how for DRR need to be strengthened and channelled down to local levels of governance. Public, private, regional and international partners and donors need to be committed and systematically engaged. Investments need to be boosted in raising awareness on disaster risks, impacts and prevention measures. The governments can launch specialized programs on community based disaster risk reduction.

BOX 2: EARTHQUAKE IN AFGHANISTAN

Afghanistan is located in a zone of high-seismic activity. Each year Afghanistan is struck by moderate to strong earthquakes causing damage or fatalities. There is high earthquake hazard towards the north-eastern region of Afghanistan, particularly along the borders with Uzbekistan, Tajikistan, and Pakistan.

Earthquakes during the last 20 years have caused around 8,000 fatalities in Afghanistan. A major earthquake event in Kabul Province is predicted to cause approximately 8,500 deaths and over \$500 million in damages. Kabul has the highest average estimated damage of all regions in Afghanistan (World Bank, 2017).

The occurrence of earthquakes cannot be prevented, but their impact can be substantially lessened by various strategies and actions, which are referred to as mitigation. It is a continual process to reduce the adverse consequences of disasters upon people, livelihoods and built environment. In this regard, for Afghanistan, constructing new structures in an earthquake-resistant way and restoration existing buildings can strongly reduce building collapse and resulting fatalities from earthquakes. It is more cost-effective to build new roads earthquake resistant and to keep money in reserve for damage repairs than to retrofit or reconstruct existing roads.



4.2.2 Social Protection

Poverty and disaster risks have a mutually reinforcing relationship. Studies have indicated that the economic situation of families that have suffered frequent disasters worsened due to the loss of sources of income or damage to houses. Poor families also find it hard to recover from the impact of a disaster, because they tend to have least access to facilities provided by governments. Similarly a poor family has low chance to spend money on disaster mitigation, simply because it doesn't have the

resources required to build a house that can withstand an earthquake or a cyclone. In this manner the cycle of poverty, disaster losses, enhanced poverty, and intensified disaster losses continues.

Therefore, the reduction of structural poverty is crucial to minimize vulnerability of poor populations to disaster risks. Various microfinance programmes can be developed for Afghanistan to reduce the poverty of families resulting from the better livelihood options has also reduced their vulnerability to cyclone and flood disasters. In this context, the experiences of Bangladesh can be assessed and to a certain extent adapted to Afghanistan.

The community risk assessment and planning process also plays a crucial role in raising awareness of community members about the disaster risks, their rights and the need for self-help. The interaction between communities and local authorities also help the authorities to align their development plans to disaster risk management.

4.3 Information, knowledge sharing and capacity development for preparedness and response

The role of information is crucial in efficiently managing all types of emergencies and achieving orderly transitions from response to sustained recovery. Preparing the community to disasters at all levels will require a sound analysis of disaster risks together with extensive needs assessment, well-developed early warning systems, contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities.

Information management and analysis is equally important after a disaster. Before taking any action after a disaster, a good quality of information on the people affected and their needs are required. People living at the periphery are often neglected and needs assessments usually lacks gender- and age-based analysis. However, in many cases, countries lack the capacity to collect the relevant data and monitor and evaluate the whole process. This leads to ineffective disaster management due to a lack of comprehensive assessment of needs of the affected population and lack of planning of interventions. Therefore, maintaining up-to-date data on hazards and vulnerabilities, preparing risk assessments and using these as the basis for disaster mitigation plans, emergency response and post-disaster recovery are several key steps in disaster management also in Afghanistan.

There is, however, a significant gap in capacity to collect and utilize data and information as well as sharing the knowledge on disasters. Therefore the role of training, education and awareness is critical to develop technical knowledge of in-service officers, new recruits and general public. It would be desirable for the ministry of education in Afghanistan to integrate disaster risk management concepts into the school curricula.

4.3.1 Information and knowledge management

Ability to quickly and appropriately respond, when required, relies foremost on effective information and knowledge management and sound analysis of disaster risks. Such ability will encompass various dimensions of disaster preparation, including needs assessment, resource mobilization and coordination, contingency planning, and early warning. A vital step in organizing an effective and relevant disaster response is the needs assessment. It must be planned in advance, properly and thoroughly. It is critical to ensure that needs assessments are credible, so that affected-populations, donors, media, private sector and civil society trust in the results.

Disaster risk management by its very nature is a multi-disciplinary and multi-sectorial subject, which requires coordination and collaboration amongst different ministries, departments and stakeholders with effective information and communication mechanism. Coordination is required for longer term policy and planning, as well as during actual emergency operations to coordinate deployment of resources. It is important for Afghanistan to set up a multi-sectorial coordination mechanism, which remain active during most of the year, not only and at the time of disaster, in order to improve preparedness capacities.

There is also need for a systematic approach, contingency planning, to identify what catastrophes can happen in an area and gear up systems and resources to organize an effective response when the emergency happens. Contingency events should be identified with plans, strategies and approaches for avoiding or coping with them so as to minimize losses of life and property. The objective of contingency planning is not to develop a plan for every possible contingency, but to think about major catastrophes and possible responses. People who have given thought to contingencies and possible responses are more likely to meet major goals and targets successfully. Therefore, it is critical to develop a culture of contingency planning and early warning systems in Afghanistan to empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner.



4.3.2 Capacity development

Every stage of disaster management requires well-developed capacities at all levels to cope with the challenges of that specific stage. Capacity development is not only about transfer of knowledge and technical skills, but also enhancing capabilities to find the best solutions for a particular set of circumstances. The process of capacity development includes engaging stakeholders to the process, assessing the capacity needs, formulating and implementing a response and evaluating capacity development.

With the commitment of all key stakeholders, existing capacities should be analysed and needs for future capacities should be identified. The capacity assessment should be based on the relationship between hazards and the levels of vulnerability in a particular context. This process can then be followed by development of a strategy for capacity development and implementation of that strategy. Implementation can be a mix of short term measures in the form of performance or skill enhancement and more complex and long term measures to address more challenging operational or institutional issues.

Another critical issue in information and knowledge management is transparency and accountability. Since poor management of disaster risks could lead to catastrophes causing human and economic losses, a good risk governance system must have built-in transparency and accountability mechanisms. It thus allows institutions and individuals to monitor, learn and adjust their actions in line with those whom they are

accountable. The establishment of multi-disciplinary coordination forums with representation from all key stakeholders is crucial for transparency and accountability. The civil society organizations and media particularly have a very important role in ensuring that DRM plans are prepared, resources are allocated and plans are implemented by the responsible public institutions, private sector bodies and other stakeholders. Thus the representation of media and civil society in coordination forums is essential. Equally important is the establishment of a good communication system, which keeps everyone informed about the existing plans, programs, progress and hurdles.

4.4 Coordination of emergency response

Disaster response includes the activities taken in anticipation of, during, and immediately after an emergency to ensure that its effects are minimised. The impacts of disasters are immediate and, in many cases, long-lasting. When a disaster strikes, communities generally find themselves deprived of basic needs, with infrastructure being crumbled. While it causes loss of life and damage to property and infrastructure, the survivors need immediate action as they are left without adequate shelter, food, water and other necessities to sustain life. Immediate and effective action is required to prevent further loss of life and traumatization of survivors.

The consequences of a disaster are frequently complex. A disaster may disrupt markets for goods and services over a broad area, reducing the availability of foodstuff and opportunities for income generation. At the same time, it affects the provision of public services. In case of health, it may destroy essential health infrastructure such as hospitals, resulting in a lack of emergency and longer-term medical care for the affected population. In addition to social and economic impacts, some political instability may come to happen in cases of complex emergencies resulting from several different hazards or from a complex combination of both natural and man-made causes and different causes of vulnerability.

It is crucial that emergency response activities do not make a bad situation even worse. Circumstances in disaster-hit places may potentially evolve quite rapidly and often in unpredictable ways. This requires a close coordination and cooperation between all stakeholders involved in the response, including the affected community itself. In complex emergencies, particular attention should be given to displaced migration.

For an effective emergency response, a comprehensive assessment of needs should be conducted immediately after an emergency and updated throughout the response. An effective coordination mechanism will considerably increase the success of the

intervention. Collaboration with regional and international partners may be crucial for some emergency response activities. In this context, this subsection provides a brief guidance on effective emergency mechanism, international quality and accountability standards on disaster response, and financing mechanisms for disaster response and early recovery.

4.4.1 Emergency response mechanisms

The response phase primarily focuses on restoring law and order, ensuring a secure environment and distributing resources and supplies to survivors. For an effective response, emergency response mechanism should include affected community, national and local governments, donors, multilateral agencies, national and international NGOs, academic institutions, military and the media, as well as the private sector and religious groups. There are some important issues for an effective response, which are also important in the case of Afghanistan.

- Precise and timely communication is necessary for better decision making, effective coordination and public awareness. This requires a well-functioning command-and-control system. In case it is malfunctioning, restoring law and order will be particularly crucial to an environment in which significant relief activities are needed. Otherwise, a disrupted civil society and security will make it more difficult or impossible to distribute resources to those in need and prolong suffering.
- Food and shelter are critical determinants for survival in the initial stages of a disaster. While shelter is necessary for safety, security and protection from diseases, food assistance will be needed where disasters have major impact on food stocks or crops and when people are not able to draw on their own savings or food reserves. Along with food and shelter, safe water and sanitation are among the highest priority interventions in emergency situations. Available water sources should be protected from contamination and emergency sanitation facilities need to be provided immediately.
- Effective and proper handling of public health emergencies is of utmost importance. It is crucial to ensure that the actions of all health actors are coordinated and, in particular, the actions of external health actors are well coordinated with those of the national and local health authorities and actors. It is desirable to have a health strategy plan for planning health response throughout the affected area(s), including the allocation of resources among areas.

- Search-and-rescue (SAR) operations in a disaster situation are conducted to rescue the greatest number of people in the shortest amount of time, while minimizing the risk to the rescuers. SAR is considered a multi-hazard discipline, as it may be needed for different types of hazards including earthquakes, storms, floods and industrial accidents or incidents caused by any sudden onset event.
- Becoming increasingly complex, disasters brings with them an enormous potential for the uprooting of large numbers of people. Crisis-induced migration takes place in case of a slow onset of a disaster, like severe drought. In effect, the hazard itself does not cause the crises of disaster and displacement. It is generally the lack of comprehensive disaster risk reduction strategies, poor emergency preparedness, shortages of food, water and essential health services and similar weaknesses in local and national governance capacity. If particular circumstances caused by a disaster do not require transferring people, the government should take necessary measures to avoid unnecessary movement and displacement of people.
- The delivery of emergency relief requires logistical facilities and organizational capacity to ensure the timeliness and efficiency of response. A well-organized supply chain is crucial for handling the procurement, storage and dispatch of relief supplies for distribution to disaster victims in good condition and at the time they are needed. Humanitarian supply logistics cannot be contrived at the time of the emergency. It must be regarded as a keystone of emergency planning and preparedness.
- Timely, predictable, and effective information and communications technology services improve response and coordination among humanitarian organizations, operational security environment for staff and assets, and decision-making through timely access to critical information.

In addition to these measures, responding agencies should use various tools such as systematic evaluation and peer review to ensure the quality of services according to globally accepted disaster management standards and to assess the impact of those activities on the lives of disaster affected populations. A variety of international initiatives aimed at self-regulation and development of common standards have been taken by the actors in the international humanitarian community. Even though these initiatives are voluntary and without solid enforcement mechanisms, they indicate the widespread recognition of the need for better quality and greater accountability of humanitarian activities.

4.4.2 Operational efficiency and effectiveness

A typical emergency situation include high uncertainty and necessity for rapid decision making, risk of possible mass casualty, severe resource shortage, and disruption of infrastructure. Therefore, effective coordination of emergency response is usually challenging. This can be further complicated by factors such as disconnected authorities, conflict of interest, and the high demand for timely information. For an effective and efficient response mechanism, there is a need for adaptation from the current ad hoc co-ordination to pre-planned, pre-arranged and predictable a system. When national capacity is overwhelmed after a disaster, a well-organized and reliable system at regional or OIC level can save more lives.

4.4.3 Financing response

A key aspect of emergency relief and early recovery activities is a well-managed funding mechanism. The government may lack the necessary resources to effectively address the needs of affected people as well as for restoring basic infrastructure and services. Disasters may have an enormous impact on social and economic welfare of affected countries. This impact can be especially severe in Afghanistan, where the public authorities have inadequate resources to restore critical infrastructure and provide assistance to the affected people and private sector to recover their assets. If a state lacks resources to support its citizens, the vulnerable segments of the society will further suffer from disasters in terms of heightened poverty through loss of assets and income generating opportunities. In addition, there is also need for financial instruments not only for providing needed ex-post resources, but also contributing importantly to ex-ante social protection and incentives for risk reduction and adaptation to climate change and post-conflict situations.

4.5 Sustainable recovery

Recurrent disasters and crises disrupt economic, political and social systems of society and erode development gains of affected countries, thus pushing them into a downward spiral, where losses outweigh limited development gains and disaster risks continue to accumulate. Afghanistan can be considered as a typical example of such a case.

On the other hand, disaster recovery offers a window of opportunity to change and transform the society. Post-disaster period provides a supportive political context to take decisions for transformative changes for building a more resilient society by reducing vulnerabilities, risks and removing underlying causes. An effective recovery process, however, requires timely policy guidance and financial, technical and institutional support in order to achieve maximum benefits from the rehabilitation

and reconstruction process after disasters. When recovery is well managed, disasters may become opportunities for reducing risk and securing development. If recovery is managed only poorly, however, the disasters can undermine future development by deepening inequalities, worsening poverty, increasing vulnerabilities of affected populations and enhancing risks.

BOX 3: LANDSLIDE IN AFGHANISTAN

As Afghanistan is a highly vulnerable to landslide struck. Given the rugged and mountainous nature of the country and the location of villages, towns and cities, there is always a high propensity for widespread death and destruction whenever a landslide occurs.

Badakhshan, Daykundi, and Ghor have the greatest number of people exposed to landslides. Those regions have also the greatest value of assets exposed. For example, on 2nd May 2014, a series of heavy rain induced in multiple landslides struck in the Nowabad area of Aab-e-Barik village of Argo district, Badakhshan Province in northeastern Afghanistan and causing significant loss of life and widespread damage to homes and agriculture. Provincial authorities report that around 200 to 350 Afghans have been buried (killed), more were missing and many families have been displaced (COAR, 2015).



The main reason of high vulnerability to landslide in Afghanistan can be summarized as deforestation, land-use change and increases in heavy rainfall, which can intensify landslide hazard to settlements and infrastructure. Thus, landslide risk in the region can be reduced by avoiding construction of buildings and transport networks or service lines in high land slide hazard areas. In addition, local monitoring of slopes with high slow-moving landslide hazards can identify increased landslide hazard early. Reinforcement of landslide susceptible slopes can also reduce the potential for landslide occurrence (World Bank, 2017).

Globally, disaster recovery remains a major challenge, because most governments and societies are not well prepared to organize post disaster recovery. While the number of disasters and their impacts have grown enormously in the recent decades, the capacity of Afghanistan to manage the recovery process remains limited.

4.5.1 Transition Strategies

Evidence from recent disasters has shown that recovery efforts by the affected population begin concurrently with humanitarian assistance. The affected population engages in spontaneous recovery activities as soon as the conditions permit. However, in the absence of a support mechanism for recovery, these spontaneous and sometimes haphazard recovery efforts could increase the vulnerability of the affected people. For this reason, it is important that planning for rehabilitation commences as soon as possible after the disaster. The objective is to support people's own initiatives, strengthen their productive capacity early on when it matters most, and harness opportunities for reducing disaster risks.

Early support with regards to recovery will enhance the capacity of disaster affected populations to fully participate in the longer-term reconstruction and re-development process. Early recovery, therefore, not only fills an essential gap related to transitional needs emerging between relief and rehabilitation, it also provides the well-needed foundation for successful reconstruction; e.g. policy development for the inclusion of risk reduction on the reconstruction process, training for safe-building techniques, building code revisions, and the restoration of local governance systems for managing the construction process.

4.5.2 Strategies for Resilient and Sustainable Rebuilding

The global experiences in recovery have led to the formulation of certain key principles for an effective recovery process, which are also valid for Afghanistan. Without going much into detail, the followings should be noted.

- **Focus on the most vulnerable:** The disaster can increase vulnerability of groups that have special needs, including women, the disabled, children and orphans, the displaced, the elderly and those who are unable to claim support.
- **Restore local capacities:** Restoring the institutional capacity of local governments and civil society organizations will enable them to become quickly operational and provide recovery support.
- **Rebuild livelihoods:** An important feature of post-disaster recovery is to enable the affected population to quickly re-engage in economic activity. The objective is to rebuild people's lives by creating income opportunities and jobs.

- **Reduce disaster risk:** A good recovery process must prevent the recurrence of disasters and harness conditions for future development.
- **Engage the civil society and private sector:** In addition to governmental and international efforts, private investments from affected people, their relations, and other sources are important inputs to the recovery process.
- **Community ownership:** Recovery needs assessment must take into account capacities of affected population, so that local initiative and resources are fully understood and used to the maximum extent. Community consultations will help to set priorities and build consensus around rights, responsibilities and resources.
- **Transparency and accountability:** An effective information and communication strategy needs to be developed at all levels so that affected people are adequately informed of the overall design of the recovery programme, time frames, entitlements, sources of technical help and avenues for articulating their concerns and grievances.
- **Subsidiarity and decentralization:** Planning, implementation and monitoring should take place as close to the affected people as possible. Decentralization is an important vehicle for sharing responsibilities between national and local levels, because it empowers local levels, implants a sense of ownership and fosters participation.
- **Coordination and coherence:** Strong coordination will constitute a permanent dialogue and consensus-building mechanism between government agencies and other stakeholders. Common standards and monitoring systems will ensure equitable and judicious utilization of resources.



4.5.3 Current Recovery Challenges

Experiences of post disaster recovery operations in Afghanistan and the world reveal considerable shortcomings and gaps that seriously hinder full recovery processes of disaster affected regions. The following are the most common features of current recovery processes in the form of challenges:

Relief and development nexus: The conventional approaches to recovery and reconstruction, which require lengthy impact studies, heavy process for design of recovery programs and projects, the negotiation of multilateral loans for reconstruction and the timeframe for approval of development funding generated a gap between the ending of humanitarian assistance and the initiation of recovery activities in which affected people are usually left without support for recovery. Similarly, during the gap, people begin to recover spontaneously, rebuilding and reproducing conditions even more risk prone than those that existed before the disaster occurred. In some cases, the longer-term reconstruction never gets off the ground, or is considerably delayed because of the lack of execution capacity, political obstacles to loan agreements, a lack of donor interest in funding longer-term recovery and reconstruction, or the outbreak of new crises. This prolongs the gap until the next disaster occurs.

Institutional gaps and weak governance: The institutional mechanisms for managing recovery processes rely excessively on ad-hoc measures and usually are limited to manage short term public investment on infrastructure while the human development aspects needed for the restoration of the functionality of the society is marginal or even absent. Few governments (national, municipal and sub-national levels) are prepared to undertake processes to bring communities back to normal in the aftermath of a disaster. The presence of weak recovery governance mechanisms results in inadequate policy guidance and regulatory frameworks for recovery planning and uncoordinated management of recovery processes. In most countries, the governance of recovery remains highly centralized both at national and city level and the process lacks meaningful engagement or participation of crisis-affected communities.

Inadequate vulnerability reduction in reconstruction: Most of the disaster recovery operations fail to seize the window of opportunity that disasters offer for positive structural change and to address the root causes of vulnerabilities. There is indeed great opportunity to promote reform, establish the needed link with sustainable development and reduce risk by reconstructing a new environment after widespread destruction. Inadvertently, much of the reconstruction of built environment, far from reducing vulnerability, reintroduces risk factors similar to those responsible in the first

place for the heavy price in lives and assets paid by the communities affected by natural disasters, mainly due to inadequate specific knowledge on how and where to reconstruct to reduce risk and lack of a clear co-ordinating framework.

Inadequate attention to socio-economic aspects of recovery: While, in best cases, physical reconstruction may by and large have been completed within reasonable time, the socio-economic conditions of affected populations were often found to lag far behind the pre-catastrophe levels for a protracted time. As a result, the negative consequences of the catastrophes for the affected populations hence tend to linger on, often unseen, because of inadequate recovery processes.

Resource gaps and inappropriate focus of investment: A comparative analysis of financial flows for the humanitarian emergency relief phase and the recovery phase suggests international assistance at its peak in the immediate aftermath of the catastrophe; however, in the months down the road funding levels drop dramatically and funds are received in ad hoc and un-coordinated manner. Therefore, recovery is usually limited to short-term public investments that are mainly focused on repair or reconstruction of damaged infrastructure, a necessary but not sufficient aspect of recovery. The restoration of the functionality of society as a whole is usually not well covered.

Methodological gaps: Lack of established normative tools and methodologies for both needs assessments and strategic recovery planning for medium to long-term recovery, absence of recovery policy guides, regulatory and coordination mechanisms also appear as a limiting factor in recovery operations. This leads to inadequate integration of risk reduction measures in immediate reconstruction, weakens central monitoring and control, does not sufficiently sustain governments in formulating and presenting to donors well thought plans for strategic investment and rapid revitalisation of local economies.

Capacity gap: While the number of disasters and their catastrophic consequences grows, the capacity of countries to manage the recovery process restoring the functionality of the society and building back better is quite limited. Systematic actions are required to build capacities in developing countries in order to avoid further deterioration of the living conditions of affected populations after disaster and to secure development gains.

Lack of awareness and knowledge on recovery management: The insufficient awareness on the gravity of short-medium and long-term consequences of poorly managed recovery is reflected in a lack of political commitment and resources to turn disasters into opportunities. As a result, recovery processes are mostly guided by a short-term vision and characterized by the replacement of damaged infrastructure.

4.5.4 Ways Forward: Preparedness for Recovery

Restoring development through rebuilding the physical, social, and human capital of disaster affected communities takes years and the challenge lies in planning strategically to reduce this time-frame and in improving the underlying quality of the recovery process both in urban and rural areas ensuring human security. To achieve it, the lack of recovery specific preparedness and planning measures remains a core issue. Whilst increased focus has been directed globally to contingency planning and emergency response, there have been limited and inadequate investments in developing capacities for managing recovery and this remains a major challenge in the transition from relief to development. Similarly, transitional funding targeting the planning of recovery strategies and programmes is often relatively neglected in the gaps between emergency and development financing.

The appropriate management of recovery is crucial to reduce the risk for future disasters and strengthen the resilience of the communities. To be effective, disaster recovery needs to be an integral part of the response planning systems. The necessary legislative and institutional systems as well as recovery personnel and resources must be in place well before a disaster occurs.

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