

Mongolia Faces Climate Change: Challenges and Opportunities

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Mongolia is situated in the northeast part of the Asiatic continent. The country is bounded on the north by Russia and on the east, south and west by China. It has a total land area of 1,565,000 sq. km. It is one of the largest mainland countries with no access to sea. The topography of Mongolia consists mainly of a vast plateau with the elevation ranging from 914 to 1,524 meters broken by mountains ranges in the north and west. The Altai Mountain in the west rises to heights of 4,267 m above sea level. Mongolia is very vulnerable to immensely changing weather conditions which are exacerbated by the landlocked geography, dispersed and sparse population with traditional nomadic lifestyle and harsh temperate climate. The signs of climate change are already evident in Mongolia as in any other country in the world, but with some unique situations which also made the climate change approach slightly different. Climate change response measures in Mongolia are addressed at adapting to climate change and mitigating greenhouse gases (GHG) emissions.

Mongolia has ratified the Kyoto Protocol in 1999 following the United Nations Framework Convention on Climate Change (UNFCCC), which was adopted at the Earth Summit in Rio de Janeiro in 1992. Hence, Mongolia has been involved in climate change activities for about a decade. After the First National Communication was submitted by the Government, a National Strategy for Climate Change has been developed in 2000.

The Government of Mongolia has established an interagency and intersectoral National Climate Committee led by the Minister of Nature and Environment to coordinate and guide national activities and measures aimed to adapt to climate change and mitigate GHG emissions. In 2006, Mongolia's net GHG emission was 15,619 gigagrams(Gg) in CO₂ equivalent. The energy sector was the largest source of GHG emissions comprising 65.4% (10,213.09 Gg) of total emissions. The second largest source of GHG emissions was the agriculture sector 41.4%. Other relatively minor sources currently include emissions from industrial processes and urban waste sector. As a whole, this translates to CO₂ emissions per capita at 6 tons of CO₂ equivalent. Among the energy sources, coal is the most important fuel in Mongolia. Its share in 2005 was 66.3%. The next was petroleum, which accounted for 22.7%, and the share of hydro and other renewable energy was only 11%.

According to the records from 48 meteorological stations, the annual mean temperature of Mongolia increased by 2.14°C during the last 70 years. The future climate scenario for Mongolian projects changes, such as increased air temperatures, increased precipitation amounts in some areas and reduction of water resources and arable land. Potential evapotranspiration increase would be higher than precipitation amount increase. The most vulnerable areas in Mongolia are agriculture, livestock, land use, water resources, energy, tourism and residential sectors. Future climate changes are expected to negatively impact mostly the agricultural and livestock sectors, which in turn will affect the society and economy of Mongolia. This issue needs to be taken into well targeted consideration at national and regional levels.

Recognizing its strategic role in the Northeast Asia, Mongolia is especially active in establishing a sub-regional cooperation to tackle common issues of climate change. Areas for future cooperation for Post-Kyoto period are:

- Promote development of sub-regional climate change strategy;

- Strengthening of existing human and technical capacity;
- Improve forecasting and warning systems;
- Refining impacts and vulnerability analysis specific to the countries;
- Assist in development of national adaptation and mitigation strategies.