



# **A summary of Afghanistan's Progress on Climate Change Adaptation**

**Prepared by: Afghanistan's Participants**

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## National Circumstances

- Afghanistan is a landlocked, mountainous and very dry country in south and Central Asia with an area of 647500 square kilometers and population of about 26 million. It is bordered by Pakistan in the south and east, Iran in the west, Turkmenistan, Uzbekistan and Tajikistan in the north.



Uzbekistan

Turkmenistan

Tajikistan

**Afghanistan**

• Mazar-e-Sharif

Kabul★

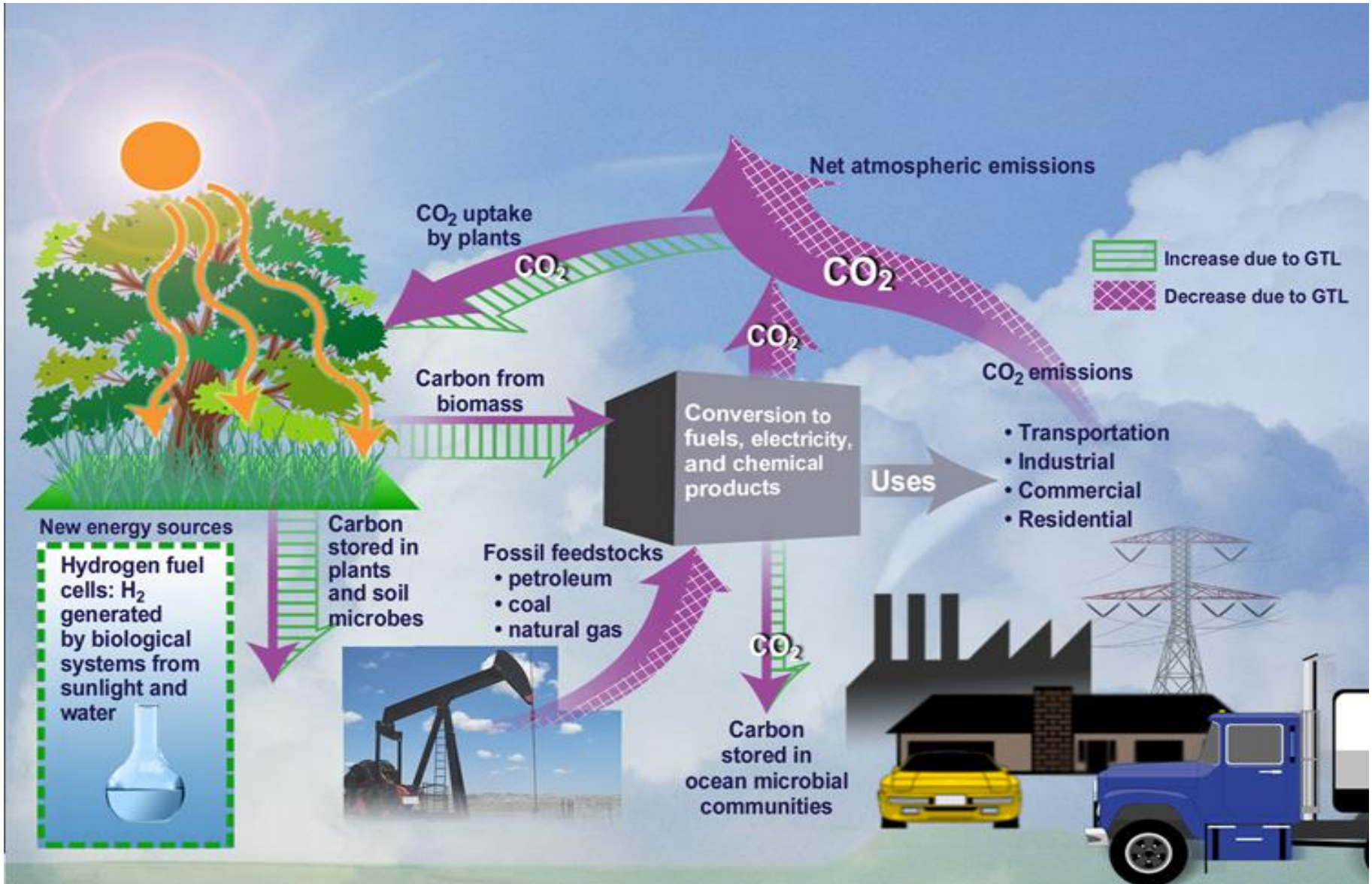
Kandahar•

Iran

Pakistan



# 1. Preface





## 1. Preface ...

# The Greenhouse Effect

**Sunlight**

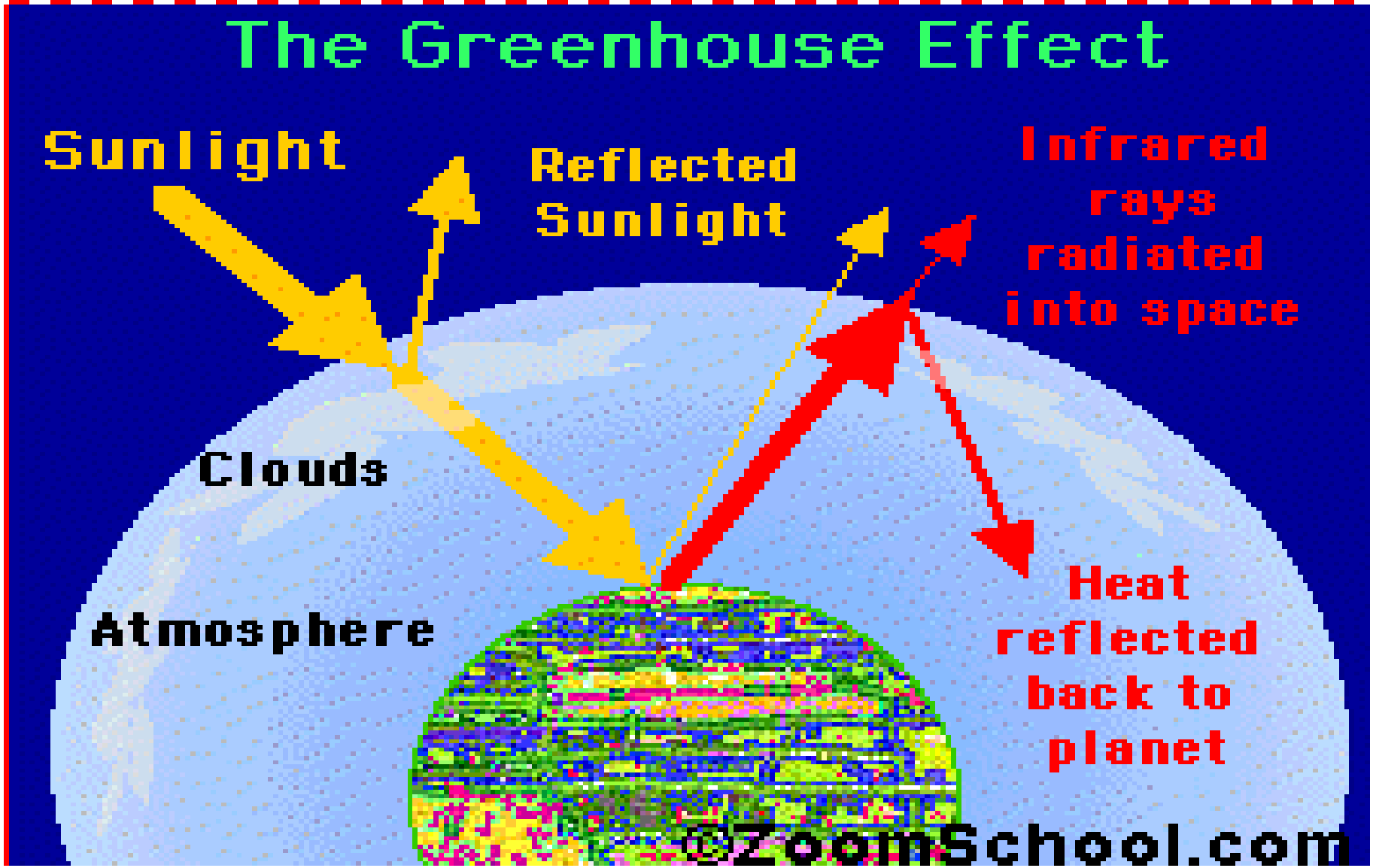
**Reflected  
Sunlight**

**Infrared  
rays  
radiated  
into space**

**Clouds**

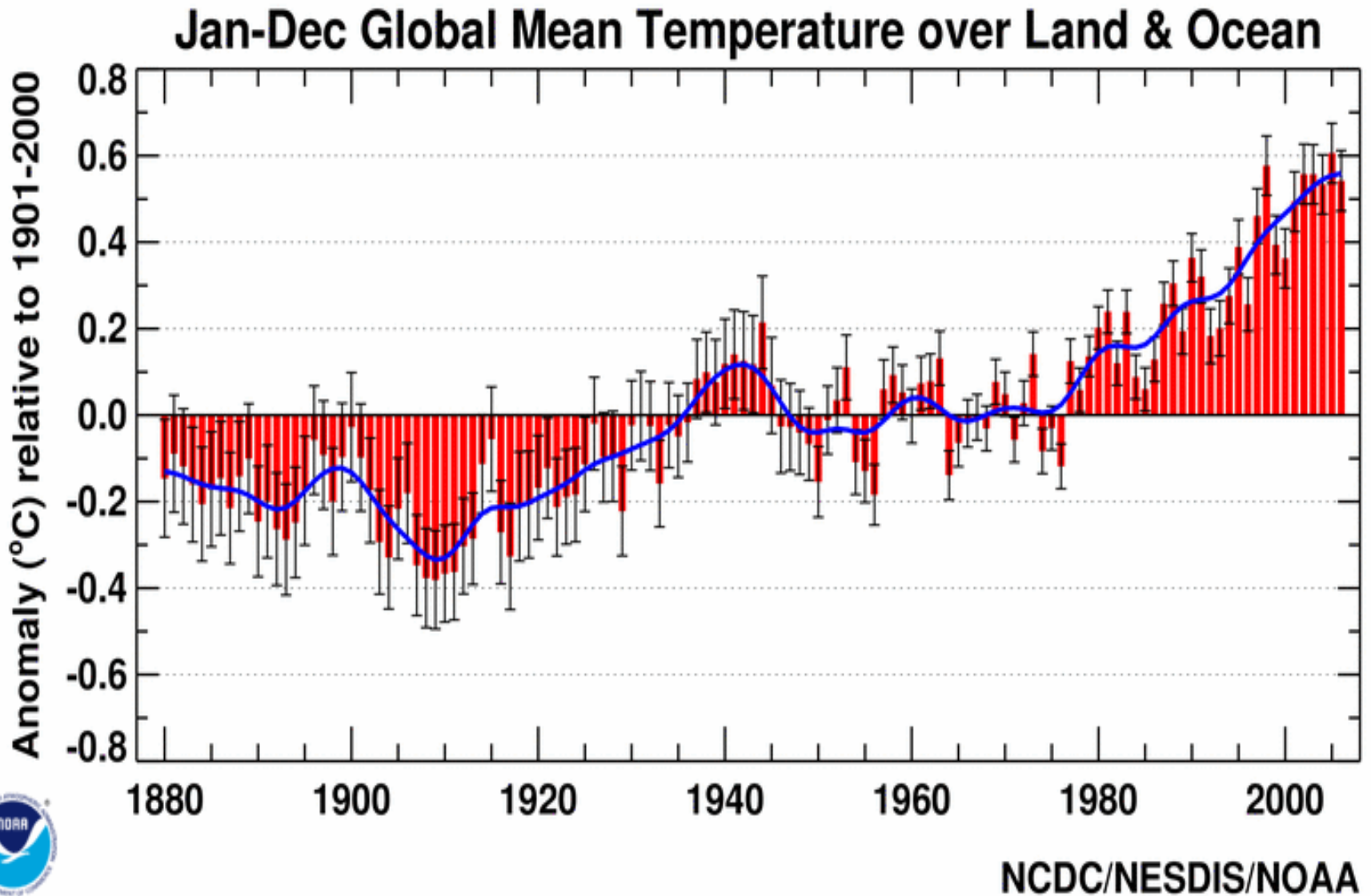
**Atmosphere**

**Heat  
reflected  
back to  
planet**



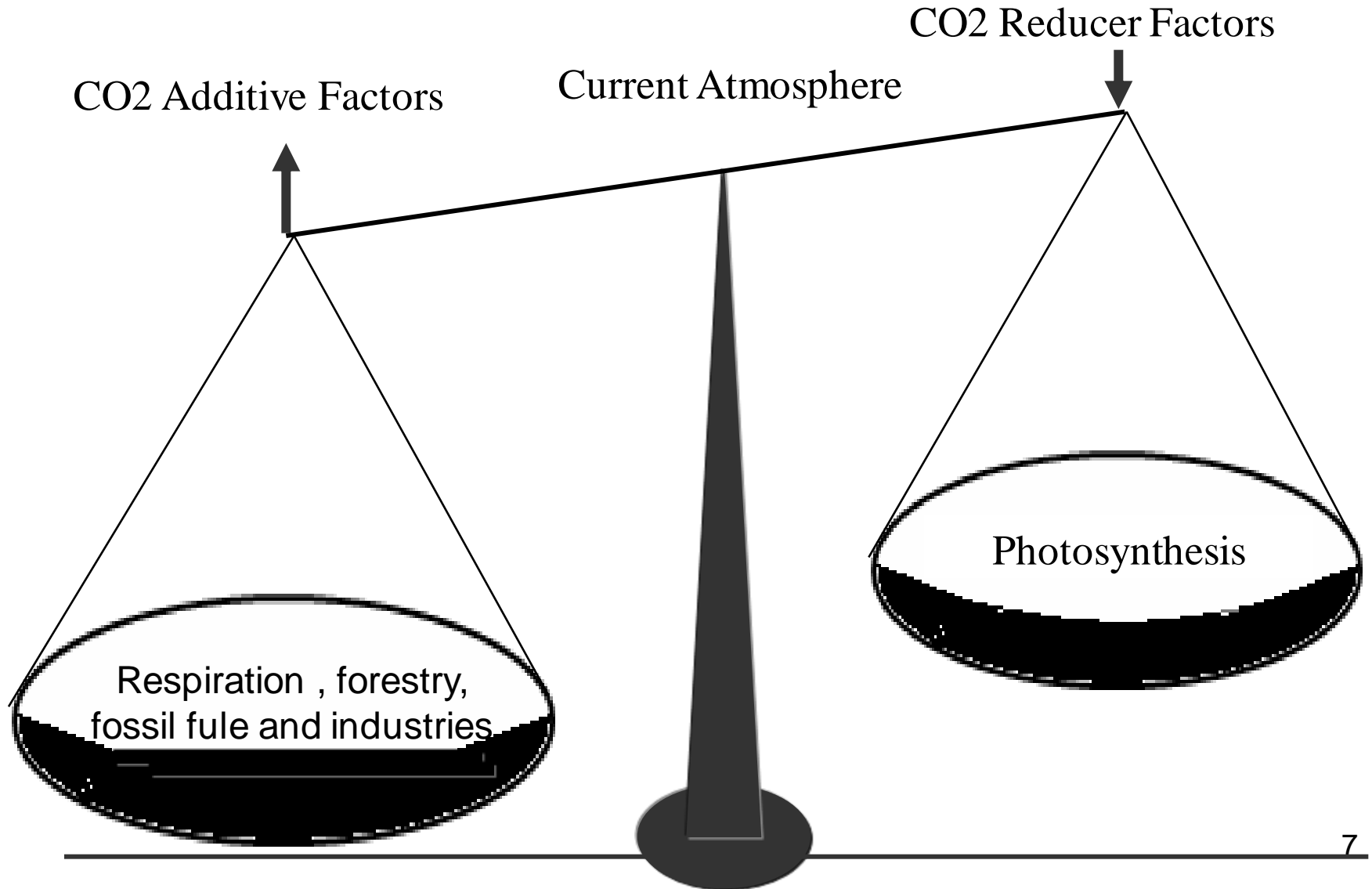


# 1. Preface ....





# 4. Cause of Climate Change and Global Warming



## ***The Development of Current Environmental Policy***

According to the Environment Law (2007) and the Environment Strategy<sup>1</sup> produced in December 2008 for the Afghanistan National Development Strategy (ANDS), the National Environmental Protection Agency (NEPA) has an overall coordinating role for environmental management in Afghanistan. That being said, the principle of environmental mainstreaming has been accepted by the Government and reflected in the ANDS. The line agencies that share environmental management responsibility include:



- Ministry of Agriculture, Irrigation and Livestock (MAIL), which has a mandate for management of agricultural land, forests, rangeland, protected areas, wetlands, upper catchments, and wildlife.
- Ministry of Energy and Water, with a responsibility for managing water resources (both quality and quantity) and energy supply.
- Ministry of Public Health, which has in programmes that address the linkages between poor environmental practices and public health.
- Ministry of Rural Rehabilitation and Development
- Ministry of Urban Development and Housing, which has responsibility for the development of adequate urban development and management plans, as well as systems for human, municipal, and industrial waste management.

- Ministry of Public Works, which oversees the construction and operation of roads, railways, and airfields.
- Ministry of Mines and Industry
- Ministry of Commerce and Small Industry
- Ministry of Finance (including customs)
- Afghanistan National Disaster Management Authority (ANDMA)

## Current Climate Trends (1960-2014)

Mean annual temperature has increased 1.2°C since 1960, at an average rate around 0.20°C per decade. The rate of increase is most rapid in SON. With increase at an average rate of 0.29°C per decade, Slower in DJF at a rate 0.11 °C per decade. The frequency of hot days and hot nights has increased every season since 1960. the main annual temperature is projected to increase by 1.4 to 4.0°C by the 2060s and 2.0 to 6.2 degrees by the 2090s. The range of projections by 2090 under any one emissions scenario is around 1.5 to 2.5°C.

The projected rate of warming is most rapid in spring and summer and relatively uniform across the country in regions.

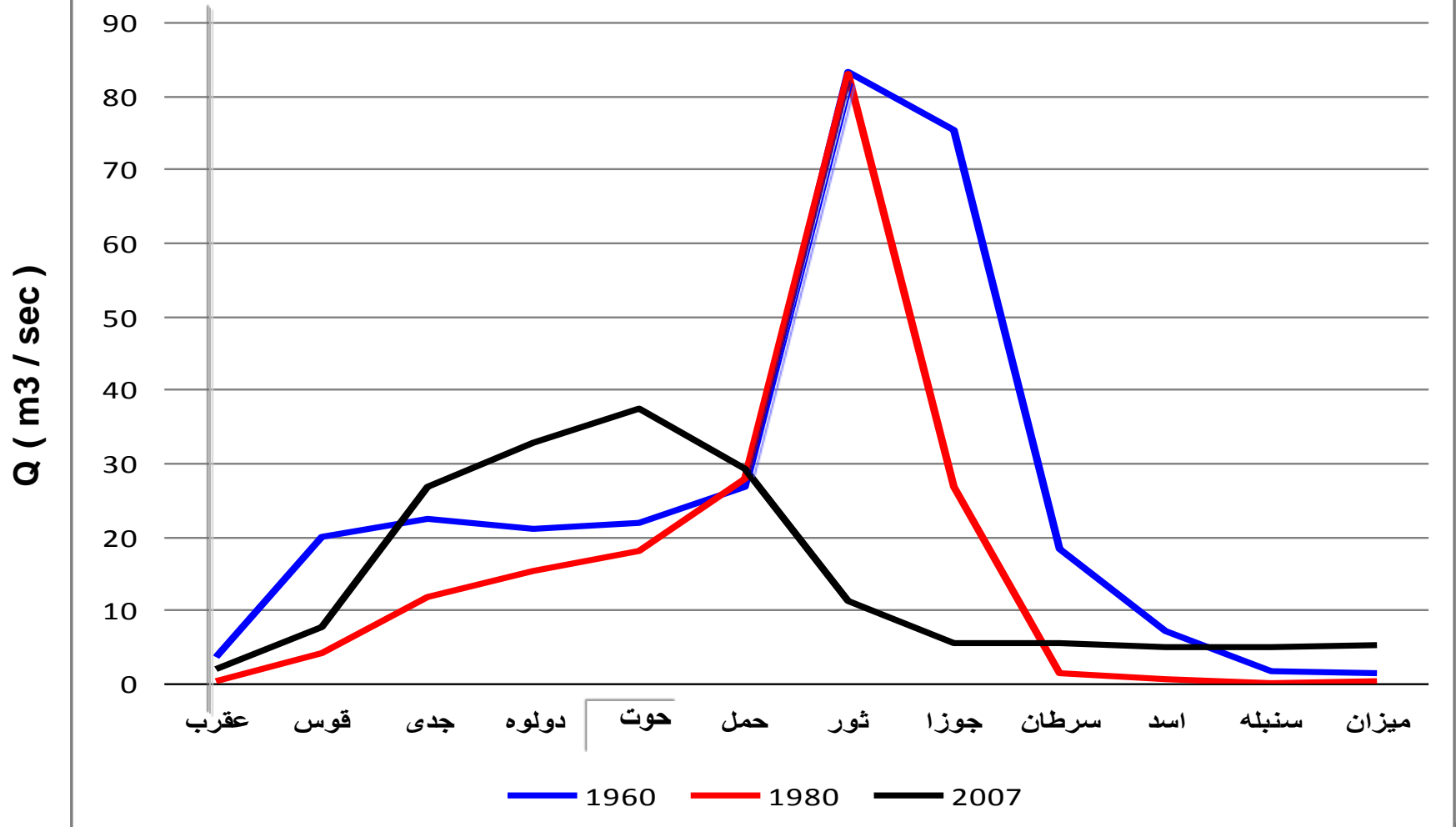
# Rainfall

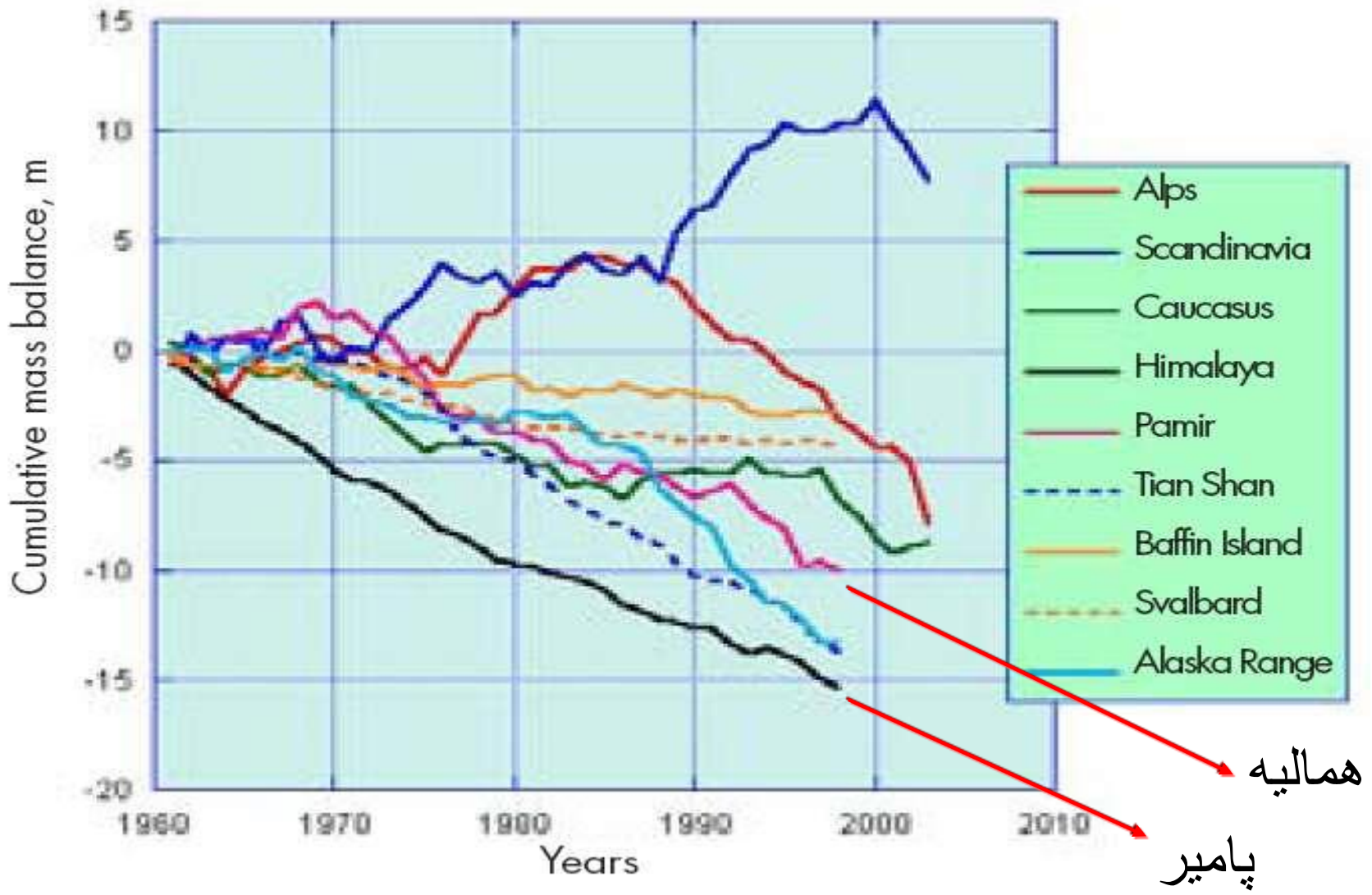
Mean rainfall over Afghanistan has decreased by slightly( an average rate of 0.5mm per month(2% per decade) since 1960. This is mainly due to decrease of around 2.7mm per month(6.6%) per decade in MAM rainfall. But is offset by small increase in JJA and SON rainfall. The proportion of rainfall that occurs in heavy events has not changed with any consistent trends since 1960. The observed maximum 1 and 5 days rainfalls generally show small decrease in MAM, but increase slightly in other season. Much of the drying is due to decrease in in spring rainfall(MAM).



# Impact of Global Warming And Climate Change in Afghanistan

Hydrograph Kabul River Tangi Gharu Station 1960, 1980, 2007





# Key impacts of climate Change in Afghanistan.

- 1. Water resources:

In Afghanistan mostly water resources include Spring, Kariz and rivers. Most of them dried because of climate changes affects.



ADB, 2007





# Agriculture

- Drier conditions are predicted throughout Afghanistan, as well as annual temperature increase by between 2.8°C and 5°C.



# Forest, rangeland and Biodiversity

Climate Change Can impact enormously on forests, and rangeland with temperature change.





# Key Climate Change Risk and vulnerabilities

- temperature rising
- Rainfall decreasing.
- Natural disasters Occurring.
- Drought
  - Reducing the agriculture yield.
  - Increasing the agriculture disease.
  - Maladaptation of some plant and animal.

# List of Project

- Building Adaptive Capacity and Resilience to Climate Change.
- Strengthen the activity Data for GHG Emission Estimates from Afghanistan's transport Sector.
- Improvement of Activity Data On power Generation and industrial process
- Improvement of Activity data on Agriculture and livestock.
- Climate Change Modeling.
- Assessment of the climate Change impacts on Glacier Lakes of Afghanistan.
- Development of vulnerabilities in Afghanistan.

- Improved terracing, Agro-forestry and Agro silvo pastoral system.
- Climate Change and Crop Insurance.
- Ecosystem Modeling.
- Capacity Building of NEPA as designated National Authority for CDM.
- Demonstration of Energy Recovery in Landfills.
- Demand Side management.
- Enhancing of Negotiation skills of government.
- Carbon Credit from Renewable project.
- REDD+in Afghanistan.



**THANK YOU  
FOR ALL OF  
YOU**