Disaster Risk Reduction in Afghanistan

Status Report 2020

adpc Asian Disaster Preparedness Center

UNDRR UN Office for Disaster Risk Reduction

Disaster Risk Reduction in Afghanistan

Status Report 2020

ADPC Editorial Team

Aslam Perwaiz
Janne Parviainen
Pannawadee Somboon
Ariela Mcdonald

UNDRR Review Team

Animesh Kumar
Timothy Wilcox
Iria Touzon Calle
Omar Amach

About this report

The disaster risk reduction (DRR) status report provides a snapshot of the state of DRR in Afghanistan under the four priorities of the Sendai Framework for Disaster Risk Reduction 2015-2030. It also highlights progress and challenges associated with ensuring coherence among the key global frameworks at the national level; and makes recommendations for strengthening overall disaster risk management (DRM) governance by government institutions and stakeholders at national and local levels.

As this report is based on information available as of the end of the year 2019, an update on the COVID-19 impact, response and recovery using a risk-informed approach by countries is provided at the beginning of this report. This report has been prepared by the Asian Disaster Preparedness Center (ADPC) on behalf of the United Nations Office for Disaster Risk Reduction (UNDRR) through country consultations and a desk review of key documents, including legal instruments and DRR policies, plans, strategies and frameworks, etc.

The report has benefited from inputs by the Afghanistan National Disaster Management Authority (ANDMA) and the government departments such as the Ministry of Agriculture, Irrigation and Livestock, Ministry of Education, Ministry of Energy and Water, Ministry of Foreign Affairs, Ministry of Public Health of Afghanistan, and Ministry of Transport. The international organizations including UN Agencies, Asian Development Bank, The World Bank (WB) Group, the United States Agency for International Development (USAID), the Agha Khan Agency for Habitat (AKAH) and others were consulted. The list of people and agencies met is enclosed at the end of this report. UNDRR and ADPC acknowledges the government, international organizations and stakeholder representatives who contributed their valuable input and feedback on this report.

This report was made possible by a generous contribution made by the Government of Australia, Department of Foreign Affairs and Trade, as part of the Partnership Framework with UNDRR on 'Supporting Implementation of the Sendai Framework.'

This report serves as a reference document for the implementation and monitoring of the Sendai Framework. The findings, interpretations, and conclusions expressed in this document are those of the author(s) and do not necessarily represent those of the United Nations, including UNDRR, or its Member States. The presentation of the material in this report concerning the legal status of any country or territory or of its authorities or concerning the delimitations of its frontiers or boundaries, as well as the text and the tables, is intended solely for statistical or analytical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. While every effort has been made to ensure the accuracy of the information, the document remains open for any corrections in facts, figures and visuals.

Afghanistan's Response to COVID-19 and Disaster Risk Reduction

Afghanistan reported its first confirmed COVID-19 case on February 24, 2020 in Herat province. As the infection spread in March, the government progressively tightened containment measures, by introducing screening at ports of entry, quarantine for infected people, and closure of public places to prevent gathering of crowds. On March 28, it imposed a countrywide lockdown, which was subsequently extended twice. As infection numbers soared throughout March in Herat, the country had difficulty tracking, testing, and isolating new cases. Despite the lockdown in major population centers, the number of cases has continued to surge upwards. The official tally of COVID-19 cases was 36,719 and deaths at 1,284 as of August 5, 2020, though this probably represents a fraction of the real situation on the ground.

Oxfam estimated that the number of people on the brink of famine in Afghanistan has risen to 3.5 million in May 2020 from 2.5 million in September last year (Ahmed, 2020). The Government is working closely with technical partners such as the World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF), humanitarian health cluster partners, International Organization for Migration (IOM) and other relevant stakeholders to rapidly expand in-country preparedness and containment capacity, to strengthen detection and surveillance capacity at points-of-entry into Afghanistan, such as airports and border-crossing sites (especially in the west), and to continue the training of medical staff on case-management, risk communication and community engagement.

The Ministry of Public Health (MOPH) has established committees for the surveillance of COVID-19 at the national and provincial level. At the national level, WHO together with the health cluster has developed and is implementing a COVID-19 Preparedness Plan to complement the MOPH Emergency Response Plan for Coronavirus 2020. Additional funding is currently being sought for this plan. The current WHO preparedness plan will be updated to cover response activities and include more inter-sectoral components. At the sub-national level, WHO and the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) Western Region (Herat) are supporting the MOPH and humanitarian partners to scale-up their response to COVID-19. Activities that will be financed under the COVID-19 Fast-Track Facility will be coordinated to ensure that gaps are covered, and duplication is minimized.

In March 2020, the MOPH and the Aga Khan Agency for Habitat (AKAH), started collaborating and in May 2020 their synergy resulted in creation of an information management system using ActivityInfo to manage data related to COVID-19 response, that linked 34 provinces of Afghanistan with the Crisis Coordination Center in Kabul. ActivityInfo is a monitoring and evaluation software as a service provided by BeDataDriven B.V., a private company based in The Hague in the Netherlands.

The President of Afghanistan is providing overall guidance on COVID-19 support and response. The President has appointed the second vice-president as the overall chair and coordinator of the high-level committee. The Ministry of Finance (MOF), under the guidance of the Minister, through its Aid Management Department, has been coordinating with MOPH, other relevant ministries, and development partners to source emergency assistance

funds and has been leading the overall coordination among government agencies and development partners.

The Government of Afghanistan has quickly responded to the COVID-19 emergency, led by MOPH in preparing a National Emergency Response Plan for COVID-19, March 2020 (NERP). It is with close coordination and inputs from the health sector cluster of development partners and other related government and development agencies. The partners are now working with MOPH and the Ministry of Finance (MOF) in coordinating their support for the priorities outlined under this plan. On February 25, 2020, MOF allocated US$25 million to MOPH for COVID-19 support, including key medical supplies, equipment, and hospital facilities (Herat and Nimroz).

The government initially allocated AFN 8 billion (0.5 percent of GDP) equivalent to US$104 million from contingency funds for emergency pandemic response. Of this amount, AFN 1.9 billion or US$24.7 million (0.1 percent of GDP) was earmarked for urgent health needs, such as establishing testing labs, including at border crossings; setting up special wards to boost hospitalization and care capacity; and procuring critical medical supplies.
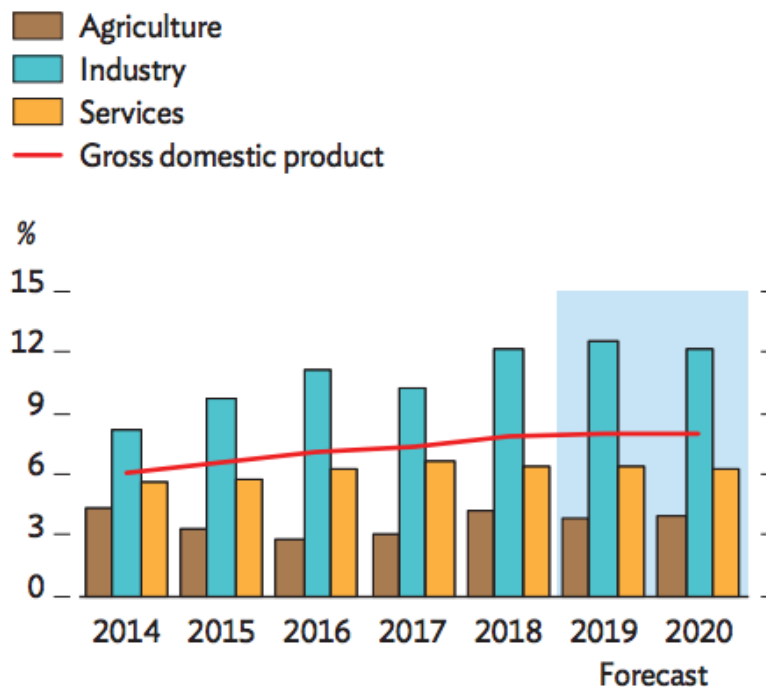
1. Introduction

Islamic Republic of Afghanistan is a landlocked country, covering an area of 652,864 square kilometers in the nexus of South and Central Asia (Ministry of Foreign Affairs, 2019). It shares borders with Pakistan, Iran, Turkmenistan, Uzbekistan, Tajikistan and China in the far northeast, and over a third of the country's topography is dominated by the Hindu Kush mountain range. The rugged terrain and the harsh, semi-arid to arid climate render only 12 percent of the land arable, and approximately 49 percent of the total area is above an elevation of 2,000 meters which receives relatively low annual rainfall (Government of Afghanistan, 2019). Thus, the population tends to cluster in the capital Kabul, foothills and peripheries of mountainous areas, into smaller valleys and the fertile regions of Kandahar province in the search of employment opportunities.

Administratively the country is divided into 34 provinces, headed by the President of the Islamic Republic of Afghanistan who is responsible for executing his authorities in the executive, legislative and judiciary fields in accordance with the constitution (Office of the President, 2016). Most of the political authority lies with the national government due to a centralized administrative structure; however, the selected province governors may exercise their power as mandated by the policy and budget decisions made by the central government (Habib, 2013).

Given the political turmoil and challenges in the past, economic growth and recovery have been slow due to low private investment and consumer demand, effects of which have been worsened by poor agricultural output following unfavourable conditions (World Bank, 2019). However, domestic revenues have reached record highs in the recent years, budget execution increased to 92 percent in 2018, and the growth is projected to gradually accelerate over medium-term to around 3 percent by 2021 (World Bank, 2019). The future projections are supported by the vast wealth in natural resources −− including oil, gas, marble, copper, coal, iron, gold, lithium among other minerals − successful utilization of which has a potential to significantly boost the economy, and could be an effective tool in stabilizing the development (Amini, 2017). The growth has stagnated since 2014 due to intensified political instability of the recent years, which has considerable political and social implications for future contingencies of private, public and household spending activities (ICG, 2016), but the projections for the future remain positive (Figure 1).

Figure 1. GDP growth by sector in Afghanistan (ADB, 2019)

Additionally, various hazards contribute to the challenges in managing the country's disaster and climate risk reduction efforts alongside maintaining the development pathway. The continental climate is susceptible to extreme temperatures and rapid, high-volume rainfall; flash flooding and avalanches in the narrow mountain valleys have caused large losses of lives and property in the past (Asian Development Bank, 2015). The country is also highly prone to landslides, earthquakes, droughts, flooding and severe impacts of climate change. In fact, half of all annual deaths are due to geophysical and hydro-meteorological events, and the lack of coping mechanisms and capacities common to fragile states are contributing to high vulnerabilities (GFDRR & World Bank, 2017).

1.1 Demographic Characteristics

According to the National Statistic and Information Authority (NSIA), Afghanistan's population has increased by an average rate of 3.3 percent between 2004 and 2017 and has now crossed 35.7 million (NSIA, 2017). Afghanistan also has a long, diverse history, and the Constitution officially recognizes 14 different ethnic groups (Ministry of Foreign Affairs, 2019). Smaller groups throughout the country also speak more than 70 languages and numerous dialects alongside the official Pashto and Dari.

Socio-economic development of the country has been impressive, with many of the development indicators (including education, maternal health and WASH) improving steadily. However, many others indicators, such as employment, poverty, food-security, and gender-equality have stagnated or deteriorated due to the worsening security situation and macro-economic conditions, which contribute to societal stressors (NSIA, 2017). Despite the annual GDP growth of 9 percent to 16.2 percent between 2002 and 2018, Afghanistan still remains among the poorest countries in the world (World Bank, 2018). Poverty levels remain

high and have deepened in the recent years, and the severe drought of 2018-2019 further reduced low-income household salaries and induced the internal displacement of nearly 300,000 people (World Bank, 2019).

Though facing challenges, the country has potential for immense change and development. Almost half of the population consists of children under the age of 15, which places Afghanistan among the four countries in the world with highest proportion of persons under 15 (NSIA, 2017). This suggests that the country could achieve significant economic boost from achieving demographic dividend during the upcoming years, but only if the appropriate investments in youth and education are made. The large numbers of children require opportunities and appropriate schooling to attain their full potential to access the economy and labor force, which is a challenge that needs to be carefully managed in the future. Yet, the Living Conditions Survey of 2016-2017 predicted severe challenges due to scarce resources which must be equally allocated to education, health care and social development while a relatively small proportion of the population is currently available for productive activities. The labor market is under considerable stress and the low-quality of work, low pay and low-productivity hinder people from escaping poverty (NSIA, 2017). Only 13 percent of the working population can be considered to have decent employment, and 80 percent of all jobs are considered as vulnerable due to scarce formal job opportunities. Nearly half of all jobs are in the agricultural sector, and manufacturing employment remains low at 18 percent (NSIA, 2017). Thus, achieving the intended aspirations for disaster and climate resilient as well as sustainable society providing equal opportunities and livelihood options will not be an easy task.

1.2 Economic Impact of Disasters

Despite the ascending GDP, now crossing US$ 20 billion, disasters have had a profound impact on the economy, lives and livelihoods of people in Afghanistan. Since 1990, there have been 355 recorded earthquake events with a magnitude higher than 5 (USGS, 2019), and the winterly snowfall can exceed one meter in mountainous areas. While earthquakes and landslides remain as the deadliest hazard in the country, snow melts and intense rainfall during spring and summer months may lead to flash flooding which cause approximately US$ 54 million in annual damages on average (Ranghieri & Nagar, Building a More Resilient Afghanistan, 2019; World Bank, GFDRR A, 2018). Flooding is indeed the costliest disaster, although the exact extent of the damages and losses is hard to estimate due to lack of comprehensive data (UNDRR, 2015). At the national level, flood damages are highest to the commercial sector (40 percent), and over 100,000 people are affected annually, which have a mounting effect on the growth of industry, social sectors, GDP and safety of populace (World Bank, GFDRR A, 2018).

The value of assets exposed to other hazards suggests that the economy is largely vulnerable to disasters in the future as well, unless mitigation options are undertaken. For example, the estimated value of GDP of assets exposed to landslides exceeds US$ 6.4 billion, and in the case of avalanches over US$ 1.6 billion, which corresponds to 8.09 percent of the GDP (World Bank, GFDRR A, 2018). Droughts can also be perilous to a country with high reliance on agriculture. The most recent event illustrated their severe damaging potential: between 2018 and 2019, a La Niña induced heatwave caused wheat production to fall 57 percent below a five-year average - affecting 20 provinces and causing the overall cost of fodder demand for livestock protection to reach US$ 550 million due to lost harvest (OCHA, 2018).

When combined with the current political situation and fragile economy, the loss of employment, livelihood options and infrastructure as a result of disasters may be detrimental to future economic development. Given the increasing demand for healthcare, education, social protection and investment in the rapidly growing population, disasters have the potential to derail any positive development pathway, and hinder the effective utilization of workforce and available resources in Afghanistan. Furthermore, given the urgency of climate change and its associated adverse effects to the frequency and impact of hazards, disaster and climate risk reduction should be rapidly prioritized to safeguard not only the economy, but also livelihoods, wellbeing and safety of the population, especially the youth. Climate change and mitigation efforts will also require an exponentially increasing amount of resources (both human, and financial), which will be challenging to manage in an already financially stressed country. However, boosting the economy in a sustainable and green manner will be an important tool to reduce poverty, vulnerabilities and the national reliance on donor aid in disaster response. It would also help managing the future disaster and climate risks, but only if the trade-offs between development and sustainability will be carefully managed as well.

1.3 Social Impact of Disasters

Disasters always affect the functioning of societies in a plethora of complex feedback mechanisms. For example, the drought of 2018-2019 affected nearly 1.9 million people in 20 provinces, and the loss of fodder, water and livestock resulted in massive-scale livelihood losses and lack of employment opportunities. The migration of rural workers rapidly ensued throughout the country, and many were not only displaced but also suffered from malnutrition, lack of water and sanitation, emergency shelters and non-food items in the aftermath of the event (IFRC, 2018).

Apart from disaster and climate driven migration, the people of Afghanistan also migrate for a variety of other reasons. In an ever-urbanizing society, households tend to gravitate towards employment opportunities, services and education facilities for children, or to find water and pass colder winter months in warmer climates (IOM, 2019). Every year, hundreds of thousands of people also return home from neighbouring countries, which stretches the already stressed capacity to host communities due to struggles with providing access to shelter, food, health services, water and livelihoods (IOM, 2019). In such a context, manifold vulnerabilities may begin to form which contribute to the mounting impacts disasters can have within a society.

For example, in 2019 a period of heavy rain triggered flash flooding across six provinces of the country, affecting 17,000 people during the initial three first days. As of March 2019, more than 250,000 people were affected by floods and more than 42,000 of them were displaced (OCHA, 2019). Given the amount of damage to infrastructure, insecurity, difficult terrain and on-going rainfall, response was slow and complex to manage, and required support from the international community in humanitarian response (ECHO, 2019). Additionally, it should be noted here that the effects of flooding were already exacerbated by preceding drought conditions which led to reduced pasture land, water shortages, food insecurity, economic degradation, land degradation as well as displacement, prevailing effects of which were then further worsened by the heavy precipitation and snowfall which triggered the flooding of 2019 (IFRC, 2019). Thus, disasters in Afghanistan are complex, interlinked phenomena which have a tendency to pervade the whole of society and its sectors: from education to health, employment, sanitation, livelihoods and infrastructure; the country and its people are affected by a plethora of hazards degrading the security in an already fragile setting.
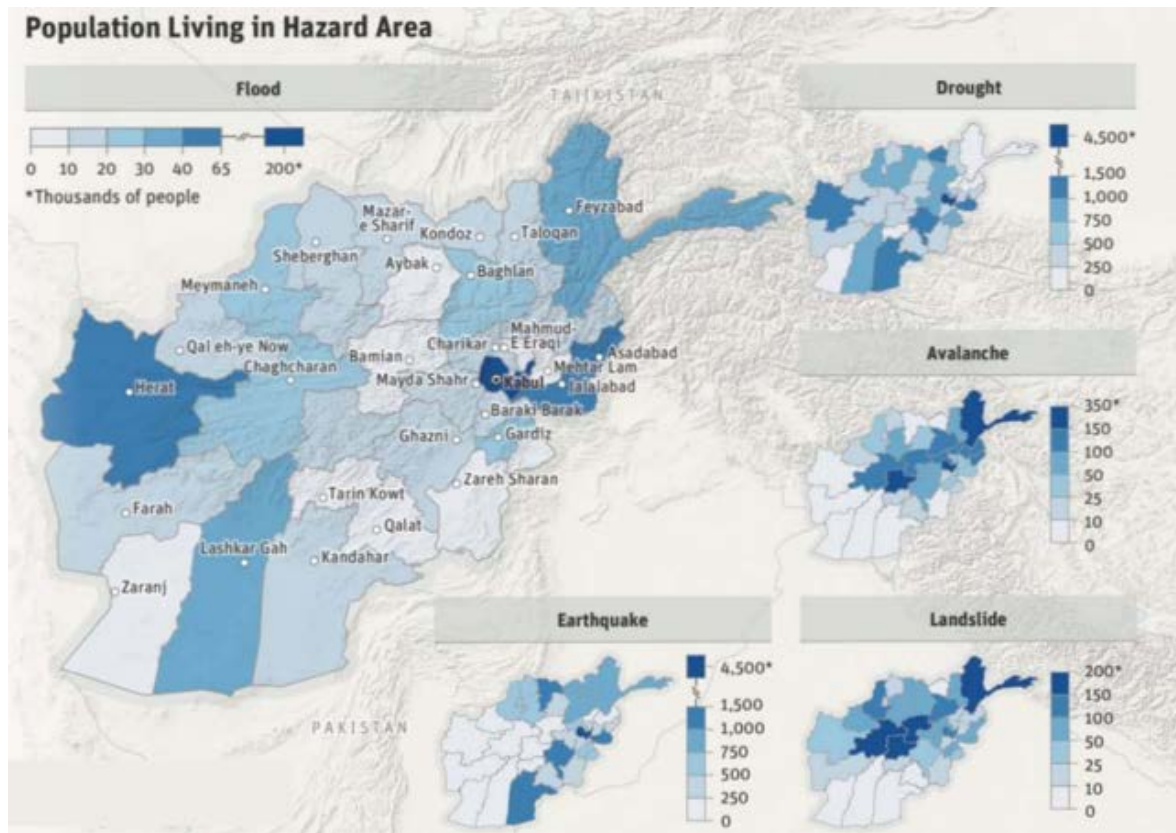
However, given the disconnectedness, remoteness and challenging environment, communities in Afghanistan can be very resilient due to high self-reliance. Historically, the lack of support services, tendency to migrate and recurrent disasters have led to a high capacity to manage local level events (such as "normal" flooding") (Asian Development Bank, 2015), characteristics which should not be overlooked when assessing the vulnerabilities and community resilience. However, impacts of environmental degradation, including depletion of clean air, water and soil will further erode these local level capacities to manage and respond to disasters as they often are outside the communities' control (or they lack the awareness of disasters and their underlying causes which further exacerbates the impacts) (SESRIC, 2018). However, the contingency of required education to improve awareness and resilience is challenging to guarantee given the tendency of disasters to intercept the quality and quantity of services which are already less resilient due to lack of funding and/ or safe design. Lack of education also creates a lack of skilled health workers, for example (with only 0.02 percent of the Afghan population being physicians), which erodes the quality and delivery of health services alongside disasters (SESRIC, 2018). Poor land management, inadequate governance to implement and plan development in the long-term and lack of risk management approaches in urban and regional development further contribute to disaster risks. This indicates – as has been recognized globally in the sphere of disaster risk management – that to fully utilize the peoples' capacities and talents, DRR in Afghanistan requires a whole-of-society approach to fully develop the capacities and resilience at all sectors and grass-root levels.

2. Disaster Risk Profile

2.1 Hazards and Climate Change

Given the complex topography, varying climate and arid to semi-arid conditions with highly fluctuating temperatures between warm and cold seasons, Afghanistan is highly prone to a variety of natural hazards. They include earthquakes, floods, flash flooding, landslides, avalanches, epidemics and droughts, impacts of which are further worsened by climate change. Most obviously the effects of the interaction between hazards and climate are seen in increased likelihood and severity of floods and droughts, lessened agricultural productivity as well as water scarcities (GFDRR & World Bank, 2017), but given the complex fabric of low socio-economic development, lack of livelihood opportunities and decades of conflict, the potential for emerging catastrophic humanitarian and economic emergencies is constant and increasing. Extreme temperatures are also common due to the fact that summer temperatures can reach 49° Celsius and reach as low as -20° Celsius in the Hindu Kush region depending on the elevation. However, disasters have diverse impacts depending on the local topography, regional weather patterns, poverty levels and seismic conditions among other factors, which creates high variability of risk in Afghanistan (Figure 2).

Figure 2. Population exposed to hazards in Afghanistan (GFDRR & World Bank, 2017)

Since 1980, disasters caused by natural hazards have affected 9 million people and caused over 20,000 fatalities, with flooding being the most frequent and damage causing hazard in the country (GFDRR & World Bank, 2017). Heavy rainfall, rapid snowmelt and lack of vegetation in mountainous areas contribute to flooding risk, and urban flooding is often a problem in major cities due to poor drainage systems (GFDRR & World Bank, 2017). Despite being relatively common, flooding still affects the population to a varying degree depending on local coping capacities, infrastructure, flood prone areas and climate (Figure 2). Also, one of the ten major river basins of the Himalayan region, Amu Darya, is also located in the country, water levels of which are largely driven by the glacier melt that renders large parts of northern Afghanistan highly vulnerable to flooding disasters (Elalem & Pal, 2015).

The country is also highly exposed and vulnerable to earthquakes. Afghanistan lies on the peripheries of the Eurasian plate, which is subject to collision with the Arabian Plate in the South, and shares a transgression zone with the Indian plate in the south-east, moving at a relatively rapid pace (Ambraseys & Bilham, 2003). While much of the central Afghanistan is seismically inactive, the heavily populated northern and eastern regions experience significant seismicity, which could lead to large-scale damages especially in Kabul (Ambraseys & Bilham, 2003).
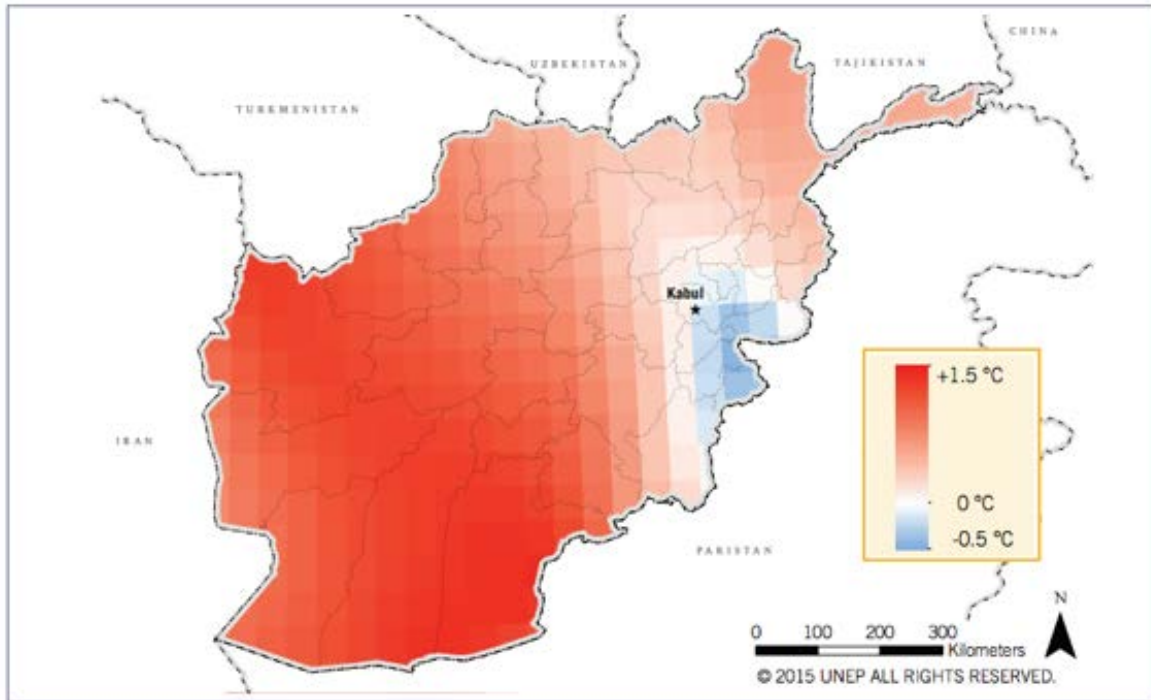
In association with earthquakes and high precipitation, landslides also occur frequently given the mountainous topography and soil conditions. Landslide occurrence accounts only for 3.6 percent of disasters but accounted for 16.8 percent of disaster related deaths between 2012 and 2017 (Schlagel, 2017). In total, about 12 percent of the population is exposed to landslides across the country (World Bank, GFDRR A, 2018).

Droughts are also a concern in an arid to semi-arid country stressed for water and resources. The potential damaging impacts and effects became clear during the 2018 – 2019 drought conditions, which affected 20 of the 34 provinces. Usually, droughts occur due to lack of precipitation during winter and early spring seasons, which also causes low reservoir and well water levels due to lack of snow in dry winters (World Bank, GFDRR A, 2018). Droughts have manifold impacts on society across the country, including diminishing quality of rangelands, loss of crops and productivity, loss of hydropower production and ripple effects such as food insecurity and unemployment. Given the dry climate, water availability is also unequally distributed across the country depending on the season. Thus, drought affecting water availability may have severe consequences (World Bank & GFDRR B, 2018).

Also, as the third deadliest hazard in Afghanistan, avalanches tend to occur nearer the Himalayan region in the north of the country and in higher altitudes (Figure 2). Annual deaths based on historical data have reached 2,700 to 3,500 people, and 8.09 percent of the GDP is exposed to the hazard, which corresponds to about US$ 1.6 billion.

Finally, epidemics create a burden to the government and society – communicable diseases account for over 60 percent of all outpatient visits and more than half of all deaths in the country (WHO, 2019). Most common diseases include tuberculosis, malaria, cholera, Crimean-Congo haemorrhagic fever, measles, hepatitis A, poliomyelitis and typhoid fever.

Given the concerns related to high frequency and impact of hazards, it must be noted that climate change affects hydrometeorological events in adverse ways. The risk of rainfall-related drought has increased over the past 30 years, snowmelt-related droughts (caused by reduced winter snowfall and lessened snowmelt) have affected Kabul region, and floods caused by heavy spring rains and glacier melt have also increased throughout the river tributaries, which have had devastating impact to people's lives and livelihoods (WFP, UNEP & NEPA, 2016). Furthermore, these impacts have high spatial variability depending the region and local conditions (i.e. proximity of glaciers, weather patterns). Thus, considering climate change in association with the hazards in Afghanistan is increasingly necessary in the context of disaster risk reduction.

Since 1960, the annual number of hot days and nights has increased nearly 7 percent, while the surface temperature has gradually increased (Figure 3). Also, the average rainfall has declined approximately 2 percent every month per decade (World Bank & GFDRR B, 2018), Thus, the projections suggest that the flows of major rivers will be reduced, and the risk of drinking water shortages will be exacerbated by 2025. Conversely, increased snowpack melting during the upcoming years may induce major flooding in the five major river basins and may damage dams and irrigation channels (World Bank & GFDRR B, 2018).

All these climate-induced compound hazards may have adverse effects on conflict as well. Food security may worsen, large percent of the population has the potential to tip further into poverty, agriculture output and irrigation may decrease and social protection may become difficult to provide due to stretched funding (SEI, 2009). Such fragility-driven emerging risks and pressures may then lead to increasing tensions between affected groups due to land degradation and resource competition, migration and livelihood insecurity, volatile prices and transboundary water conflicts among other factors (Price, 2019). While the exact

mechanisms with which climate change and its impacts affect conflicts remain somewhat disputed, such factors cannot be overlooked in the context of fragile states.

2.2. Exposure

Hazards affect Afghanistan to a varying degree based on a number of factors, namely; altitude, proximity to river basins, topography, geomorphology, seismicity as well as available resources to respond and mitigate the impacts. For example, avalanches and landslides tend to occur nearer the Hindu Kush mountain region, while earthquakes are concentrated towards the eastern provinces due to a complex web of faults located in Kabul (GFDRR & World Bank, 2017). Flooding affects the major river basins regularly depending on the season as well. Additionally, nearly 100,000 houses, 37 healthcare facilities and 822,000 people have been estimated to be affected by floods with a 100-year return period (World Bank & GFDRR B, 2018). Also, 15 percent of all roads in Afghanistan are exposed to avalanches and roads leading through mountain passes are frequently closed, and 20.4 million people are estimated to be exposed to earthquakes with the intensity over VI every 100 years (World Bank & GFDRR B, 2018). However, these are only physical determinants of exposure of infrastructure and people.

There are also social aspects which are contributing to, or are drivers of exposure, which include urbanization. Given the high incidence of poverty, the number of urban dwellers is growing not only in Afghanistan, but also across South Asia's cities which attract people looking for opportunities and services within growing economies moving away from agriculture towards more service and export based industries (Ellis & Roberts, 2016). As a result, people are settling in unsafe areas lacking infrastructure and inhabiting poorly designed houses unable to withstand the impacts of elements and hazards. These processes not only contribute to increasing disaster risks, but also to increased environmental degradation and pollution which reduces the quality of life and makes communities vulnerable to external shocks. Some of the areas, including Kabul, are also disproportionately exposed to seismic activity, for example, which also contributes to the high risks of the capital region now struggling to manage its population.

In Kabul, returning refugees and domestic migrants escaping the impacts of conflicts, droughts and disasters have contributed to severe smog during winters as old cars, poor quality fuel and trash burning alongside household heating by burning wood all contribute to the condition which has drastically increased the prevalence of respiratory diseases (UN Environment, 2019). The informal settlements also contribute to poor solid waste disposal, depletion and pollution of groundwater as well as deforestation (European Commission, et. al., 2019), which in turn contribute to disaster risks in the future given the degrading safe spaces and resources which are increasingly required by the growing population.

2.3 Socio-Economic Vulnerability

It is widely acknowledged that disasters affect people differently depending on their socio-economic status, gender, ethnicity, sexual orientation and age (among other factors), which affect one's vulnerability and capability to build resilience against hazards within a given society. Among them, poverty is often associated with high vulnerability and low resilience. However, it is inadequate to assume that poverty is a reflection of unhappiness, lack of capacities and deprivation. Research suggests that despite poor living conditions, subjective deprivation is relatively low in Afghanistan and people considering themselves a part of a

community are happier. Such psychological wellbeing then suggests high resilience and mental coping mechanisms which may support everyday functioning (Trani;Kuhlberg; Cannings;& Chakkal, 2016). Hence, associating vulnerability with poverty alone is inadequate, and as Trani, et al. have suggested, understanding the underlying reasons for poverty is paramount for achieving successful poverty reduction given the fact that it varies specifically depending on gender, age, between urban and rural populations, and the disabled, for example. Poverty also varies dramatically depending on the region and season; economic wellbeing of households can fluctuate between abundance to scarcity due to temperature differences and weather affecting agricultural cycles (ADB, 2012).

Yet, some links between poverty and vulnerability can be established. For example, 81 percent of Afghans work in insecure jobs in the informal sector, particularly in agriculture (Trani;Kuhlberg;Cannings;& Chakkal, 2016), which is a critical livelihood important for improving labour productivity and a cornerstone for maintaining food security (Bolton, 2019). However, agriculture is also very vulnerable to disaster impacts, and loss of production can affect low-income and subsistence farmers in plethora of ways. For example, the drought following El Niño driven floods in 2018 degraded 80 percent of the soil, and where flooding occurred, key assets such as land and crops have become increasingly fragile and damaged (FAO, 2019). This instigated migration, drove people further into poverty, increased urbanization trends and reinforced food insecurity, thus rendering affected populations increasingly vulnerable to future shocks as well. Also, given the conditions, rising prices of goods combined to lack of livelihood options that may form cycles of poverty when households resort to negative coping mechanisms such as selling assets in deficit to sustain themselves. Other negative coping methods may force children to drop out of schooling to support their families (or they may not be able to attend due to loss of facilities and infrastructure) which further reinforces chronic poverty.

Gender is also an important determinant of not only poverty, but also vulnerability depending on the context. Gender disparities in Afghanistan manifest themselves in various ways; for example, women have limited access to education and health services partly due to the patriarchal setting which also limits women's opportunities, agency and participation (Hamidazada;Cruz;& Yokomatsu, 2019). Lack of protection, access to same services and facilities as well as lack of education then contribute to women's pre-disaster vulnerabilities as women and girls may not have the same awareness about disasters, have caring roles which limit their mobility and, for example, widows cannot make decisions to evacuate (Hamidazada;Cruz;& Yokomatsu, 2019). Thus, vulnerabilities in Afghanistan also have a gendered aspect which must be considered in the context of disaster and climate risk reduction.

There are also large numbers of refugees, displaced and undocumented people living in Afghanistan, who may be disproportionately vulnerable to disaster impacts due to their pariah status and (often) poorer living conditions or access to services. Nearly 300,000 undocumented Afghans have returned from Iran and Pakistan as of August 13, 2019, many of whom require livelihood support, assistance and services especially in drought or disaster conditions (USAID, 2019).

2.4 Physical Vulnerability

Given the fact that the occurrence of hazards and their impacts in Afghanistan are high, it is necessary to consider the vulnerability of infrastructure and housing as well. As explored earlier in this chapter, high levels of poverty, poorly maintained or damaged infrastructure, rapid urbanization, unplanned development and lack of accessibility all contribute to urban and rural vulnerabilities across the country (SESRIC, 2018).

Many of the cities, such as Kabul, manifest a series of development challenges; approximately one-third of urban populations live below the poverty line, they are more likely to experience food insecurity, and their access to sewerage is very low (French;Popal;Rahimi;Popuri;& Turkstra, 2018). Only 14 percent of urban dwellings are connected to water network and majority of the housing, or 61 percent, consist of unplanned and informal buildings (French;Popal;Rahimi;Popuri;& Turkstra, 2018). Such settlements are increasingly vulnerable to flooding and the impacts of seismic activity, alongside other hydro-meteorological hazards due to lack of design and makeshift nature. Lack of sanitation and sewage systems also increases the prevalence of various diarrheal and vector-borne diseases (especially in the aftermath of flooding) and constitutes a health risk for the population alongside hazards.

The old city, much of which was destroyed in 1992, is a critical component in growth of central Kabul given the increasing pressures on land and housing. It is among the most densely populated areas in the city despite construction ban which was imposed in 2002 (Aga Khan Foundation, 2007). As property and land values keep rising, construction of traditional residential property has continued across the old city and on steep hillsides in the peripheries, which, while generating employment, are also poorly regulated and monitored in terms of safety (Aga Khan Foundation, 2007). Rising prices also force families to seek shelter in the outer margins which has suffered from negligible investment in public infrastructure, which further adds to the urban vulnerabilities following rogue development. The Living Conditions Survey of 2016 and 2017 revealed that only 36 percent of the population has access to safe water and only 31 percent is connected to the electric grid (NSIA, 2017).

Critical infrastructure and roads are also at high risk. However, given the past conflicts, very limited data is available about the current conditions and risks. However, some rough estimates have been drawn from the most recent multi-hazard risk assessment conducted by the GFDRR and the World Bank; for example, approximately 6,893,099 square kilometres of industrial areas are exposed to flooding on a 1:100 return period, all hydropower infrastructure is not only vulnerable to impacts of flooding but also drought following reduced water availability, and landslides pose a high risk to infrastructure located in high altitudes and mountainous provinces (World Bank, GFDRR A, 2018). To support long-term economic growth, addressing these vulnerability and productivity issues has been identified as paramount priority for the upcoming decades (ADB, 2019).

2.5 Future of Disaster and Climate Risks

As much of the population relies primarily on rain-fed agriculture, which is also vulnerable to changes in the annual average temperatures, climate change poses a severe threat to Afghanistan's economic and social development. Increasing droughts, reduced snowfall and altered rainfall may all have adverse impacts on water availability, which would further contribute to desertification, reduced productivity and agricultural output, increased

food insecurity and (potentially) increased conflicts among other impacts. Even the lower-emission GHG scenarios project a warming trend which could lead to an increase of 1.4° Celsius by 2050, which will have impacts on human health due to increased incidence of vector-borne diseases and extreme temperatures, on fragile biodiversity, food and on energy and infrastructure across the country as well (National Environmental Protection Agency, 2016). Furthermore, it is likely that the ecosystems are unable to adapt to such changes during the next century, which will lead to further economic decay and associated implications unless mitigation and adaptation options are implemented rapidly (National Environmental Protection Agency, 2016).

However, the political and socioeconomic challenges of the past 40 years have severely limited the adaptation and mitigation capacity of Afghanistan. Damage to irrigation and water systems, incidences of malnutrition and diarrhoea, diseases, deforestation and unutilized potential for renewable energy all contribute to the challenges, not to mention large portions of the population living below the poverty line and high reliance on agriculture (USAID, 2016). Challenges have also contributed to a lack of comprehensive data to measure and estimate climate change impacts, and the available resources are constrained due to the number of immediate needs which somewhat limit proactive efforts. Yet, the government has implemented multiple projects to improve the adaptive capacity and resilience of various sectors. For example, data availability and climate change modelling activities have been improved, crop insurances have been established alongside capacity building and renewable energy projects, which have been implemented to a varying degree (National Environmental Protection Agency , 2015).

These are among some of the bright spots in the current development which must be further supported by investment and planning in the future to guarantee adequate mitigation and adaptation to climate change impacts as a part of comprehensive disaster risk reduction. Key initiatives are such as Building Adaptive Capacity and Resilience to Climate Change in Afghanistan, launched in 2013 with support by UNEP, focusing on strengthening government capacity, promoting ecosystem management for CCA and increasing knowledge sharing of best practices in adaptation; Strengthening the Resilience of Rural Livelihood Options for Afghan Communities to Manage Climate Change Induced Disaster Risks, since 2015, targeting at reducing livelihood vulnerability and diversifying rural incomes opportunities of drought and flood prone communities through the rehabilitation and sustainable management of critical rangelands and watersheds and micro-hydro power and biogas projects to develop alternative sources of fuel and energy for community consumption, under the National Area-Based Development Programme (NABDP)

3. Disaster Risk and Climate Action Interventions

It should be noted here that given the challenges Afghanistan has faced during the past decades, the implementation process of the Millennium Development Goals (MDGs) and the Hyogo Framework for Action have not necessarily reached their full potential in the past, and many gaps remain in the institutional capacity to manage disaster risk reduction-related affairs and activities. Despite the challenges, the government has made commitments to improve disaster and climate risk management in the country, and has started integrating the Sendai Framework for Disaster Risk Reduction, Sustainable Development Goals (SDGs) and Paris Agreement into the national priorities (UNDRR, 2018). Furthermore, the government is expecting to meet the MDGs by 2020 (Ministry of Economy, 2017). This section provides an overview of the country's process vis-à-vis the mandates of international agreements and frameworks, highlights some of the key issues and provides suggestions for supporting the further implementation of DRR and CCA.

Priority 1. Understanding Disaster Risk Collecting, managing and analysing disaster information is crucial to further increase the understanding of risks through vulnerability and risk assessments, post-disaster needs assessments, as well as to improve early warnings and risk monitoring. Furthermore, lack of capacity to collect and monitor relevant data (especially SADD) leads to ineffective disaster risk management due to lack of adequate knowledge to assess needs, vulnerabilities and capacities for designing interventions and risk reduction initiatives. In Afghanistan, there exists a significant capacity gap in collecting and utilizing disaster and climate related information, and the required technical knowledge of the authorities requires strengthening (SESRIC, 2018). While national government agencies are responsible for disaster risk management systems, there are weaknesses caused by the lack of centralized data repository and management systems (Ministry of Rural Rehabilitation and Development, 2014; UNDP, 2019). It is also unclear how well relevant stakeholder and line ministries can access the information required for safe land use planning and urban development, for example. Additionally, understanding of climate change impacts and effects remains low across institutions at national and sub-national levels, and the monitoring and evaluation to track the impacts of interventions does not exist (UNDP, 2019). Limited research on the gaps of plans and systems further constrains the formulation of targeted activities designed to responded to the needs of governance (UNDP, 2019).

However, the government has strived to improve information management in Afghanistan to improve the understanding of risks in the country. Between 2011 and 2014, a National Disaster Risk Reduction Information Management Initiative aimed to improve the networks and communication mechanisms between DRR stakeholders to further facilitate information sharing, and the National DRR Platform has hosted information about on-going DRR activities (ANDMA, 2011). Also, the weather databases have been restored with the support of the World Meteorological Organization since 2003, and a database for analysing hydro-meteorological and agricultural information have been established nationwide (ANDMA, 2011). More recently, the World Bank, GFDRR and the National Disaster Management Agency have conducted comprehensive risk assessments to guarantee that the government, stakeholders and relevant agencies have access to detailed, multi-hazard risk assessments which cover the national level and some geographic areas in more detail (World Bank, 2019). These include 1) the Afghanistan Disaster Risk Profile, 2) Afghanistan

Disaster Risk Reduction GeoNode[1], 3) Afghanistan Multi-Hazard Risk Assessment and 4) the Strengthening Hydromet and Early Warning Services in Afghanistan: A Road Map.

Priority 2. Strengthening Disaster Risk Governance to Manage Disaster Risk Recognizing the importance of strong risk governance to support in anticipating, preparing for and responding to shocks and challenges will mitigate Afghanistan's vulnerability to disaster and climate-related hazards, as well as economic hazards. Strengthening capacities within the governance structure will reduce exposure to conflict and avoid falling short in achieving the Millennium Development Goals, Hyogo Framework for Action (ANDMA, 2011), and later on, the Sendai Framework for Disaster Risk Reduction. Thus, the national government has taken multiple steps to strengthen governance and improve the legislative framework required for comprehensive risk management.

A disaster management plan has been in place since 2003, and an updated version was implemented in 2010 with the support of UNDP to guarantee efficient and independent mechanism for reducing loss of life and suffering as a result of disasters in Afghanistan (ANDMA, 2010). It gave the provisions for implementing a National Disaster Risk Reduction Plan and Disaster Response and Recovery Plan by 2015, but evidence of the implementation of said plans was not available for this review. In 2011, The Law on National Disaster Response, Management and Preparedness was enacted to regulate activities related to disasters in efforts to better manage natural and technological hazards. For regulating and coordinating the activities as mandated by the Law, the Afghanistan National Disaster Management Authority (ANDMA), heading the National Disaster Management Commission, is the main responsible organ for coordinating emergency preparedness and response (Asian Development Bank, 2015). Ministry of Rural Rehabilitation and Development (MRRD) then focuses on implementation of DRR at the sub-national level, mandated by the Social Protection Directorate, and the Ministry of Interior and Planning is among the key departments for mainstreaming at provincial and district levels.

Furthermore, a number of other policies and plans support the disaster and climate risk reduction in Afghanistan. For example, the Strategic National Action Plan for Disaster Risk Reduction was developed in 2011 in accordance to the National Development Strategies to pave way towards peace and stable development, in consideration of reconstruction and recovery in a context shadowed by on-going emergencies, conflicts and disasters (ANDMA, 2011). It recognizes setbacks the country and its people have faced during the past decades, and aims to transition from recovery and reconstruction towards proactive sustainable development, building resilience and establishing synergies between DRR and climate change adaptation through harmonizing the plans and programs (ANDMA, 2011, s. 9). The MRRD's Disaster Management Strategy (2014-2018), then, intended to integrate DRR into its own nation-wide programs, improve knowledge management and capacity, address social and economic marginalization as well as address immediate recovery needs of communities (Ministry of Rural Rehabilitation and Development, 2014).

Similar aspirations are expressed in the National Peace and Development Framework (ANPDF) for 2017 to 2021, which outlines the intentions to achieve self-reliance, building productive and resilient economy, end corruption and invest in well-regulated financial sector to improve service delivery, infrastructure and balanced growth (Government of Afghanistan, 2017). It also recognizes the importance of building resilience against hazard-induced shocks, impacts of which are magnified by the lack of adaptive capacity and

---

1 First effort towards creating, sharing and accessing public information covering geospatial data and maps about disaster risks for decision making. However, the functions are currently limited as it was established only in 2018.

proactive approaches as well as inadequate social support systems. Sustainable natural resource management is also among the priorities given the fact that deforestation, over-grazing and prevailing food insecurity have contributed to the heightened impact of disasters, alongside conflicts, low productivity and poverty (Government of Afghanistan, 2017). By the coverage of this policy framework, Afghanistan is attempting to establish a coordinated and comprehensive approach to DRM. The latest DRR strategy - Afghanistan Disaster Risk Reduction National Strategy, 2018 was adopted as overarching policy and strategic disaster risk reduction framework of the country, aligned with the SFDRR. Attempt has been made to translate the strategy into action by developing action plan and systematic reporting - a collective effort of ANDMA and NGOs on DRR at the sub-national levels, all provinces are mandated to have their own disaster management plans. For example, Badakhshan Provincial DM Plan of 2013 has been implemented to further support the implementation of national strategic disaster management and action plans at the lower levels, in accordance of the national level mandates and requirements for development. The provincial plans contain Standard Operating Procedures and coordination structures alongside defined roles and responsibilities for provincial and district governments (National Disaster Management Authority, 2013). However, the implementation largely depends on the local capacities and resources, which may be severely limited in terms of budget and workforce to adequately mainstream DRR and CCA into local sectoral development. Further decentralization efforts to localize DRR and CCA are currently on-going, as reflected in the ANPDF which aims towards improving the sub-national level governance down to community levels by strengthening coordination, links between agencies and by enhancing capacities (Government of Afghanistan, 2017).

Table 1. Afghanistan's legislative plans and policies intended to improve disaster risk reduction and climate resilience

IMPLEMENTATION	PLAN/POLICY	SCOPE	PURPOSE
NATIONAL DISASTER MANAGEMENT COMMISSION, DISASTER MANAGEMENT COMMITTEES	Afghanistan Disaster Risk Reduction National Strategy, 2018	National	Aims to set policy and strategic framework for DRR efforts adopting multi-hazard and integrated DRR approach into development process at all levels.
NATIONAL DISASTER MANAGEMENT COMMISSION, DISASTER MANAGEMENT COMMITTEES	National Disaster Management Plan (2010)	National, Provincial, District, Community	Aims to streamline disaster management systems of Afghanistan by clarifying roles and coordination among stakeholders. Includes provisions for DRR.
NATIONAL DISASTER MANAGEMENT COMMISSION, PROVINCIAL COMMISSIONS	The Law on Disaster Response, Management and Preparedness (2011)	National, Provincial	Outlines general provisions required for managing, preventing and mitigating disaster impacts (as well as recovery).

IMPLEMENTATION	PLAN/POLICY	SCOPE	PURPOSE
AFGHANISTAN NATIONAL DISASTER MANAGEMENT AUTHORITY, RELEVANT STAKEHOLDERS	Strategic National Action Plan for Disaster Risk Reduction (2011)	National, Provincial, District	Intends to support the transitioning from recovery and reconstruction towards sustainable development by providing a roadmap for stakeholders to implement cross-cutting DRR, CCA and bottom-up approaches
MINISTRY OF RURAL REHABILITATION AND DEVELOPMENT	Disaster Management Strategy (2014-2018)	Provincial, District, Communities	Intended to mainstream DRR through MRRD programs, build capacity and knowledge, address social and economic marginalization and address recovery needs.
MINISTRY OF FOREIGN AFFAIRS	Afghanistan's National Action Plan on UNSCR 1325 on Women, Peace and Security (2015-2022)	Provincial, District, Communities	Developed to address challenges women face in the aftermath of war and conflict, increase women's participation, and reduce the disparity between women and men in the society to improve resilience and equity in service provision.
GOVERNMENT OF AFGHANISTAN, ALL RELEVANT MINISTRIES AND STAKEHOLDERS	Afghanistan National Peace and Development Framework (ANPDF) 2017 to 2021	National, Provincial, District	Framework towards self-reliance. Recognizes the importance of sustainable and climate resilient national development to reduce the impact of disasters

Priority 3. Investing in Disaster Risk Reduction for Resilience Due to history of economic and social challenges following decades of conflict and disasters, risk financing and investing in resilience is a complicated task in Afghanistan. Hence, the support of international donors has been crucial in providing assistance through various national programmes (ANDMA, 2011). For example, in 2002, the Afghanistan Reconstruction Trust Fund (ARTF) was established as a World Bank administrated financing mechanism to support the budgeting and national investment programs (ARTF, 2019). It brought together 34 international donors and stakeholders in various programs and projects with the intention to improve education, resilient communities, core infrastructure, sustainable governance among other key development issues. Furthermore, the SNAP of 2011 was specifically designed to match the United Nations Development Assistance Framework through the National Development Strategy, which has been elemental to mobilize funds effectively through a complicated (and sometimes, fractured) governance system (ANDMA, 2011). However, it is important to note that sometimes the international assistance in the aftermaths of disasters and conflict may be limited to short-term public investments, repair and reconstruction of infrastructure due to the ad-hoc and uncoordinated nature of relief funds (SESRIC, 2018). The restoration of functionality of whole-of-society is rarely achieved, and it needs to be considered as an aspect limiting international donor assistance in Afghanistan.

For emergency response, relief, preparedness and mitigation, the National Emergency Fund has been set up with the support of donors as well, whereas the central government allocates it funding every year based on the authorization of the NDMC and recommendations made by the ANDMA. The finances are disbursed from the national budget, and DRR expenditure is tied with general development projects and plans even in the funding phase, and it is considered to be a key aspect of program management (ANDMA, 2011, s. 75). However, the government may still lack the necessary resources to address immediate needs of disaster affected, and the restoration of critical infrastructure may be slow (SESRIC, 2018).

As of now, the Government of Afghanistan is intending to move away from donor reliance by improving spending monitoring mechanisms, domestic revenue collection and by preventing corruption or misuse of funding (Government of Afghanistan, 2017). A significant budget reform is underway in recognition of the fact that the number of projects with broad scopes have left the government with little fiscal flexibility to move funds dynamically to where needs would be greatest (Government of Afghanistan, 2017). Also, low budget execution in the past have left projects unfinished, and poor planning or rigid project structures have not allowed money to be redirected towards under-performing or "low-priority activities". Such challenges contribute to the difficulties in managing DRR and CCA financing in the country. Additional funding will be required to strengthen institutions and their capacity at all levels of disaster governance (Ministry of Rural Rehabilitation and Development, 2014). Progress has since, however, been noted in Afghanistan's efforts towards reallocation of funding for more sustainable and economic development guided by the overarching National Peace and Development Framework.

Disaster governance has been a longstanding policy focus in Afghanistan. This has been reflected in recent programs implemented which have shifted to focus on integration of the needs of vulnerable communities as well as placing greater emphasis on understanding and integrating business continuity across policies and planning processes. There has also been greater emphasis placed on ecosystem-based DRR which focuses in uptake of alternative agricultural practices that are more resilient to the impacts of climate change (Mena & Hilhorst, 2020). To address current gaps in land-use planning, often worsened by desertification, droughts and storms, additional effort is needed to mainstream disaster risk assessment and mitigation across all phases of a project's cycle. Additional technical capacity building, development of disaster mitigation schemes and assignment of focal person(s) to oversee disaster mitigation is integrated across planning process, will further support in strengthening Afghanistan's investment in resilience (SESRIC, 2018).

In terms of social protection and insurance, the main three mechanisms are social assistance, social insurance and labor market programs which are implemented by the government agencies. They often cover welfare for children and lowest-income households, pensions, disaster relief, food for education programs and supporting the ill (ADB, 2012). However, their reach does not permeate the strata of poverty-ridden society where many lack official documentation and knowledge about the governance systems. Thus, many depend on informal social groups as a mechanism as their primary safety net (Muhibi, 2017). To improve the conditions, most of the government ministries have expressed interest in investing in protection schemes, such as national health insurance. However, in the case of latterly mentioned, large numbers of undocumented people, insecurity, lack of legal guidance, poor awareness and lack of physical access to services would constitute to significant barriers in establishing a successful and working mechanism (Zeng, ym., 2017). Hence, many structural issues remain to be addressed before such aspirations can be achieved.

Priority 4. Enhancing Disaster Preparedness for Effective Response to "Build Back Better" in Recovery, Rehabilitation and Reconstruction While the Disaster Management Plan of 2010 makes provisions for establishing a National Disaster Response and Recovery Plan by 2015 to improve coordinated response, no evidence of the implementation was found for this review. However, a coordination structure is outlined under the DM Law of 2010: all ministries, government and non-government agencies, local councils, CSOs and communities are mandated to support the ANDMA in all disaster management and risk reduction activities (ANDMA, 2010). In order to reduce overlapping responsibilities, and to guarantee effective response, a cluster system has also been developed by the NDMP to guarantee roles of partnerships and cooperative planning among the plethora of stakeholders present in the country (IFRC, 2013). However, little research has taken place to determine the exact gaps and needs in planning in disaster preparedness and response at the sub-national levels, but provisions have been made to improve the effectiveness of local stakeholders and government agencies (Ministry of Rural Rehabilitation and Development, 2014).

Early warning services do not exist in Afghanistan, and as of now, there is no institutional capacity required to analyze, forecast and develop (nor deliver) warning messages for floods and flash flooding, landslides, avalanches or epidemics (World Bank, GFDRR A, 2018). However, low to medium capacities exists for observing, detecting and monitoring said hazards due to a network of observing stations, – including droughts – despite the fact that the early warning capacity remains low. Despite the challenges, local level initiatives have been proved successful in the past. The ICIMOD's Community-Based Flood Early Warning System (CBFEWS) was established to disseminate early warnings through people's efforts to disseminate messages (World Bank, GFDRR A, 2018). Still, it is not clear how such systems operate in reality, and thorough assessment about the local effectiveness to operate EWS have not been conducted. Also, the end-users of EW services have little to know relevant knowledge, and the needs of the public are poorly understood by service providers (World Bank, GFDRR A, 2018).

Building Back Better in Afghanistan will be supported by the recently developed Disaster Risk Profile, Multi-Hazard Risk Assessment, Road Map for Improving Hydromet and Early Warning, as well as the Afghanistan Disaster Risk GeoNode – projects. Critical risk information provided by these initiatives will be elemental in mainstreaming disaster and climate risk reduction considerations into on-going budget and planning in reconstruction (Ranghieri & Nagar, Building a More Resilient Afghanistan, 2019). The progress is further supported by the Establishing Critical Risk Information (ECRI) project, which is providing trainings about the concepts and utilization of risk information to ANDMA, Ministry of Rural Rehabilitation and Development, the Meteorological Department among others. The MRRD has already utilized this knowledge and trained over 4,500 communities in disaster risk management (Ranghieri & Nagar, Building a More Resilient Afghanistan, 2019). As of now, the Ministry of Rural Rehabilitation and Development (MRRD) is the main agency involved in rehabilitation and reconstruction based on the governments Post Disaster Needs Assessment (PDNA). The MRRD Programs have the required capacity, resources and support to undertake infrastructure redevelopment in consideration of DRR, climate resilience and building back better within the scope of road reconstruction and social/human capital infrastructure development (Ministry of Rural Rehabilitation and Development, 2014).

4. Coherence with Sustainable Development Goals and the Paris Climate Agreement

Many of Afghanistan plans and frameworks make references to sustainable development. For example, the main instrument leading national development (ANPDF) acknowledges the importance of risk-informed sustainable development to end poverty, ensure security and stability for future generations (Government of Afghanistan, 2017). Climate change is also addressed as one of the most significant threat to GDP, safety and livelihoods, and the mandates are made to increase climate resilient investment activities.

The Disaster Management Strategy by the MRRD also incorporates considerations for sustainable development and aims to integrate vulnerability and poverty reduction in consideration of climate risks (Ministry of Rural Rehabilitation and Development, 2014). However, no explicit links are drawn between DRR and CCA. The synergies are better recognized in the SNAP of 2011, where the convergence of DRR and CCA is intended to be utilized for increasing continuity and consistency among the existing plans and programs to reduce disaster risks through a holistic approach (ANDMA, 2011). In principle, it provides strategic direction by providing a comprehensive, multi-hazard roadmap for development, supported by the international community and all levels of governance. Additionally, sustainable development is highlighted in the context of recovery and reconstruction, and the Millennium Development Goals were used to guide the implementation process (ANDMA, 2011). Yet, it seems that no comprehensive review of the progress and impact of SNAP have been conducted to date.

For achieving the SDGs, the government has launched a whole-of-government policy and strategy to create an enabling environment for sustainable development as mandate by the constitution, in consideration of the responsibilities of all sectors (Ministry of Economy, 2017). However, challenges remain: financing the SDGs, formalizing partnerships, localization of the agenda and lack of data availability are all likely to limit the implementation process during the upcoming decade (Ministry of Economy, 2017). The government has also addressed issues in governance as mandated by the SDGs to further guarantee achieving poverty reduction, quality education, government's transparency, accountability and stability. Such aspirations were reflected in the National Action Plan (NAP) for 2018 – 2019, in recognition of the fact that in some cases, governance has been power-driven, lacking accountability, and may not have represented the best interest of people (Government of Afghanistan, 2018). The NAP was implemented following the attaining of membership to the Open Government Partnership which intend to promote transparency, public partnership and accountability.

In general, the available documentation suggests that the implementation and harmonization process of SDGs, Sendai and the Paris Agreement is in its early phases. Much of the reviewed legislation lack a comprehensive overview, and while the SNAP of 2011 did intend to encourage synergies, it is unclear how well its mandates have been utilized to date. Table 2. attempts to collate existing plans, policies and programs to ease the process of identifying existing synergies for further harmonization of the government's efforts towards one, comprehensive plan incorporating DRR, CCA and sustainable development across sectors and levels of government. Given the fact that the Disaster

Management Plan 2010 already introduced "Sector-wise Cluster Approach" (p.16) for disaster and climate risk reduction, provisions for managing effective coordination between various stakeholders and agencies already exist. However, the question as to what extent these aspirations have materialized remains unclear.

Table 2. Synergies between international agreements and different policies and commitments of Afghanistan in various sectors.

Sectoral Aim	Policies/programs with potential links to Sendai Framework for Disaster Risk Reduction	Policies/programs with potential links to Sustainable Development Goals	Policies/programs with potential links to the Paris Climate Agreement or Environment
National Development	Afghanistan National Disaster Management Plan (2010) Afghanistan Disaster Risk Reduction National Strategy (2018)	Afghanistan's National Peace and Development Framework (ANPDF) (implementation is process on-going)	Afghanistan Sustainable Energy for Rural Development (MRRD & UNDP) Afghanistan's National Peace and Development Framework (ANPDF)
Agriculture	National Comprehensive Agriculture Development Priority Program (2016-2021)	National Comprehensive Agriculture Development Priority Program (2016-2021) National Rural Access Program (2002)	National Comprehensive Agriculture Development Priority Program (2016-2021)
Disaster and Climate Risk Reduction	Afghanistan Strategic National Action Plan for Disaster Risk Reduction: Towards Peace and Stable Development (2011) MRRD Disaster Management Strategy (2014) Afghanistan National Disaster Management Plan (2010) Afghanistan Disaster Risk Reduction National Strategy (2018)	Afghanistan Strategic National Action Plan for Disaster Risk Reduction: Towards Peace and Stable Development (2011)	Afghanistan Strategic National Action Plan for Disaster Risk Reduction: Towards Peace and Stable Development (2011) Afghanistan National Disaster Management Plan (2010)
Vulnerability Reduction	Afghanistan's National Action Plan on UNSCR 1325-Women, Peace and Security Afghanistan National Disaster Management Plan (2010)	Citizen's Charter National Priority Program (2016) (poverty reduction) National Comprehensive Agriculture Development Priority Program (2016-2021) (need to address poverty among subsistence farmers)	Afghanistan National Disaster Management Plan (2010) Afghanistan Disaster Risk Reduction National Strategy (2018)
Urban Development	City for All (2016-2020) Regulation on Registration of Urban Informal Properties (2017)	Afghanistan's National Peace and Development Framework (ANPDF)	National Land Policy (2018) Land Management Law (2017)

5. Issues in the Implementation of Disaster Risk Reduction and Climate Policy

In the context of Afghanistan, the linkages between disaster risk, hazards, violence, conflict and fragility must be recognized. For the first time, this was done comprehensively in the 2019 Global Assessment Report on Disaster Risk Reduction 2019, where the concept of DRR strategies in fragile contexts was introduced (Chapter 15: Disaster Risk Reduction Strategies in Fragile and Complex Risk Contexts) (UNDRR, 2019). DRR policy makers must acknowledge the strategies that would reflect the complexity of the realities in which disasters materialize, and thus the impacts of conflict to vulnerabilities and displacement cannot be overlooked. While disasters, vulnerabilities and capacities have been theorized and implemented to practice in various ways, only recently have conflicts been considered as an element of delivering effective DRR (Peters, 2019). Practitioners, stakeholders and governments have a moral imperative to protect lives and property despite the political connotations that such thinking may bring, which compels us to investigate DRR and conflict in more detail. Current research suggests that increasing financial and technical support to national disaster management agencies is needed in conflict contexts, and while little is known about the intersection of DRR and conflict, urgent attention is required to consolidate existing evidence to guide DRR implementation in a fragile setting (Peters, 2019). Furthermore, normative, "one-size-fits-all" approaches common to practitioners may not be adequate in many of violent or fragile situations, which requires new innovation and solutions to drive positive change while recognizing the fact that disaster risk is inherently political, as are the solutions (Peters, 2019). Further research is required in Afghanistan to thoroughly identify the limitations posed by conflicts to DRR and CCA.

On a more practical level, the prevailing instabilities and complicated socio-economic issues have had an impact on managing DRM in the country as evidenced by plethora of challenges faced by stakeholders implementing projects. For example, there remains a lack of responsibility for implementation of key projects in preparedness and response, and the over-reliance on various line ministries have caused issues in the past (ADB, 2012). Also, the decades of conflict and the rising population have deteriorated Afghanistan capacity to support traditional systems for sustainable natural resource management, which further contributes to deforestation, over-grazing and food insecurity (Government of Afghanistan, 2017)

At the local levels, local governance in Afghanistan still faces challenges due to lack of development planning and budgeting at the provincial levels, LGUs resources and capacity are low, accountability has largely been missing and corruption in the past has corroded the people's trust to local government entities (Habib, 2013). Additionally, building designs largely follow traditional construction methods without considering building codes, and the regulatory systems of the local government are inadequate to monitor or implement the national standards (Haziq & Morisako, 2017). Such issues contribute to prevailing vulnerabilities and challenges in implementing DRR and CCA.

6. Stakeholder Analysis

Given the socio-economic and political complexities present in Afghanistan, the support of the international community has been elemental for building stability, prosperity and resilience through joint action and programs. Development cooperation has achieved major successes during the last two decades: The Human Development Index has improved significantly, the access to primary health care increased from 9 percent to more than 57 percent between 2001 and 2014 and the amount irrigated land increased by 44 percent among other positive changes, much of which has been attributed to international support (Government of Afghanistan, 2014). Yet, given the past 40 years of near-continuous conflicts, the government still requires considerable financial assistance after entering its democratic and peaceful era under the Government of National Unity. Support is required in regional cooperation to establish trade, reaffirming financial commitments to Afghanistan to sustain budgets, changing the role of aid towards self-reliance and to enhance the operation of civil societies (Government of Afghanistan, 2014).

These intentions were reflected in the ANPDF, where a framework was introduced for government and its partners to improve mutual accountability and harmonization of initiatives to support Afghanistan's internally designed and consolidated development agenda. The strategy concentrates on receiving a commitment from donors to pool resources behind this particular framework, with the intention to expand on-budget support and dialogue as well as accountability and transparency in development (Government of Afghanistan, 2017). While direct donor financing will continue, the investments will be more targeted, monitored and prioritized in accordance with the nationally defined needs to support the self-reliance aspirations to move away from aid dependence. The commitment for mutual synergies for improving governance is reflected in many of the partners national strategies. For example, the WFP has outlined its strategic plan with the intention to support Afghanistan in achieving zero hunger by 2030 and mainstream cross-cutting issues in gender equality and women's empowerment jointly with the national government (WFP, 2018).

Efforts are also in place to support building a professional civil service force in the country to improve the management of national development needs and to promote the participation of citizens equally. The ANPDF highlights steps for establishing one by changing the existing Civil Servants Law, by improving performance-management, by enhancing service delivery and by enhancing accountability and transparency of governance (Government of Afghanistan, 2017).

However, security issues are hindering the efforts at the ground levels. While the deteriorating political context may contribute to program issues on a wider-scale, local attacks against aid workers now is slowing down the efforts of humanitarian actors. For example, on May 8, 2019, an attack against an NGO compound in Kabul resulted in the deaths of 3 staff members, and according to the UN, 77 humanitarian workers were killed, injured or abducted during the first half of 2019, which exceeds the number of all such cases taking place in 2018 (USAID, 2019).

7. Future Priorities

7.1 Challenges

Most pressing challenges limiting the efforts to successfully integrate DRR and CCA into development and planning, as well as achieving the Sustainable Development Goals and commitments made on international platforms relate to the prevailing socio-economic issues. Over half of the population still live in poverty, the growing numbers of youth and people will pose challenges to the public service delivery, and the combination of conflict, weak institutions as well as slow economic development result to cyclical issues which may be difficult to intercept (World Bank, 2016). Furthermore, the amount of disaster related damages and losses are likely to increase following climate change, and the costs of mitigation and adaptation will assume a similar, rapidly ascending trend. Responding to these needs will require the support of international stakeholders and donors, but in a manner, which does not compromise the 2020 agenda intended to move away from aid dependency. Managing this balance will be a difficult task.

Also, while efforts are in place to improve the management of disaster and climate information, limited data availability hinders the efforts to implement, prioritize and plan initiatives based on actual risk-information in Afghanistan. Limited financial and human resources as well as local capacity to analyze, monitor and collect data is further contributing to issues in conducting risk and vulnerability assessments, and only few comprehensive risk profiles are available to date to inform public development. There is also a dire need for a nation-wide multi-hazard early warning system, which cannot be achieved as long as capacity issues remain unaddressed.

Furthermore, managing trade-offs in a resource rich, and still environmentally fragile context will also have implications on boosting the economy. Many areas are already under significant stress from uncontrolled urbanization, which is driving deforestation, increased pollution (air and groundwater), loss of safe land and mounting vulnerabilities in the peripheries of cities. Thus, implementing economic policy and systems based on extractive industries may have damaging effects to the ecological systems which are already suffering under the immense pressure due to the combined effects of climate change, population growth and unmanaged development.

The numbers of displaced and undocumented persons and refugees are yet another limiting factor not only to service delivery, but also for implementing DRR, CCA and social protection at grassroot levels. Many people still lack the access to societal services and are forced to inhabit unsafe spaces due to their unofficial status. Responding to the root causes of their vulnerability will require significant investments given the fact that even the available systems cannot reach segments of the undocumented population.

7.2 Priority Issues

The most immediate need for the Government is to move away from recovery and reconstruction to sustainable, equitable and green growth, supported by risk-informed policy making and integration of DRR and CCA into all sectors of society. However, managing these aspirations in the current political and socio-economic climate will be a complex

task, even with the support of the international community, donors and stakeholders. In recognition of these challenges, the ANPDF has highlighted the importance of improving the coordination among donors and stakeholders involved so that they can best provide their support to nationally identified targets and programs (Government of Afghanistan, 2017). In this context, poverty reduction, increasing the reach of social support systems, and increasing the resilience of livelihoods (especially that of subsistence farmers) must be rapidly prioritized given their importance in managing vulnerabilities, risk and climate change adaptation.

To support this pathway, investments in increasing the capacity for analyzing and managing risk-information should be rapidly focused on, as it is elemental for prioritizing investments. Without comprehensive understanding of the needs, vulnerabilities, capacities and risk at the local level, many of the projects are faced with the risk of not targeting the "correct" issues. Risk information is also required for establishing multi-hazard early warning systems which have the dissemination capacity to penetrate the strata of society to the grass-root levels. Currently, the non-existence of EWS is a critical gap which must be addressed alongside the general improvement of information management.

However, for achieving DRR and CCA in a sustainable manner must also be informed by the increased understanding of the nexus of conflict, climate and disaster risk reduction. Much of the current research utilized by the field of academia and practitioners remain blind to the implications which conflict and fragile setting might pose to the efforts of managing risk, and only recently have they looked towards understanding the system as a whole (Peters, 2019). Afghanistan has the potential to lead the way on this frontier, not only to benefit its internal management of disaster-related issues, but for the network of institutions involved with the task.

Additionally, managing trade-offs will be crucial to guarantee equity and sustainability in a context which is extremely vulnerable to climate change and its ripple effects. The availability of water, livelihoods and clean environment cannot be sacrificed any further for the sake of economic development, which may contribute to increased land degradation, deforestation and pollution if rogue investing is left unmanaged. Thus, involving the private sector and potential investors in the governance processes must be rapidly implemented to guarantee that all parties share the same understanding of development priorities. This should be further supported by mandatory Environmental Impact Assessments, policymaking and regulations which are also strictly monitored.

Managing land use and urban development is also associated with sustainable growth – yet, the lack of knowledge about risks combined to poorly monitored building code implementation and unplanned growth of cities are prevailing issues in the cities of Afghanistan. Supported by of risk-information, land-use planning, housing re-development and capacity building for the provincial and district authorities in managing cities under them must be rapidly enforced across the country.

Finally, the World Bank report Afghanistan to 2030, highlighted some priority issues which are relevant not only for improving the economic growth and stability, but also for better managing disaster and climate risk reduction through improved governance and financing. The report highlighted the importance of efficient public expenditure, policy measures that mitigate fragility-related risks, poverty reduction as well as aligning the scarce available resources towards specific, mutually agreed targets (World Bank, 2016).

8. References

1. ADB, 2012. *Technical Assistance Consultant's Report The Islamic Republic of Afghanistan: Updating and Improving the Social Protection Index (Cofinanced by the Republic of Korea e-Asia and Knowledge Partnership Fund) ,* Metro Manila: Asian Development Bank.
2. ADB, 2019. *Infrastructure Development Key to Afghanistan's Growth,* Metro Manila : Asian Development Bank.
3. Aga Khan Foundation, 2007. *Aga Khan Historic Cities Programme,* Kabul: Aga Khan Foundation.
4. Ambraseys, N. & Bilham, R., 2003. Earthquakes in Afghanistan. *Seismological Research Letters,* 74(2), pp. 107-123.
5. Amini, M., 2017. At stake in US military efforts to stabilize Afghanistan: At least $3 trillion in natural resources. *CNBC,* Saturday August.
6. ANDMA, 2010. *National Disaster Management Plan, 2010 Afghanistan.* Kabul: Afghanistan National Disaster Management Authority.
7. ANDMA, 2011. *Afghanistan Strategic National Action Plan (SNAP) for Disaster Risk Reduction: Towards Peace and Stable Development.* Kabul: Government of Islamic Republic of Afghanistan.
8. ARTF, 2019. *The Afghanistan Reconstruction Trust Fund.* [Online]
Available at: http://www.artf.af/
[Accessed 28 September 2019].
9. Asian Development Bank, 2015. *Northern Flood-Damaged Infrastructure Emergency Rehabilitation Project (RRP AFG 48326) Supplementary Appendix A: Disaster Risk Management Overview in Afghanistan,* Kabul: Asian Development Bank.
10. Bolton, L., 2019. *Agriculture in Afghanistan – economic sustainability and subsector viability ,* London: UKAID.
11. CSO, 2017. *Afghanistan Living Conditions Survey 16-17,* Kabul: Central Statistics Organization.
12. ECHO, 2019. *Afghanistan - Floods UPDATE (DG ECHO, ACAPS, NOAA, Windy, media) (ECHO Daily Flash of 14 March 2019),* s.l.: European Commission for European Civil Protection and Humanitarian Aid Protection.
13. Elalem, S. & Pal, I., 2015. Mapping the vulnerability hotspots over Hindu-Kush Himalaya regiontoflooding disasters. *Weather and Climate Extremes,* Volume 8, pp. 46-58.
14. Ellis, P. & Roberts, M., 2016. *Leveraging Urbanization in South Asia,* Washington D.C: World Bank.
15. European Commission, et. al., 2019. *Reporting the State of the Environment in Afghanistan,* Kabul: European Commission.
16. FAO, 2019. *Emergencies: Afghanistan.* [Online]
Available at: http://www.fao.org/emergencies/countries/detail/en/c/161506
[Accessed 25 September 2019].
17. French, M. et al., 2018. nstitutionalizing participatory slum upgrading: a case study of urban co-production from Afghanistan, 2002–2016. *Environment and Urbanization,* 31(1), pp. 209-230.
18. GermanWatch, 2019. *GLOBAL CLIMATE RISK INDEX 2019 Who Suffers Most From Extreme Weather Events? Weather-related Loss Events in 2017 and 1998 to 2017,* Berlin: GermanWatch.
19. GFDRR & World Bank, 2017. *Disaster Risk Profile Afghanistan,* Washington D.C.: GFDRR.
20. Ginnetti, J. & Lavell, C., 2015. *The Risk of Disaster-Induced Displacement in South Asia,* Geneva: IDMC .
21. GoN, 2015. *National progress report on the implementation of the Hyogo Framework for Action (2013-2015),* s.l.: s.n.
22. Government of Afghanistan, 2014. *Realizing Self-Reliance: Commitments to Reforms and Renewed Partnership.* London, Government of Afghanistan.
23. Government of Afghanistan, 2017. *Afghanistan National Peace and Development Framework (ANPDF) 2017 to 2021.* Kabul: Government of the Islamic Republic of Afghanistan.
24. Government of Afghanistan, 2018. *National Action Plan 2018 - 2019: Open Government Partnership Afghanistan.* Kabul: Government of Afghanistan.
25. Government of Afghanistan, 2019. *About Afghanistan; Geography and Climate.* Washington DC: Embassy of Afghanistan, Washington DC.
26. Habib, S., 2013. *Local Government in Afghanistan: How it works and main challenges ,* s.l.: Balkh University.
27. Hamidazada, M., Cruz, A. M. & Yokomatsu, M., 2019. Vulnerability Factors of Afghan Rural Women to Disasters. *International Journal of Disaster Risk Science,* pp. 1-18.
28. Haziq, D. & Morisako, K., 2017. *Afghanistan Building Codes (ABC): Focused on Comparative Analysis and the Viability of Enforcement.* Kyoto, s.n.
29. ICG, 2016. *The Economic Disaster Behind Afghanistan's Mounting Human Crisis,* s.l.: International Crisis Group.

30. IDMC, 2019. *Afghanistan.* [Online]
Available at: http://www.internal-displacement.org/countries/afghanistan
[Accessed 25 September 2019].

31. IFRC, 2013. *International Disaster Response Law (IDRL) in Afghanistan A study for strengthening the legal and policy framework for international disaster response in the Islamic Republic of Afghanistan,* Kabul: International Federation of the Red Cross and Red Crescent Societies.

32. IFRC, 2018. *Information Bulletin Afghanistan: Drought,* s.l.: International Federation of Red Cross and Red Crescent Societies.

33. IFRC, 2019. *Revised Emergency Appeal Afghanistan: Drought and Flash Floods,* Kabul: International Federation of Red Cross and Red Crescent Societies .

34. IOM, 2019. *Afghanistan: A Country on the Move,* Kabul: United Nations International Organization for Migration .

35. Ministry of Economy, 2017. *Voluntary National Review at the High Level Political Forum: SDGs Progress Report Afghanistan.* Kabul: Ministry of Economy.

36. Ministry of Foreign Affairs, 2019. *Ministry of Foreign Affairs of Islamic Republic of Afghanistan: Country Profile.* [Online]
Available at: https://www.mfa.gov.af/about-afghanistan/country-profile.html
[Accessed 22 September 2019].

37. Ministry of Rural Rehabilitation and Development, 2014. *Disaster Management Strategy 2014-2017.* Kabul: Islamic Republic of Afghanistan.

38. Muhibi, R., 2017. Beyond their years… How Afghanistan's youth are filling the social welfare void. *The Medium,* 22 September.

39. National Disaster Management Authority, 2013. Badakhshan Provincial Disaster Management Plan. s.l.:National Disaster Management Authority .

40. National Environmental Protection Agency , 2015. *A summary of Afghanistan's Progress on Climate Change Adaptation.* [Online]
Available at: https://unfccc.int/files/adaptation/application/pdf/afghanistan_summary_cca.pdf
[Accessed 26 September 2019].

41. National Environmental Protection Agency, 2016. *Afghanistan: Climate Change Science Perspectives,* Kabul : National Environmental Protection Agency.

42. NRRC, 2014. *Flagship 4: CBDRM,* s.l.: s.n.

43. OCHA, 2018. Afghanistan: *Funding urgently needed as prolonged drought threatens 1M food insecure people REPORTfrom UN O,* Kabul: UN Office for the Coordination of Humanitarian Affairs.

44. OCHA, 2019. *Afghanistan Flash Floods Update No. 8 ,* Kabul: OCHA.

45. Office of the President, 2016. *Constitutional Authorities.* [Online]
Available at: https://president.gov.af/en/constitutional-authority/
[Accessed 22 September 2019].

46. Peters, K., 2019. *Disaster Risk Reduction in Conflict Contexts: A Briefing for Policy-makers,* s.l.: ODI & GIZ.

47. Prevot, R., Hatzfeld, D., Roecker, S. & Molnar, P., 1980. Shallow earthquakes and active tectonics in eastern Afghanistan. *Journal of Geophysical Research: Solid Earth ,* 85(B3).

48. Price, R., 2019. *Climate change as a driver of conflict in Afghanistan and other Fragile and Conflict Affected States,* London: UKAID.

49. Ranghieri, F. & Nagar, A., 2019. *Building a More Resilient Afghanistan,* s.l.: World Bank.

50. Ranghieri, F. & Nagar, A., 2019. *Building a More Resilient Afghanistan. World Bank,* 22 January.

51. Schlagel, N., 2017. *Landslide Hazard Assessment for Northern Fayz Abad District, Badakhshan Province, Afghanistan.* Kansas, University of Kansas.

52. SEI, 2009. *Socio-Economic Impacts of Climate Change in Afghanistan A Report to the Department for International Development.* Stockholm: Stockholm Environment Institute.

53. SESRIC, 2018. *Managing Natural Disasters in Afghanistan: Risks, Vulnerabilities and General Guidelines,* Ankara: Organisation of Islamic Cooperation: Statistical, Economic and Social Research and Training Centre for Islamic Countries .

54. Trani, J.-F., Kuhlberg, J., Cannings, T. & Chakkal, D., 2016. Multidimensional poverty in Afghanistan: who are the poorest of the poor?. *Oxford Development Studies,* 44(2), pp. 220-245.

55. UN Environment, 2019. *Gasping for Air in Kabul,* s.l.: UN Environment Programme.

56. UNDP, 2018. *Human Development Indices and Indicators: 2018 Statistical Update Briefing note for countries on the 2018 Statistical Update Afghanistan,* s.l.: UNDP.

57. UNDP, 2019. *Adapting Afghan Communities to Climate-Induced Disaster RIsks.* [Online]
Available at: https://www.adaptation-undp.org/projects/adapting-afghan-communities-climate-induced-disaster-risks
[Accessed 27 September 2019].

58. UNDRR, 2015. 26 October 2015 *Badakshan Afghanistan and Pakistan Earthquake Disaster Risk Reduction Situation Report DRR sitrep 2015-003 – 28 Oct 2015,* s.l.: The United Nations Office for Disaster Risk Reduction .

59. UNDRR, 2018. *Afghanistan Embraces Sendai Framework.* [Online]
Available at: https://reliefweb.int/report/afghanistan/afghanistan-embraces-sendai-framework
[Accessed 29 September 2019].

60. UNDRR, 2019. *Global Assessment Report on Disaster Risk Reduction.* Geneva: United Nations Office for Disaster Risk Reduction .

61. USAID, 2016. *Climate Change Risk Profile: Afghanistan,* s.l.: USAID.

62. USAID, 2019. Afghanistan – Complex Emergency (Fact Sheet #3, Fiscal Year (FY) 2019 , Kabul: USAID.

63. USGS, 2019. *Earthquakes: Afghanistan.* [Online]
Available at:
https://earthquake.usgs.gov/earthquakes/map/#%7B%22feed%22%3A%221569224930726%22%2C%22sort%22%3A%22newest%22%2C%22mapposition%22%3A%5B%5B28.999%2C60.161%5D%2C%5B7.614%2C72.0265D%5D%2C%22viewModes%22%3A%5B%22list%22%2C%22map%22%5D%2C%2autoUpdate%22%3Afa
[Accessed 23 September 2019].

64. WFP, UNEP & NEPA, 2016. *Climate Change in Afghanistan: What does it Mean for Rural Livelihoods and Food Security,* s.l.: WFP.

65. WFP, 2018. *Afghanistan Country Strategic-Plan (2018-2022).* Kabul: World Food Programme.

66. WHO, 2019. *Afghanistan: Epidemics Outbreaks and Response.* [Online]
Available at: http://www.emro.who.int/afg/programmes/csr.html
[Accessed 24 September 2019].

67. World Bank & GFDRR B, 2018. *Strengthening Hydromet and Early Warning Services in Afghanistan: A Road Map.* Washington D.C.: World Bank.

68. World Bank, GFDRR A, 2018. *Afghanistan Multi-Hazard Risk Assessment,* Washington D.C: World Bank.

69. World Bank, 2016. *Afghanistan to 2030: Priorities for Economic Development Under Fragility,* Kabul: World Bank.

70. World Bank, 2018. *Implementation Completion and Results Report No. ICR004223 (IDA-H6990),* Kabul: World Bank.

71. World Bank, 2019. *Afghanistan: Disaster Risk Management & Resilience Program,* s.l.: World Bank.

72. World Bank, 2019. *Data: Afghanistan.* [Online]
Available at: https://data.worldbank.org/country/afghanistan
[Accessed 30 September 2019].

73. World Bank, 2019. *World Bank, Afghanistan Overview.* [Online]
Available at: https://www.worldbank.org/en/country/afghanistan/overview
[Accessed 22 September 2019].

74. Zeng, W. et al., 2017. Assessing the feasibility of introducing health insurance in Afghanistan: a qualitative stakeholder analysis. *BMC Health Services Research,* 17(157).

9. List of People/Agencies Met

No.	Name	Name of Agency
1	Mr.Mohammad Qaseem Haidari	ANDMA
2	Mr. Ah. Reshad Aziz	ANDMA
3	Mr. Ah. Tamin Azimi	ANDMA
4	Mr.Shirin Agha Samim	ANDMA
5	Mr.Iqbal Murad	ANDMA
6	Mr.Ahmed Shedeg	ANDMA
7	Mr.Jamshid Akrampoor	ANDMA
8	Mr.Asadullah Sediqi	Afghan Red Crescent Society
9	Mr.Shariballah Peroz	Kabul University
10	Mr.Rohullah Fazli	Ministry of Agriculture, Irrigation and Livestock
11	Mr. Mohammad Shaih Amiri	Ministry of Education
12	Mr. Islamuddin	Ministry of Energy and Water
13	Mr. Ruhollah	Ministry of Energy and Water
14	Mr. Khalil Arman	Ministry of Foreign Affairs
15	Dr. Noorullah Sayedi	Ministry of Public Health of Afghanistan
16	Dr. Abdul Raziq Ibrahim	Ministry of Public Health of Afghanistan
17	Ms. Muamtaz Noori	Ministry of Transport
18	Mr. Tawriqullah Muradi	National Environmental Protection Agency
19	Mr. Arvind Kumar Sinha	AKAH
20	Mr. Shodmon Hojibekov	AKAH
21	Mr. Khan Agha Gayoumi	Save the Children International
22	Mr. Abdul Hadi Nabil	Concern Worldwide -AFG

UNDRR
UN Office for Disaster Risk Reduction

Asian Disaster
Preparedness Center