Ministry of Nature, Environment and Tourism

REPORT ON THE STATE OF THE ENVIRONMENT OF MONGOLIA

2008-2010

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Ulaanbaatar

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FOREWORD

Today environmental issues are some of the most important issues globally due to population growth and increased human consumption combined with technological achievements, manufacturing developments and extreme increases in natural resource utilisation. The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992 produced the Rio Declaration on sustainable development, which included a new global socio-economical and environmental development concept for the protection of the environment for future generations, technological production with minimum use of resources, energy, and water, and also called for thrifty lifestyles with minimum waste.

Due to anthropogenic climate change and human activities, the Mongolian economy and people's lifestyles are being affected by increased environmental pollution, unpleasant effects of desertification, degradation of pasturelands, intensification of sand movements, decreases in Mongolian forest reserves, reductions in water reserves, decreases in animal and plant species, increased soil erosion, and decreased land fertility. The Mongolian Government has given special attention to decelerating the negative changes in the state of the environment by protecting the environment, ensuring proper use of natural resources, undertaking rehabilitation work, and improving environmental management.

The Ministry of Nature, Environment and Tourism (MNET) announced the year of 2008 as the "Year of Supporting Non-Governmental Organisations" and organised a national consultative meeting for non-governmental organisations, and supported the establishment of civil society cabinet. Through this activity, government and civil society stepped into a new era for environmental protection. 2009 was announced as the year for "Capacity building of preservationists", regional workshops for capacity building of preservationists were organised and 796 preservationists attended the workshops. Also, MNET organised consultative meetings for local environmental specialists jointly with the Parliament Standing Committee on Environment, Food and Agriculture. The year of 2010 was announced as the year for "Improving forest management" and as a result of sufficient budget allocations, the main source of harmful forest insects was successfully combated.

From the results of research into the state of the environment in last three years we developed and published the "Report on State of the Environment of Mongolia" for public access. In the last three years many positive and negative changes have been made in the environmental field in Mongolia. The public, civil society organisations, and governmental organisations have started to focus more attention on environmental issues and have started to do more comprehensive activities in this sector and participation and cooperation with each other has increased.

The President of Mongolia participated in the Conferences of the Parties, United Nations Framework Convention on Climate Change and the United Nations General Assembly and gave

a speech about the effects of climate change in Mongolia, adapting to climate change and about combating desertification.

The Mongolian Parliament has taken a daring step by making legal adjustments to stop environmental pollution and erosion, and renewed the national policies on climate change and water reserves.

The Mongolian Government, for the purpose of drawing attention to climate change and desertification issues and to call for effective measures against climate change, organised a special government meeting in Gashuunii khooloi in Bayandalai soum of Umnu-Gobi province. At the meeting the National Program on Combating Desertification was revised and approved.

The MNET developed complex documents about combating air pollution in Ulaanbaatar and introduced them to the Parliament and the Government. The new Law on Air Pollution and the "Innovation" National Program was approved. According to the new law, every air polluting source must make payments for air pollution and these funds can be used to combat air pollution.

The Report of State of the Environment for 2008 to 2010 states that there are increasingly negative impacts on the environment, for example: air pollution rates are increasing in the capital and other big cities; desertification is increasing across Mongolia; rehabilitation work on land damaged by mining activities are insufficient; the forest reserve area is decreasing; water reserve management is insufficient; water pollution is increasing in some areas; and illegal use of biodiversity is not decreasing.

To decelerate the negative changes in the state of the environment there is a need to improve implementation of the legal framework and economy consistent with Mongolia's ecology. The primary mid-term strategies of the Government are the protection of native characteristics, economic leverage for environmental protection, and expenditure on rehabilitation work based on ecological and economic assessments.

I verify that the data and information contained in this report on current issues are the results of real research into the current situation. It draws on the work of international and non-governmental organisations, trainings, reports of research institutions, presentations, and published information sets with scientific evidence.

If the words, terminology, report composition, or meanings used in this report do not fulfil your needs please don't hesitate to contact or write to us. Your suggestions are very valuable to us and help to improve the quality of future reports.

CABINET MEMBER OF THE GOVERNMENT OF MONGOLIA,

THE MINISTER FOR NATURE, ENVIRONMENT AND TOURISM L.GANSUKH

CHAPTER ONE

MONGOLIA'S CLIMATE

1.1. Climate condition and changes

In Mongolia between 2008 and 2010 average annual air temperatures were 0.8-1.8°C warmer than the long term mean air temperature.[1] In 2008, average summer air temperatures were 1.1-3.5°C higher than the long term mean air temperature in the Western region, 1.2-4.0°C higher in the Central and Southern regions, and 1.1-3.8°C higher in the Eastern region. In 2008, average winter air temperatures were 1.1-7.3°C warmer than the long term mean air temperature for November and December. In 2008, precipitation increased across 20 per cent of the country compared to the long term average, it decreased in 50 per cent of the country and 30 per cent of the country had precipitation the same as the long term mean precipitation level.

In May 2009, air temperatures were 1.1-4.9°C higher country compared to the long term mean air temperature for each province, but average air temperatures in Mongol-Altai, Khentii highlands, Bulnai, Tarvagatai, Khan Taishiriin Nuruu and Tes river basin were the same as the long term mean. Average air temperatures increased by 1.1-3.5°C in the north and north-eastern regions in June compared to the long term averages, and decreased by 1.1-3.1°C in the northwest and eastern regions. In July, average air temperatures were 1.1-4.2°C higher in the areas of Selenge, Dornod, Gobi-Altai, Uvs lake and Great Lakes' Hollow, Lakes' valley, Khonin Usnii khooloi, Altai Inner Gobi, and Gobi compared to long term averages. Average air temperatures decreased in Mongol Altai, Khangai, Khentii and Khuvsgul highlands regions, and average air temperatures remained as same as the long term mean in other areas.

In January 2009, average air temperatures for winter were the same as long term means across the country. Average February temperatures were 1.5-3.1°C lower in Khentii highlands compared to the long term average air temperature. Winter air temperatures in 2009 ranged from minus 30-46°C in most areas of Mongolia.

[1] Report of National Agency of Meteorology, Hydrology and Environment Monitoring

In 2010, the annual average air temperature in Altai and Khangai mountainous areas increased by 0.1°C, in Gobi region it increased by 0.3°C, in the Central region it decreased by 0.2°C, and in the Eastern region it decreased by 0.7°C compared to long term mean air temperature.

The air temperature averaged minus 1.9 °C over 2010, the area with the lowest average annual air temperature was Renchinlhumbe soum of Khuvsgul province which averaged minus

7.1°C and the highest was +2.6°C which was observed in Zereg soum of Khovd province. In January and February, air temperatures ranged from minus 43-48°C at night to minus 34-39°C during the day in the regions of Darkhad's hollow, Ider, Tes, Buyant, Baidrag, Kharaa, Yeruu, Orkhon, Selenge, Tuul, Kherlen and Khalkh river basin.

In 2010, the average annual precipitation level across Mongolia was 202.8 millimeters; summer precipitation averaged 185.7 millimeters or 91.6 per cent and winter precipitation averaged 17.1 millimeters or 8.4 per cent of the total annual precipitation.

Throughout Mongolia annual precipitation decreased by 6.6 millimeters compared to the long term average. The Altai and Khangai highlands received 219.1 millimeters of precipitation over 2010. The highest precipitation was 332.1 millimeters in Tsetserleg of Arkhangai province, and the lowest was 69 millimeters in the Zereg basin, Khovd province.

In August, cloud seeding activities increased precipitation by 37.9-68.9 millimeters in Baruunturuun and Zavkhan soums of Uvs province. Annual precipitation averaged 247 millimeters across the central region, the highest level of 310.3 millimeters was recorded in Erdenesant soum of Tuv province, and the lowest was 195.1 millimeters in Bayan soum of Tuv province. These amounts were 25 millimeters lower than the average long term annual precipitation level in these areas. Across the Eastern region the annual precipitation level averaged 276.9 millimeters. The highest level of precipitation was 401.5 millimeters in Binder soum of Khentii province which is located in Khentii Mountains and the lowest was 176.7 millimeters in Matad soum of Dornod province which is located in Menen Steppes. In the northern mountainous areas of the Eastern region, and in Choibalsan soum of Dornod province, the precipitation level increased by 1.6-79.4 millimeters compared to the long term average. In the steppes of the south-eastern regions, the precipitation level decreased by 23-63.7 millimeters. In Gobi regions, the annual precipitation level averaged 110.3 millimeters; the highest level recorded was 183.8 millimeters in Dalanzadgad soum of Umnu-Gobi province and the lowest precipitation level was 52.1 millimeters in Ehiin river oasis which is located in Bayankhongor province. Summer biomass conditions from 2008 to 2010 are shown in the figures below.