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Climate Change and Green Financing: Initiatives & Outlook in South Asia

Country Paper

AFGHANISTAN

1. Introduction

Afghanistan is a landlocked country located along historic trade routes leading from Central Asia into South Asia, connecting southern and eastern Asia to Europe and the Middle East.

Afghanistan's geography consists of irrigated land, small but fertile river valleys, deep gorges, deserts, high plateaus, and snow-covered mountains. The eastern portion of the country is divided by the towering mountain ranges of the Hindu Kush and Pamirs, with peaks rising about 24,000 feet (CR). The chief characteristic of Afghanistan's climate is a blue cloudless sky with over 300 days of sunshine yearly. Even during the winter, skies usually remain clear between snowfalls. The climate is continental, and comprises of a cold, snowy winter and hot, dry summer. Extreme temperature changes occur from night to day, season to season, and place to place. With temperatures ranging from 30°C in summer to -20°C in winter. Average annual rainfall is estimated at around 250 mm and varies in different parts of the country from 1200 mm in the higher altitudes of the northeast, to 60 mm in the southwest. Snow falls regularly in the mountainous regions and higher altitudes of the Northeast and the Central Highlands, while the rest of the country has varying snowfall. Annual evapo-transpiration (ETP) rates are relatively low in the Hindu-Kush (900 – 1,200 mm) due to long and severe winters. They vary between 1,200 mm and 1,400 mm in the northern plains and reach up to 1,800 mm in the southern and southwestern plains (IDB). Major environmental issues include flooding, droughts, earthquakes, Storms, landslides, avalanches deforestation, air and water pollution, changing grazing land and forests to crop-cultivated land, no proper irrigation systems, and water distribution rights.

Thousands of people across the country are now affected by climate-induced natural disasters every year. According to Afghanistan National Environment Protection Agency (NEPA) projections and analysis the temperatures have been increasing across the country over the past thirty years (2016). Based on the UNEP report from 2016, Afghanistan's mean annual temperature, which had risen by 0.6°C from 1960 to 2008, had since increased significantly and dramatically, by a further 1.2°C. This shift has intensified glacier and snow melt and led to an increase in the number of flash floods, glacial lakes, outburst floods, and river flooding. And climate change double the number of droughts compared to the previous decades. Moreover, Afghanistan's glaciers are melting. Over 14 percent of the total area of glaciers in Afghanistan's highlands was

lost between 1990 and 2015. Glaciers and snow melt provide base flow to the rivers in the summer and their early melting or decline affects river flow in the summer.

1.1 The Impact of Climate Change on Afghanistan:

The impact of climate change feels beyond the political boundaries and people suffer around the globe from climate change. Though Afghanistan is contributing little to overall global emissions and lowest emitter of greenhouse gases, yet among the top ten countries most vulnerable to climate change. According to the EM-DAT International Disaster Database report: Since 1970, the country has experienced around 170 disasters, with a total number of persons killed exceeding 21,000 and the affected persons exceeding 280,000 excluding those who are affected by droughts.

Since Afghanistan is a developing nation with a turbulent political climate, a deteriorating economy, and a high poverty rate, its ability to successfully prevent and fight the effects of climate change is limited, which eventually makes it extremely vulnerable. Afghanistan has experienced many droughts over the last two decades, the latest in 2022. By 2050 about 90 percent of the country will experience drought as predicted by the Afghanistan Drought Risk Management Strategy. The 2018 drought directly affected over two-thirds of Afghanistan, around 10.5 million people being most severely affected out of 17 million. 13.5 million people were facing “Crisis” or worse levels of food insecurity in September 2018, and at least 300,000 people were internally displaced due to drought (WB). As of April 2022, the total number of Internally Displaced Persons (IDPs) in Afghanistan had been estimated at 5.9 million, of which 1.8 million were displaced by natural disasters. There was also an extreme drop in snow depth as measured on 1st March 2021, which contributed to a 12-meter decrease in the groundwater table in Kabul City in 2021. The lack of water has led to crop failure and water shortages contributing to food insecurity. An extreme drought could cause an estimated \$3 billion in agricultural losses, and lead to severe food shortages across the country (WB). The direct impacts of drought have been in agriculture, natural resource, water, livelihoods, health, sanitation, protection, and the wider development sectors.

In addition, flooding is the most frequent natural hazard historically in Afghanistan, causing \$54 million in damages in the country on an annual basis, and large floods can cause over \$500 per year. Flooding from heavy rainfall and snowmelt and rising temperatures can also cause an

increase in the incidence of diseases such as typhoid and diarrhea. In 2022, Afghanistan witnesses heavy floods, which killed around 1,570 people and injured almost 6,000, and caused damage estimated at \$2 billion to infrastructure and property.

Moreover, Afghanistan has a long history of earthquakes, many in the mountainous Hindu Kush and the northern part of the country. The average damage from earthquakes in Afghanistan is \$ 80 million. Data showed since 1950 nearly 12,000 people have been killed due to the earthquakes in Afghanistan. A 5.9 magnitude earthquake struck the Southeastern Region (Paktika and Khost provinces) of Afghanistan on 22 June 2022 and as of 26 June, a total of 1,036 people were killed; 2,949 were injured; and 4,500 homes were damaged.

Furthermore, 3 million people are exposed to very high or high landslide hazards. 2 million people are exposed to avalanche. An estimated 10,000 km of roads (15 % of all roads) are exposed to avalanches, including key transport routes like the Salang Pass (WB).

Climate change is expected to exacerbate public health issues by increasing the incidence of certain water, food, and vector-borne diseases that are associated with climate (e.g., malaria) in Afghanistan.

1.2 Climate Change Implications for Afghanistan Financial System:

The financial sector of Afghanistan comprises banks, non-bank institutions, and Da Afghanistan Bank. The banking sector is mainly dominated by domestic banks, branches of foreign banks, and the non-bank financial institutions' sector of Money Service Providers (MSPs), Foreign Exchange Dealers (FXDs), Electronic Money Institutions (EMIs), FOREX companies, Depository Micro Finance Institutions, and leasing companies. The market is dominated by Banks but MSPs and FXDs also own a considerable share of the financial market. Stock and Bond markets, Stock exchange brokers, and Derivatives market has not been developed in the country as of yet.

As stated, before the country's most vulnerable to the impacts of climate change, with its economy and society highly dependent on natural resources such as water, agriculture, and forestry. The banking system in Afghanistan is vulnerable to climate change in several ways:

Increased risk of loan defaults: Climate change-related events such as droughts, floods, and storms can cause damage to crops, infrastructure, and property, which may lead to loan defaults by borrowers. This could have a significant impact on the profitability and stability of banks.

Increased operational risks: Climate change-related events can disrupt banking operations, such as damage to bank branches or ATMs due to floods or storms, or interruption of electricity supply due to droughts. This could affect the ability of banks to provide services to their customers and could also result in financial losses.

Increased demand for green financing: With the increasing focus on climate change mitigation and adaptation measures, there may be a growing demand for green financing products in Afghanistan. Banks may need to adapt their product offerings and risk management practices to meet this demand.

Exposure to climate-related risks: As investors, banks may be exposed to climate-related risks such as stranded assets and reduced demand for fossil fuels. Banks with significant investments in industries vulnerable to climate change impacts may face financial losses if those industries are affected.

To mitigate the impact of climate change on the banking system, Afghan banks can take several measures, such as developing climate risk management strategies, investing in renewable energy and energy-efficient projects, and promoting sustainable agricultural practices. Banks can also collaborate with the government and other stakeholders to address climate change challenges and develop innovative solutions to mitigate its impact.

2. Green Finance Landscape in Afghanistan

Afghanistan signed the UNFCCC convention on climate change on June 12, 1992, and it was later approved by the Afghanistan transitional government on September 19, 2002. And implemented on December 18, 2002, the country agreed to the Kyoto Protocol's rules as well. The government has taken several initiatives: it has established organizations, created strategies, developed policies, launched projects, organized seminars, workshops, constructed water canals, and approved laws and regulations to protect the environment and combat climate change.

2.1 Afghan Government's Green Initiatives

The Afghan government has taken following initiatives to combat the climate change in the country:

A. **Renewal Energy:** The Renewable Energy Roadmap for Afghanistan is developed to realize the vision and intent of the Renewable Energy Policy (RENK) for Afghanistan sets a target of deploying 4500 – 5000 MW of renewable energy (RE) capacity by 2032 and envisions a transition from donor grant-funded RE projects to a fully-private sector led industry by 2032. Renewable energy sector development is one of the priority areas for the Afghan government for the immediate purpose of providing access to modern energy to remote and rural populations and for the medium to the long-term purpose of providing energy security to the country. Afghanistan is rich in energy resources, both fossil fuel-based and renewable. However, it still depends heavily on imported electricity and fuels and has one of the lowest per capita consumptions of electricity in the world. Lack of domestic generation remains the key challenge for energy security and energy access in Afghanistan. Afghanistan's renewable energy resource potential is estimated to be over 300,000 MW consisting of solar (222,849 MW), wind (66,726 MW), hydro (23,310 MW), and biomass (4,000 MW).), with over two-thirds of potential supply coming from solar as the country benefitting from about 300 sunny days annually, the country enjoys particularly long sunny days with high irradiation, ranging from 4.5 - 7 kWh/m²/day. The government has constructed some mega solar projects: In the Nangrahar district of Kabul province the government inaugurated a solar power project, the project will generate at least 43,000 megawatt-hours of solar power and avoid at least 13,000 tons of carbon dioxide equivalent in the first full year of operation. At the sometime another solar power project the largest solar power project in Afghanistan located in Kandahar province. A 15 MW array with over 55,000 photovoltaic panels. It provides an estimated 27.5 GWh of electricity annually that is fed into the national grid which is estimated to reduce carbon emissions by over 8,500 CO₂ annually (ADB2019), Heart wind power project will produce 25 megawatts of electricity (DABS). Moreover, according to the Afghanistan Ministry of Energy and Water

(MEW 2017), about 5100 RE Projects have been jointly implemented/ under implementation by MEW/MRRD/DABS and other developers, the installed capacity of the mentioned projects is 55 MW. MEW has recently invited the private sector to invest in 30 RE projects totaling up to 100 MW and comprising biogas, solar, wind, hydro, and hybrid technology options.

- B. The agriculture sector contributes significantly to the Afghan economy, both in terms of output and employment. The agricultural sector employs 40 percent of the national workforce and accounted for about 26.8 percent, in 2020, and 33.5 percent in 2021 of the national GDP(DAB). Women make up nearly half of the agricultural sector's workforce in Afghanistan. Agriculture finance can play an important role in developing rural areas in Afghanistan, creating employment opportunities for the rural population, and ensuring a sustainable supply of agricultural commodities. In addition, due to developments made in the agriculture sector, agricultural products have been major contributors to the GDP, and hence changes in the agricultural output impacts the growth of the entire GDP. These fluctuations come mainly from seasonal changes and the overall weather conditions. Climate Change has negative impacts on agricultural productivity and has myriad effects on the economy and food security of the country. Only 12 percent of the land is arable and 85 percent of that land requires irrigation. Irrigated agriculture – which accounts for the bulk of the total production of cereals and other crops - was the worst affected by the continuing war, and droughts, as maintenance was neglected leaving the irrigation system in a state of disrepair. Irrigated area decreased by almost 70 percent and crop productivity fell below 50 percent of the pre-war levels. The total irrigated area in the country prior to 1979 was 3.2. million ha but in 2007 it was only 1.8 million ha although water availability in rivers was good. Up until now, only about 0.9 million ha has been rehabilitated. To increase the irrigated area and combat climate change the government has to rebuild and construct water canals and water dams in the country. During the last twenty-three years the government constructed many water reservoirs (Kamal Khan, Shah Wa arus, Shorabak, Kajaki, Salma, Deh Yaqub, Abdul Rahimzai Nasrat canal, Shamshpur canal), (MEW 2023) and meanwhile there are many projects under construction such as, Kosh Tepa, royal canal, Bakhshabad, Machalgho in the country to protect environment and reach sustainable

development in the country. Moreover, the government has taken some measures such as establishment of the Inter-Ministerial Committee on food security, sector-wide coordination mechanism in agriculture, resources management strategy, national biodiversity strategy and action plan, national forestry management plan and food management policy and strategy to ensure the food security and climate change adaptation.

2.2 Financial Regulators' Green Initiatives

One of the most important improvements in Da Afghanistan Bank took place with the initial steps of establishing effective banking supervision. By the end of 2003, a new supervision department had been created, a number of prudential regulations and manuals had been drafted, and the training of supervisors had been initiated. And the Financial supervision department discharges the Da Afghanistan Bank's regulatory responsibilities. Da Afghanistan Bank applies compliance-based supervision and developed several regulations, policies, and guidelines for both on-site and off-site supervision. By developing banking facilities, Da Afghanistan Bank's Banking and non-banking and Islamic banking supervision departments develop regulations for sound financial systems. Although Da Afghanistan Bank does not have any specific regulation for green financing as a regulator. Fortunately, Da Afghanistan Bank has taken the initiative on drafting the regulation for green finance in the country.

2.2.1 Da Afghanistan Bank's Green Initiatives

Da Afghanistan Bank through its regulatory oversight over money, credit, and financial system, is in a powerful position to support the development of green finance models and enforce an adequate pricing of environmental and carbon risk by financial institutions. Da Afghanistan Bank as the central bank has taken several initiatives to combat climate change in the country.

- Da Afghanistan Bank organized seminars, workshops, and planting trees to protect the environment.
- Currently working to convert procurement process into the electronic procurement process,
- Da Afghanistan Bank has a plan to use solar energy and has encouraged financial institutions to use solar energy.
- Da Afghanistan Bank encourages all financial institutions to digitalize their processes.

- Da Afghanistan Bank is currently working on a mechanism to promote green financing.
- DA Afghanistan Bank encourages commercial bank to introduce green products,
- Da Afghanistan Bank through Public awareness program encourages people and other institutions to protect the environment

2.2.2 Afghanistan's National Environmental Protection Agency's Green Initiatives

The Afghan government established Afghanistan's National Environmental Protection Agency in 2005 and drafted the first environmental laws in the same year, the laws then went through amendments by the National Assembly, and the final version was finally promulgated in early 2007. The law defines the agency's function as well as its powers. NEPA serves as Afghanistan's environmental policy-making and regulatory institution. Its role is to regulate, coordinate, monitor, and enforce environmental laws. The agency has worked on major environmental issues and developed several policies (Environmental and Social impact assessment policy, Pollution control and reduction policy, national water quality monitoring policy, national waste management policy, and national biodiversity strategy). Created laws and regulations (Environmental law, regulation to reduce and prevent air pollution, regulation of medical waste, regulation of environmental and social impact assessment, regulation of noise pollution, regulation of ozone, regulation of water quality control and supervision, and information access law). In the meantime, NEPA formed guidelines (guidelines for focal point employee activity plan, guidelines for high commissioner on air pollution prevention, Guidelines for Planning Activities and Regulating Relationships of Afghanistan's Wild Life Executive Committees). The agency also organized seminars, workshops, and training and put public awareness regarding climate change and environment protection.

3. Challenges for Greening the Financial System in Afghanistan:

Afghanistan's financial system continues to be underdeveloped, At the end of 2020, the total assets to GDP ratio was approximately 22 percent. Banks were over liquid and financial sector services were limited to cities, only 15% people had access to financial services and high ratio of default assets. The major challenges for greening the Afghanistan financial system as follows:

- **Political instability:** The ongoing conflict and political instability in Afghanistan make it difficult for green financing initiatives to take root. It creates an uncertain environment for investors and raises questions about the security of investments.
- **Lack of awareness and understanding:** Many people in Afghanistan are not familiar with the concept of green financing, which can hinder the adoption of such initiatives. Educating people about the benefits of green financing could help to overcome this challenge.
- **Limited financial resources:** Afghanistan is a low-income country, and its financial resources are limited. This can make it difficult to invest in green finance initiatives that require significant capital investments.
- **Limited institutional capacity:** Afghanistan has limited institutional capacity to implement green finance initiatives, which can hamper the effective management and monitoring of these initiatives.
- **Lack of regulatory framework:** Afghanistan currently lacks a regulatory framework for green financing. This can make it difficult to attract investors, as they may be hesitant to invest in a market without clear regulations.
- **Limited access to technology:** Access to technology is limited in Afghanistan, which can make it difficult to implement and monitor green finance initiatives effectively.

Overall, the challenges for green finance initiatives in Afghanistan are significant, and addressing them will require a concerted effort from the government, civil society organizations, and the private sector.

4. Way Forward for Scaling up Green Financing in Afghanistan:

Since Afghanistan is a developing nation with a turbulent political climate, deteriorating economy and high poverty rate restrict its ability to successfully prevent and fight the effects of climate change, eventually making it extremely vulnerable. And among top ten most vulnerable country to climate change. Although Afghanistan's renewable energy resource potential is estimated to be over 300,000 MW consisting of solar (222,849 MW), wind (66,726 MW), hydro (23,310 MW) and biomass (4,000 MW).), with over two-thirds of potential supply coming from solar as the country benefitting from about 300 sunny days annually the country enjoys particularly long sunny

days with high irradiation, ranging from 4.5 - 7 kWh/m²/day. Which indicate that there is a huge potential for green financing in the country.

The government can adopt various strategies, such as developing internal policies and guidelines to prioritize green projects, creating dedicated green financing teams, and partnering with other organizations that focus on environmental sustainability.

At the same time, Afghanistan Financial system can offer green loans or green mortgages, which provide financing for projects that meet certain environmental criteria. They can also provide green bonds, which are debt securities that are issued to finance environmental projects. The banking system plays an important role in green financing, as banks can provide funding and other forms of support to such projects.

In addition to the environmental benefits, and considering the current situation in Afghanistan, green financing can also be financially beneficial for banks. By investing in environmentally sustainable projects, banks can diversify their portfolios and potentially generate higher returns, while also enhancing their reputation and demonstrating their commitment to corporate social responsibility.

Overall, green financing is an important area for banks to focus on as it provides a way to support sustainable development and address climate change, while also creating new business opportunities and improving their bottom line.

References

- 1) Afghanistan_Drought-Risk-Managment_Strategy9Feb2020.pdf (fao.org)
- 2) <https://www.andma.gov.af/>(2022)
- 3) [https://dab.gov.af/sites/default/files/2021-04/Annual%20Economic%20Bulletin%20for%20FY%201399%20\(2020\)_0.pdf](https://dab.gov.af/sites/default/files/2021-04/Annual%20Economic%20Bulletin%20for%20FY%201399%20(2020)_0.pdf)
- 4) <https://www.adb.org/projects/documents/afg-52229-001-esmr>(2019)
- 5) <https://www.countryreports.org/country/Afghanistan/geography>.(2023)
- 6) <https://documents1.worldbank.org/curated/en/284301491559464423/pdf/114097-WP-P155025-PUBLIC-afghanistan-low.pdf>(2017)
- 7) <https://main.dabs.af/News/index/News/NewsDetail/2867>(2017)
- 8) <https://main.dabs.af/News/index/News/NewsDetail/2415>(2019)
- 9) Global Warming and Afghanistan: Drought, hunger and thirst expected to worsen - Afghanistan Analysts Network - English (afghanistan-analysts.org).(2022)
- 10) International Organization for Migration (IOM), Displacement Tracking Matrix, ‘Afghanistan—Key findings: Baseline mobility and emergency community-based needs assessment report, round 15 (March–April 2022)’, 2022.
- 11) <https://mew.gov.af/en/completed-projects>(2023)
- 12) <https://mew.gov.af/sites/default/files/2020->
- 13) <https://policy.asiapacificenergy.org/sites/default/files/Renewable%20Energy%20Roadmap%20for%20Afghanistan%20RER2032.pdf>
- 14) <https://reliefweb.int/report/afghanistan/earthquake-paktika-and-khost-provinces-afghanistan-situation-report-7-issued-28-june-2022>
- 15) <https://reliefweb.int/report/afghanistan/afghanistan-snapshot-flash-floods-2022-31-august-2022>
- 16) <https://sesricdiag.blob.core.windows.net/sesric-site-blob/files/article/575.pdf>
- 17) https://sipri.org/sites/default/files/2023%20NUPI_FactSheet_Afghanistan.pdf