UNCCD COP12 Side Event

Japan - Mongolia Pilot Project : Community Based Arid Rangeland Management - Towards Ecological Risk Reduction and SDGs -

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<Organizer> Ministry of the Environment of Japan, Ministry of Environment, Green Development and Tourism of Mongolia, Institute of Geography & Geoecology, Mongolian Academy of Sciences, Arid Land Research Center of Tottori University, Global Environmental Forum

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Moderator: Mr. Masanori Kobayashi / Yokohama National University

13:15 – 13:20 Opening Remarks

Ms. Akiko Nakano / Ministry of the Environment, Japan

13:20-14:20 Presentations

14:20 – 14:25 Comments

Dr. Richard A. Byron-Cox / Action Programme Alignment and Capacity-Building Officer, UNCCD Secretariat

14:25 – 14:40 Discussions
14:40 – 14:45 Closing Remarks

Mr. Dashzeveg Bayarbat / Ministry of Environment, Green Development and Tourism of Mongolia Presentation files will be downloaded from the end of Oct 2015 at the following URL:<u>http://www.gef.or.jp/en/activity/desert.html</u>



Japan and Mongolia Partnership Project: Conservation and Sustainable Use of Arid and Degradation Prone Rangeland through the Community-based Approach in Mongolia

Prof. Shunji Matsuoka, Waseda University

1. Project Background

Saintsagaan sum(district) in Dundgobi aimag province records the average annual precipitation not more than 250mm per annul and the variability index is more than 0.33 that indicates the local environment is in non-equilibrium. Local Mongolian herders graze livestock in rangeland on a nomadic or rotational basis in order to adapt to the varying natural environment. However, the migrating herders are occasionally dispelled and such a conflict infringes the herders' mobility.

2. Project objectives and overview

2.1 Objectives

The Ministry of the Environment, Japan has launched a four-year project in Mongolia in 2012 as its contributions to the efforts to combat desertification. The Gobi region in the south of Mongolia is in the arid zone and the temporal and spatial variability of precipitation tends to be large and in the non-equilibrium environment. Local herders graze livestock in rangeland with a nomadic manner and there is no evident delineation of rangeland for the use of each herder. In the open rangeland use with the great uncertainty and variability, it is deemed as useful to devise the management system in order to cope with abnormal situations and adjust responses to varying conditions in the so called "adaptive management". To develop such a system, it is vital to strive to promote mutual agreements among herders and land user. This project is intended to support consensus building among local communities and the government and examine the adaptive management for the sustainable use of arid rangeland.

2.2 Overview

This project is planned to carry out the first two year basic survey and subsequently the two year pilot field project.

<Phase 1> In the basic survey, it was found that the non-migratory/settled herding households is over 50 per cent. Such settle herders graze livestock in the limited areas to their dwellings even in the wintertime when grass become scarce and degrades. In the dzud or snow storm, grass gets extinct and no other alternative fodder is left. Thus, dzud causes massive livestock death. In addition, migrating nomadic herders are occasionally expelled and their mobility is undermined. There are preceding projects funded by the multilateral and bilateral donors that aim at grouping herders based on geographical boundaries and developing plans for grassland management mainly in norther parts of the country with relatively higher precipitation and lower variability. However, it is also pointed out the development and implementation of such grassland use plans based on the geographical boundaries in the Gobi region have not become fully operational due to the ambiguity of the boundaries and high variability.

<Phase 2> The pilot field project commenced in 2014 aims at the following three compoinets

① Survey on management and sustainable use of *deresu* – grass used for emergency

The settled herders depend on derusu – drought resistant grass plants (*Achnatherum spp.*) that are overused and degrades. The project is intended to protect and manage *derusu* for the use at the time of disasters. The local communities conserve it for the use at the time of disasters. Such *derusu* areas are designated as Community based Key Resource Area(CKRA). In Saintsagaan sum, five households set up fences and protect and manage degrading *derusu* as CKRA.

2 Improving rangeland use plans through the herders' participation

It is also intended to explore measures for adaptive management alternative to the grouping of herders based on the geographical boundaries that are not fully operational in the areas with high precipitation variability. In the project, the herders are grouped based on their mobility and it is intended to improve the development, implementation and evaluation of rangeland use through the participation of herders.

③ Survey on the establishment of intra and inter prefecture collaboration between districts

In order to increase the herders' mobility, the project is intended to support the planning of mechanisms at the meso/inter-district level to supplement mechanisms at the micro/district and macro/national levels. More specifically, it aims to support the development of rules to be agreed by the home and host districts for facilitating the receiving of migrating herders.

3. Project outcome and lessons

The final evaluation of the project outcome will be conducted in the forthcoming surveys. Based on the provisional outcome, it is deemed useful to support the participation of communities based on the herders' mobility in the arid rangeland with high variability. The specific challenges and expected outcome of this pilot project are described in details as follows:

 Survey on management and sustainable use of *deresu* – grass used for emergency The activities are still on-going. However, it is regarded important for the herders to manage fences with poles as camel and cattle of large livestock damage fences. If the fences cover the excessive areas, it was suggested that the fences may cause conflicts with neighboring herders.

Judging from the surveys on the changes in the weight of the dried grass, it was found that the managed rangeland has restored grass cover. In addition, by storing grass for emergencies, it is expected that the death toll of livestock can be reduced.

2 Improving rangeland use plans through the herders' participation

It was observed that there was a conflict of opinions between the Mongolian experts who have been using the methods developed in the norther part of the country with relatively less variability in precipitation and the government officials and herders who find such methods unsuitable to the project area.

It was regarded useful to group communities based on their mobility and assist those with higher mobility develop their plans, and to involve settle herders in a geographical boundaries larger than the common practice.

③ Survey on the establishment of collaboration between districts within and across prefectures

In August 2014, agreements were made between Saintsagaan sum and Bayanzagan sum as well as Saintsagaan sum and Ulgit sum. The agreements stipulate that they both mutually accommodate migrating herders from the other district and that they collaborate on a range of issues such as education and livelihood improvement. The local governments of both districts have taken positive and proactive stances on these agreements. At the same time, it was found that the agreements do not fully reflect the views expressed by herders.

The project activities have helped improving the herders' mobility and reduce the pressure on resource scarce rangeland with limited precipitation. The project activities have helped reduce the excessive concentration of livestock the rangeland that attract migrating herders and are expected to reduce the negative pressures on degrading rangeland. The project activities are also expected to reduce the pervading conflicts of herders regarding their migration.

The Monitoring and Assessment of Desertification and Land degradation as tool for decision making in Combating desertification

> Dr. Jamsran Tsogtbaatar, Institute of Geography & Geoecology, The Mongolian Academy of Sciences

In particular, land degradation and desertification are serious matters of concern and high relevance due to their impact on security, economic development and the environment in Mongolia. Land degradation in arid, semi-arid and dry areas resulting from various factors including climatic variability and human actions, where: land degradation means the reduction or loss of the biological or economic productivity and complexity of the land, and includes degradation to soils (both erosion and internal changes), vegetation and water.

Climate change is already a fact in Mongolia. Natural disasters such as drought, heavy snow fall, flood, snow storm, windstorms, and extreme cold and hot temperature are recurrent whole year round. Annual mean temperatures taken at meteorological stations have been increasing since 1960s. Recent highly variable precipitation and consecutive periods of drought and "dzud" only serve to underline the serious need to prepare for an uncertain future as climate change continues. According to the definition of UNCCD, almost 90% of Mongolia's territory is vulnerable to land degradation and desertification. A recent assessment of desertification in Mongolia shows that 9.9% are very severely, 6.7% severely, 25.9% moderately and 35.3% slightly degraded. This means that roughly 78% of the total territory is degraded to some extent.

Desertification generally results from climatic variations, human activities, and their interplay. The relative importance of climate and human factors in desertification has been debated for different regions at different periods of time. Indeed, desertification most likely results from complex interaction among meteorological (e.g., temperature, rainfall, and wind), biophysical (e.g., vegetation, soil, animals, and biodiversity), hydrological (e.g., runoff and groundwater), and socioeconomic factors (e.g., farming, grazing, policy shifts, land management, and land-use patterns).

Human factors are probably the most important factors contributing to desertification. Then desertification induced by the excessive human activities involved degradation of both vegetation and soil, leading to reduction in species diversity, vegetation cover, biomass production, and soil organic carbon, and nutrient content.

Desertification in arid, semiarid and dry sub-humid areas destroys land resources, reduces ecosystem productivity and services, exacerbates the poverty, and incurs instability of political systems in many developing countries. Mongolia, for example, has seriously suffered from the desertification in past decades, particularly the in arid and semi-arid zones of the country.

Overgrazing is the major cause of land degradation and desertification in Mongolia. This is a result of inappropriate access regulations to pasture land. The livestock sector provides livelihood to almost half of the population. The rural population constitutes over a million, most of whom are herders and their lifestyle entirely pastoral. More than three fourth land of the country is extensive grazing exploited by traditional pastoral practices.

According to results of comparative assessment it is visible that with joint influence of climate change and human interaction the resilience of dry land ecosystem is worsen. Unfortunately, the land degradation caused by inappropriate practice of natural resource use is become a largest threat facing the vast steppe region of Mongolia. Thus, the most attention is should paid to prevent the encroachment of land degradation in such fragile and naturally unique ecosystems of steppes and dry land.

Taking into account significance of desertification assessment as tool for decision making in combating desertification, about 29 indicators for assessment of Desertification and Land degradation were adopted as national monitoring tool of Desertification in the country. There indicators include dryness index; ratio of deforestation; drought frequency; density of livestock; yield of grassland/pastureland; annual precipitation trend; land use change and their intensity; loss of fertile top soil; cropland expansion; change of ground water flow; demand and future trend of water resource use; abundance of biodiversity; quality of ecosystem service and others.

The National Action Plan for Combating Desertification of Mongolia (2010) outlines the establishing integrated monitoring system and database for desertification and land degradation. The Ministry of Environment, Green Development and Tourism initiated developing a standard methodology for desertification monitoring, which harmonizing different methodologies in Mongolia by various national and international institutions. This initiative is to serve as a nationwide fundament to **deliver accurate information about desertification to decision makers** by using one commonly recognized methodology instead of several differing methods and approaches.

Thus, logical decision-making in sustainable land management is an important part of science-based assessment of desertification and land degradation, where experts **apply their knowledge in combating desertification activities to make informed decisions**.

Asian Dust Research in Mongolia -*Kosa* Project of Tottori University, Japan-

> Prof. Atsushi Tsunekawa Director of Arid Land Research Center, Tottori University

Asian dust is brought by the wind to Japan and Korea from drylands in China and Mongolia. Thus, Asian dust is one of international environmental issues shared by Northeast Asian countries. Wind-borne Dust gives serious damage on agricultural production and living conditions in the Dust source area, and in addition, also affects global climate by forming clouds of Dust suspended particulate acting as nuclei to form precipitation. Tottori University is carrying out comprehensive study on Asian dust. In this presentation, the results of our research on dust emission using cutting-edge equipment, dust damages on human health (hazardous chemical substances and viruses attached on dust) and dust control studies conducted in Mongolia and dry lands in China will be introduced.

Policy and Strategy for Land Degradation Neutrality in Mongolia

Mr. Dashzeveg Bayarbat, Secretary, National Committee for Soil Protection, Combat Desertification Ministry of Environment, Green Development and Tourism of Mongolia

Desertification in Mongolia is induced by drastically changing land use systems such as mining, overgrazing, urbanization, infrastructure development. It emanates from increasing pressures on land from human activities. Climate change is also another factor of desertification such as temperature and aridity increase, precipitation volatility. Desertification causes declining food productivity, livelihood deterioration and biodiversity loss.

Mongolia promote the implementation of laws on soil protection and combating desertification, forests, climate changes adaptation. The National Action Plan to Combat Desertification (NAP) of 2010 revised from 1996 is a pivotal policy instrument that is being implemented. 80% of the planned activities for the NAP 1st phrase are implemented. 2nd phase from 2016 will start. Capacity building remains to be a priority. Limited financing is an obstacle.

NAP needs to be linked with national action plans for climate change, biodiversity and forests. Other policies linked with NAP are 2014 Green Development Policy, 2015 New forest policy. The draft pasture law of 2007 remains to be pending. The National Committee to Combat Desertification plays a coordinating role. Sub-programmes of the provinces remain to be important. On-line public awareness activities have been launched to promote information sharing among local governments. Demonstration projects have been carried out to promote efficient water use, afforestation, rehabilitation of degraded lands and mining sites.

There are a number of challenges in NAP implementation. Cross-sectoral linkages and coordination needs to be enhanced. Others are limited coordination activities, political instability, limited finance, limited monitoring, reporting and follow-up activities.

Partnership activities are carried out with SDC (Swiss Development Agency), UNDP/GEF, Japan, Korea, Netherlands, China and NGOs, There is a need to increase cooperation between research institutes in Mongolia and overseas and to support to capacity building in rural areas. Mongolia is interested in innovative pilot projects to experiment advanced approaches and technologies. It is deemed vital to pursue SDG and Land Degradation Neutrality (LDN) compatible projects.

The following actions are suggested such as (i) developing concrete strategies and projects to

combine measures for combating desertification with SDG and LDN implementation, monitoring and reporting, (ii) linking adaptation to climate change with the measures for combating desertification, (iii) promoting synergies between the measures for combating desertification and dryland biodiversity conservation and (iv) expanding multi-stakeholder interdisciplinary partnership.