

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
**Islamic Republic of
Afghanistan**

**National Environment Protection Agency
(NEPA)
Climate change division**

Climate change and socio economic

In Afghanistan

Introduction

- **Afghanistan is a landlocked country with 652200 km² area.**
- **Population is roughly 30 million (15% in urban and 85% in rural areas) with 3.6% population growth rate.**
- **Afghanistan is situated in arid and semi-arid areas.**
- **The climate of the country is strongly influenced by its topography, in general the summer is hot (up to 35°C) and the winter is cold (-15°C).**

Afghanistan



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Cont.....

- **Rangelands cover 45% where the forest occupies only 2% of Afghanistan's total land area.**
- **Main sources of Water is snow fed with 65,000 million m³/year potential.**

Impacts of Climate Change in Afghanistan

The most adverse impacts of climate change in Afghanistan are drought related, including associated dynamics of desertification and land degradation.

Impacts

Desertification



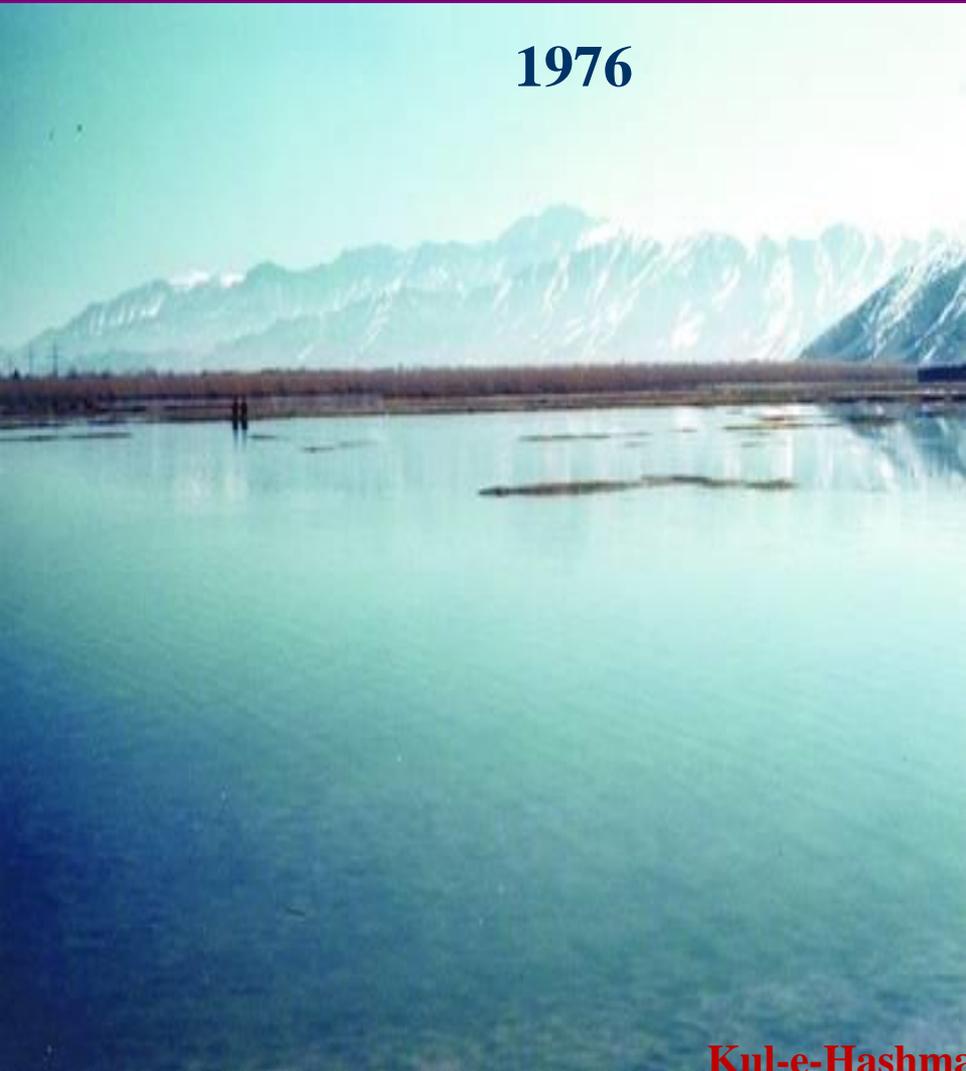
Drought







6. Challenges cont.



1976

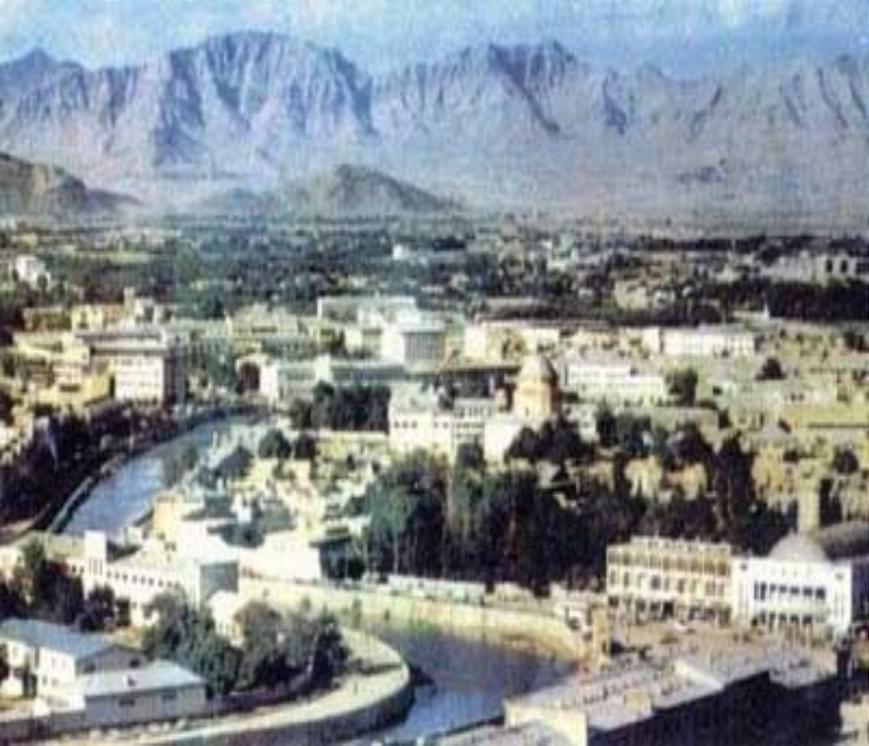


2002

Kul-e-Hashmat Khan Wetland, Kabul



6. Challenges cont.



Kabul River/ city

Sectoral Impacts

The worsening climatic conditions in Afghanistan will continue to impact negatively upon socio-economic development, creating multiple impacts for given sectors. Sectors such as agriculture and water

On agriculture and Irrigation

Agriculture is the largest economic sector in the country and is expected to remain so in the medium term. In recent years it has represented one third to one half of the total GDP and 50-80 percent of the workforce. About 85 percent of the Afghan population is either directly or indirectly dependent on agriculture for their livelihoods.

Rangeland....



The vulnerability of the agricultural sector to increased temperatures and changes in rainfall patterns/snow melt is high. Increased soil evaporation, reduced river flow from earlier snow melt, and less frequent rain during peak cultivation seasons will all impact upon agricultural productivity and crop choice availability.

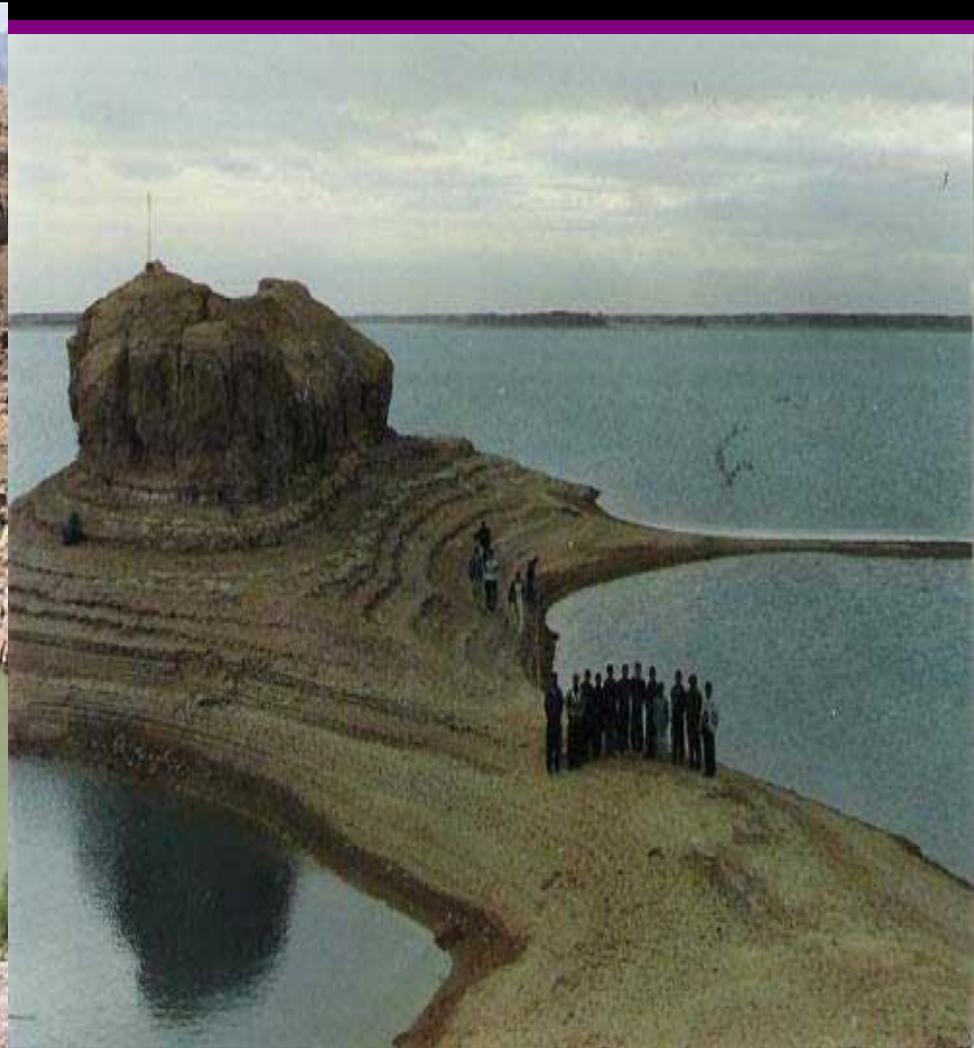
Impacts on Water Resources

The management of water is crucial to Afghanistan's future productivity.

It covers a broad range of uses including irrigation for agricultural output, use in hydropower generation and in health management through the provision of clean and accessible community water supplies.

Afghanistan

Water, and Impacts of climate change



Cont.....

The water sector has been severely affected by 24 years of war. The destruction and collapse of the existing water infrastructures due to lack of maintenance are considerable. Rural life and traditional water rights, rules and regulation systems like water management have been highly disrupted as well.

Impacts upon Livelihoods and Social Protection

The Afghan population is defined by a high level of poverty and social vulnerability. Approximately forty percent (or twelve million) people are estimated to live below the poverty line with per capita incomes of about US\$14 per month. *A large proportion of the Afghan population live just above the poverty line and are highly vulnerable to climatic shocks.*

Socio-economic impacts:

The poor are most vulnerable to the effects of climate change in Afghanistan, climatic shocks have the potential to tip a large percentage of population into poverty.

- Impacts on human health, such as increased prevalence of disease.**

Impacts on the Energy Sector

The energy sector has suffered considerable damage due to war and operational neglect.

The country has never had high rates of electrification. Today it is estimated that 30 percent of the population have access to public power (grid-supplied) on certain days for a limited number of hours.

Climatic Vulnerability of Energy Infrastructure

Climate change has the potential to impact on the energy sector. In terms of large thermal power plant and transmission infrastructure, the main threat arises from damage caused by extreme climatic events ,such as flash floods or storms.

Vulnerability Assessment and Adaptation (constraints and gaps)

- ❖ **Missing historical data**
- ❖ **Complex topography, local variation to response to climate change, use of regional model may not give actual picture**
- ❖ **ANDS (no climate change word)**

Con..

- **Missing socio-economic data**
- **Low level of coordination between Academia and Govt Institutions**
- **Prioritized needs is generating information on climatic, and socio-economic field**
- **Communicating to the people is very important (early warning system)**

A List of Projects Vulnerability Assessment

- **Climatic Change Modeling**
- **Institutional Capacity Building of AMA on Systematic Observation Assessment of the Climate Change Impacts on Glacier Lakes of Afghanistan**
- **Development of Vulnerability Scenario in Afghanistan**
(cross linking with different sectors; sub-regional level)

A List of Projects

- **Adaptation Project (NAPA Priorities Repeated)**
- **LDCF (least Development country fund)**
- **Land and Water Management at the Watershed Level**
- **Development of Horticulture**
- **Improved Terracing, Agro-forestry and Agro-silvo Pastoral System / Rangeland Management**
- **Improved Food Security**
- **Improved Livestock Production**
- **Creation of Off-farm Employment**

Climate Assessment of National Development Strategies

At present, climate change is a consideration in the national or sectoral plans of the Government of Afghanistan (GoA), currently the climate change strategy is under the process . Unfortunately The phrase ‘climate change’ is not mentioned in the 2008 version of the ANDS. There are a number of measures contained within the strategies that might be classified as adaptive

National Strategies

National Climate change strategy

National Agriculture and Rural Development Strategy

National Social Protection Strategy

Power Sector Strategy

National Water Resource Sector Strategy

Environment Protection Strategy

National actions for addressing Climate Change

- **Formulation of National Plans for Sustainable Community-based Management of both Rangelands and Forests.**
- **□ A new Forest Law has just been passed by Parliament (August, 2011); a new Rangelands Law is currently still only in draft.**
- **□ A National Conservation Strategy and Country Report on Climate Change have prepared by the National Environmental Protection Agency (NEPA).**

Climate trends and gaps in baseline data

- general lack and inaccessibility of data**
- lack of capacity and trained manpower,**
- Lack of Meteorological stations in most part and data**
- Lack of potential climate knowledge**

Key Climatic Hazards

- **periodic drought,**
- **floods due to untimely and heavy rainfall, flooding due thawing of snow and ice,**
- **increasing temperature,**
- **frost, and, thunder and lightning,**
- **120 day long winds, and desertification due to drought.**
- **potentially disrupted agricultural development by exacerbating drought**
- **severity and frequency of heat waves**

Key Challenges

- **Conflicts over three decades (1979-2015),**
- **Lack of law and regulations**
- **The ongoing security issues poverty and low incomes**
- **lack of clean energy and dependency on solid fuel, wood, and agricultural residues**
- **Low literacy rates,**

Key Challenges....

- **Lack of linkage with regional and international climate change networks.**
- **Lack of capacity in terms of human resources; Low levels of awareness of the current and potential impacts of climate change;**
- **Limited analytical capability, especially for analyzing climatic data to assess threats and potential impacts, and develop viable solutions;**

Key Challenges

- **Limited resources, as funds of donor partners are currently overstretched addressing other priority issues that include security, health, education, gender, conflict resolution and agricultural development, amongst others.**

Afghanistan and UNFCCC

Afghanistan signed the UNFCCC on 12th June 1992 as a Non-Annex I Party to the Convention (ratification took place on 19th September 2002 by the Transitional Authority and the Convention entered into force on the 18th of December 2002). Afghanistan is the part of the Kyoto Protocol



Thanks for your
kind attention