

**Summary of the Inception Meeting for NEASPEC project on Implementing the  
Regional Master Plan for the Prevention and Control of Dust and Sandstorms in North-  
East Asia**

**19-21 April 2011, Ulaanbaatar and Zamyn-Uud, Mongolia**

**PROCEEDINGS OF THE MEETING**

1. The Inception Meeting was convened to discuss the details of the NEASPEC project on prevention of dust and sandstorms in the North-East Asian subregion and facilitate in-depth exchange of knowledge and experience primarily between Chinese and Mongolian national experts on combating desertification. The current project was developed as a follow-up to the Regional Master Plan for the Prevention and Control of Dust and Sandstorms (DSS) in North-East Asia which was jointly developed in 2005 by the Asia Development Bank (ADB), United Nations Environment Programme (UNEP), United Nations Convention to Combat Desertification (UNCCD) and United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and adopted by the Governments of China, Mongolia, Republic of Korea and Japan to address DSS in a comprehensive manner through prevention and monitoring at the subregional scale. The expert group discussions took place on 19 April in Ulaanbaatar, while two field trips were held on 20 and 21 April 2011 to the locations of DSS prevention projects in Mongolia.

**A. Attendance**

2. The Inception Meeting was jointly organized by the ESCAP Subregional Office for East and North-East Asia (SRO-ENEA) - the NEASPEC Secretariat and the Ministry of Nature, Environment and Tourism of Mongolia. The meeting was attended by 23 participants including 16 national experts and officials nominated by the Chinese and Mongolian Governments, 5 experts from international organizations and NGOs, and 2 resource persons from academia. The list of participants is attached herewith.

**B. Opening Session**

3. Mr. Batbold Borjgorkhem, the Director of International Cooperation Department of the Ministry of Nature, Environment and Tourism of Mongolia, first welcomed

meeting participants to Ulaanbaatar and expressed his gratitude for having distinguished government officials and experts attending the meeting. Subsequently, Mr. Batbold presented the overview of desertification in Mongolia. He pointed out that desertification is one of the most serious environmental problems in the country and Mongolia became one of the major source countries for dust and sandstorms occurring in the subregion of North-East Asia. Mr. Batbold emphasized the importance and necessity of both effective national policies and international support for combating desertification in Mongolia. The National Action Program for Combating Desertification (NAP) covering 2010-2020 was introduced in detail in the presentation of Mr. Batbold while international cooperation was highlighted with the emphasis on the joint implementation of the Regional Master Plan for the Prevention and Control of Dust and Sandstorms in North-East Asia.

4. Mr. Xu Qing, the Deputy Director General of National Bureau to Combat Desertification, State Forestry Administration of China, expressed appreciation for opportunity to attend the meeting. He indicated that China and Mongolia have maintained close cooperation on desertification prevention over the last decade and the Chinese delegation would like to use this opportunity to further strengthen sharing of knowledge and experience and to broaden the bilateral cooperation between the two countries.
5. Mr. Sangmin Nam, the Environmental Affairs Officer of ESCAP SRO-ENEA, expressed appreciation of the support for the DSS project from Mongolian and Chinese Governments. After specifying the goals and objectives of the Inception Meeting, Mr. Nam opened the floor for presentations from the speakers.

### **C. Review of Subregional Cooperation on Combating Desertification in North-East Asia with Focus on Mongolia**

6. This session reviewed the existing subregional cooperation on combating desertification in North-East Asia at levels of government, civil society and international organizations. In particular, bilateral and multilateral activities on combating desertification in Mongolia were addressed by the National Committee to Combat Desertification. Cooperation between Mongolia and other three subregional countries, China, Japan and the Republic of Korea were also highlighted in the presentation.
7. The Green Asia Network, an international Non-Profit Organization which works on improvement of environmental sustainability with a focus on the desertification

control in Mongolia, delivered a presentation on its major activities and projects. The Green Asia Network selected five target areas (Ulaanbaatar, Bayangnuur, Songino and Mandai Gobi) in Mongolia to implement different forestation models, in order to prevent land degradation and control the expansion of desertification. The Green Asia Network adopted the agro-forestry approach to afforestation projects, which refers to intercropping fruit trees in the sand-fixation forest belt. This model alleviated the shortage of fruits and also motivated local herdsmen' participation in supporting afforestation through creating alternative income sources for local communities. Moreover, by means of organizing public awareness activities for elementary school students and elder people, local communities became more active in planting trees and maintaining shelterbelts.

8. The UNDP Mongolia Office identified three problems associated with combating desertification in Mongolia. First, grassland degradation is one of the most essential contributors to the fast expansion of sand lands in Mongolia. Second, Mongolian central and local governments do not attach adequate importance to desertification problem. Third, unsustainable grazing practices continue to exert pressure on ecological system of Mongolian steppes. In this regard, the UNDP Mongolia Office strives to involve different levels of Mongolian government structure in the process of implementing projects on grassland protection. The Office also conducts studies on carrying capacity of major grasslands in Mongolia and organizes activities to raise public awareness of ecological protection for herdsmen and youth.

#### **D. Discussion Session**

9. This session offered an opportunity for participants to raise specific questions and engage in comprehensive exchange of information and experience. Particularly, three key issues of the Mongolian National Action Program for Combating Desertification were discussed closely in this session. First, the discussion clarified that the National Action Program was developed based on thorough analysis of root causes of desertification in Mongolia. Second, it was noted that Mongolia receives substantial financial support from the international community for combating desertification but the majority of funds for the NAP comes from the central government budget coupled with funding from local governments and special national funds. Third, in order to effectively implement the NAP, a national accountability system was developed, through which the central government could assign specific tasks to local governments and monitor the process of program implementation.

10. Representatives from Dornogobi Province showed great interest in learning practices of vegetation recovery through afforestation in Erenhot City and asked for further information about technical approaches to seedling selection, seedling cultivation and tree planting. The discussion drew a comparison between two bordered cities, Zamyn-Uud in Mongolia and Erenhot in China, focusing on the climate conditions, water resources, and technologies. Chinese experts suggested that Zamyn-Uud City should adopt more scientific approaches to seedling cultivation in order to increase the survival rate. Sustainable urban planning and water resources management are also very critical to rehabilitating and restoring degraded and vulnerable land areas in Zamyn-Uud.

#### **E. Overview of Policy Aspects and Technical Approaches to Combating Desertification**

11. Professor Xinping Wang, a researcher of the Cold and Arid Regions Environmental and Engineering Research Institute, made a presentation of policy tools, strategies and approaches to combating desertification in China. Over the past two decades, China promulgated a series of laws including the Forest Law, Grassland Law, Law on Prevention and Control of Desertification, to improve the legislative framework of combating desertification. Professor Wang emphasized that coordination among different government departments and levels is critical to obtaining an effective and efficient legal system. In addition, China incorporated scientific and technical approaches to all dimensions of the work related to prevention of desertification. In particular, the Chinese Government launched a series of policies to establish a national desertification monitoring system and to support scientific research, technical application and dissemination. Moreover, the Chinese desertification work also relied on synergy between policies pertinent to desertification per se and other complementary practices, highlighting the establishment of watershed organizations and water resources allocation systems, optimization of the energy structure in agriculture and pasture regions and creation of alternative income sources for local communities. Professor Wang also showed successful models of combating desertification in China and stressed that the first step towards desertification prevention in Mongolia should lie in a clear understanding of both natural and socioeconomic conditions of this phenomenon. Based on this, possible measures that can be adopted in pilot areas include engineering approaches (indigenous materials, such as straw, clay and pebble) and biological approaches (appropriate plant species).
12. Ms. Xiaoxia Jia, the Acting Director of the National Bureau to Combat Desertification of China, presented the current situation with desertification in China and pointed out that population growth, economic development and climate variation are major

drivers of desertification in China. Ms. Jia outlined Chinese countermeasures against desertification, focusing on institutional arrangements, law and policy tools, and national strategies and programmes. Additionally, she noted that Chinese government always attached great importance to combating desertification and significant achievements have been made via long-term arduous efforts. For instance, the total area of desertified land decreased by 37,900 km<sup>2</sup> from 1999 to 2004 with an annual reduction of 7585 km<sup>2</sup> and between 2004 and 2009, it reduced by 12,454 km<sup>2</sup> in total. In spite of the great progress, Ms. Jia identified challenges for Chinese counter-desertification work in the future and called for further actions to address these challenges. Particularly, she stated that still widely distributed large areas of desertified lands in the country urgently require control and prevention. Continuous human interventions and unexpected intensity of extreme weather events create additional hardship for desertification prevention and control in China. In this context, the National Bureau to Combat Desertification of China adopted a multi-year strategic plan which aims to control a half of the total treatable degraded lands to considerably improve the ecological condition of the affected areas by the end of 2020.

13. Mr. Bayarbat Dashzeveg, the Secretary of the Mongolian National Committee to Combat Desertification (NCCD), elaborated on the National Action Program for Combating Desertification in Mongolia. Mr. Bayarbat began with a brief on desertification situation of Mongolia. A recent study from UNCCD showed that 90% of the Mongolian pastureland is vulnerable to land degradation and roughly 72% of the total territory is degraded to some extent. In order to control the rapid rate of desertification and rehabilitate the degraded grasslands, the National Action Program for Combating Desertification came into place. There are five important components of the National Action Program: (1) strengthening national capacity and institutional framework for combating desertification; (2) improving the legal and policy framework; (3) enhancing science and technology development and knowledge sharing; (4) increasing advocacy, awareness rising and education activities; and (5) supporting concrete actions and increase investment at the local level. The National Action Program will be implemented in two phases. The first stage covers the years from 2010 to 2015 and actions to be taken include strengthening legislation of combating desertification, capacity building of NCCD and increasing public participation in desertification prevention activities. Between 2016 and 2020, the second stage will focus on actions to cope with intensity of desertification by rehabilitating and restoring degraded and vulnerable land areas. Mr. Bayarbat stressed that active community participation, improvement of inter-

sectoral cooperation and raising public awareness are major keys to successful implementation of the Program.

14. This session had a chance to discuss the technology system and control modality to combat desertification in China. According to the results derived from the HadCM2 model, Professor Lu, the Director of Institute of Desertification Studies, Chinese Academy of Forestry, presented two scenarios of desertification projection under different assumptions of Green House Gases (GHG) emissions. By 2056, the total area of desertification in China would increase by 13% if the GHG emissions annually grow at the rate of 1% while it would increase by 7% if the annual growth rate of GHG emissions remains at 0.5%. Therefore, Professor Lu underlined the importance of making continuous efforts to combat desertification, in spite of recent significant achievements in China. He noted that government steering, science and technology support, law enforcement and correct incentives for the private sector and civil society played essential roles in taking concrete actions to reduce sandstorms and control desertification. Professor Lu also reviewed the Chinese technology system of combating desertification. Sand fixation, as a fundamental technology, has a plenty of different approaches (physical, chemical and biological) adjusted to specific environmental conditions. In addition to sand fixation, afforestation is another key technology for sandification control, comprising of tree-planting, aero-seeding and enclosure of venerable areas. In support of these technologies, innovative models of desertification control were developed. Professor Lu presented striking examples of agroforestry systems in oasis, and Kulums systems at township, village and household levels. Finally an interesting topic on eco-function of Chinese traditional culture was discussed. Professor Lu stated that there is a great potential to make a good use of Chinese traditional culture to combating desertification in China. Rich ecosystem intelligence in Chinese traditional culture, such as Kanjing (the underground channel and well), Shatian (the stone-covered field) and temple-centered community still have great meaning for today's modality of combating desertification.
15. Policies and technologies of desertification control in Inner Mongolia were analyzed by Ms. Ding Rong, the Division Chief of the Inner Mongolia Forestry Administration. Ms. Ding began with the introduction to the natural conditions and desertification situation of Inner Mongolia and then provided options for suitable species and applicable technologies for desertification prevention in Inner Mongolia. Hulunbuir, Horchin, Onqin Daga and Mu Us are the four largest sand lands in Inner Mongolia, where different control methods were applied. The bio-economic sphere model played a positive role in controlling sand land expansion in Inner Mongolia, which

refers to the section in the area of desertification with households or villages constructed on the basis of a five-element coordination involving water, grass, woods, machinery and grain for a comprehensive control. Vegetation recovery through enclosure and afforestation as well as the comprehensive control for migratory and semi-migratory dunes also contributed to the control of expansion of sand lands in Inner Mongolia. In addition, there are also four major deserts in Inner Mongolia, including Badain-jaran, Tengger, Ulan Buh and Hobq. The priority in dealing with deserts was given to protection of the ecological systems and recovery of oasis.

#### **F. Modality and Approaches of the NEASPEC Project on Implementing the Regional Master Plan on Prevention of Dust and Sandstorms in North-East Asia**

16. The secretariat provided an overview of the NEASPEC DSS project and particularly explained the implementation plan of the pilot project in Zamyn-Uud. Subsequently, the representative of the provincial forestry administration of the Dornogobi aymag briefed participants on activities related to desertification prevention in Zamyn-Uud. The representative indicated that the local government attached great importance to sandification and desertification control through vegetation recovery. Especially, the government provided considerable support for seeding cultivation, construction of protective fences and enclosure of vulnerable grasslands. The local government also accelerated afforestation through law enforcement which requires each individual to plant at least one tree per year. In 2011, 11,840 ha of trees were planted in the area. The local government plans to build up a 3000 kilometer-long great green wall across the east to the west and 1500 kilometers has been finished already. In spite of this significant progress, the Dornogobi province still faces a difficult task of preventing the vulnerable lands from being sandified and desertified. Over the past 10 years, afforestation rate fluctuated dramatically in Zamyn-Uud. The number of trees planted between 1999 and 2004 stayed relatively high while fewer trees were planted during the rest of the years. One of the reasons underlined by the representative was the low survival rate of seedlings.
17. The representative of Erenhot City elaborated on the urban sewage purification and sewage irrigation system in the city. Due to the arid climate, Erenhot City has little precipitation and high evaporation. This natural condition resulted in a shortage of surface water and inadequacy of underground water in Erenhot, where the survival rate of seedlings and preservation rate of forests used to be extremely low. In response to this, Erenhot City launched a pilot project which utilized the sewage water to irrigate trees in 1992. Since there is no industrial pollutant in the sewage water, it is applicable for irrigating trees after the water undergoes a natural process

of sedimentation and bacterial treatment. Since 2000, this approach began to be widely promoted and so far four water pumping stations and one sewage treatment plant (in 2010) have been installed. This water-efficient method made spectacular contribution to vegetation recovery in Erenhot. The 2009 survey indicated that in Erenhot, the urban forest coverage rate reached 16.2% while this rate reached 3.6% in pastoral areas.

## **SUMMARY OF FIELD TRIPS**

### **Field trip to Lun Soum, location of a Korean-Mongolian Greenbelt project on 20 April**

18. During the second day of the Inception Meeting the participants visited a location of the Korean-Mongolian Greenbelt project in Lun Soum, approximately 100 km west of Ulaanbaatar. The Korean and Mongolian staff presented to the participants the activities of the project, including the tour of the two planting sites, the project nursery and the local office. The project staff also presented the awareness raising materials and briefed participants on introduction of financial sustainability mechanisms in the project design. The Chinese and Mongolian experts had opportunity to provide comments on the project and draw lessons for possible implementation in Zamyn-Uud.

### **Field trip to Zamyn-Uud, location of a project pilot plantation, on 21 April**

19. During the third day of the meeting the participants visited a proposed location of the pilot plantation project in Mongolian border city of Zamyn-Uud. The visit started with a meeting of participants with the local government and community members at the governor's office. Later the local government demonstrated the proposed site for implementation of the pilot DSS project on a total area of ca. 30 ha. The Chinese and Mongolian experts exchanged views and suggestions on the proposed project design and provided valuable practical advices on how to better design and implement the planting and irrigation schemes. The experts also provided comments on soil, hydrological and meteorological conditions of Zamyn-Uud.

### **Field visit to in Erenhot, China on 21 April**

20. After completing the field visit to Zamyn-Uud, some of the meeting participants had an opportunity to visit the cross border Chinese city of Erenhot and particularly get acquainted with a modern wastewater treatment plant. The water treated at this

plant is used to irrigate most of the trees planted in the city. The participants also visited a nursery and an artificial wetland converted to recreational area located in the city. Though Zamyn-Uud and Erenhot are only 8 km apart there is a striking difference in economic, social and environmental conditions of the cities which creates profound possibilities for exchange of experiences and transfer of good practices.

## CONCLUSIONS AND RECOMMENDATIONS

21. The Chinese and Mongolian experts agreed to identify ways to enhance cooperation between local governments of Zamyn-Uud and Erenhot on combating desertification with a view of learning best practices in China and applying them in Mongolia. Moreover, on central government level, the experts also agreed to seek ways to promote sharing of best practices and knowledge. On international level, the participants expressed their support to the Regional Master Plan and underscored the importance of raising international attention to issues of desertification in North-East Asia through international mechanisms such as UNCCD.
22. In order to further promote knowledge sharing in the subregion, the experts agreed to cooperate on compiling the publication on best practices of combating desertification in North-East Asia with focus on China and Mongolia. The Chinese participants expressed their support for the need to organize a training programme for Mongolian experts in China with components of technical aspects of combating desertification and policy measures. The Chinese and Mongolian experts exchanged views on the detailed planning and implementation of the training programme.
23. The Chinese experts recommended the Mongolian counterparts to focus on integrated approach in combating desertification. Particularly, issues like water resources management play crucial role in water scarce areas of Gobi steppe and desert regions. The Zamyn-Uud authorities can learn from modern approaches applied to water recycling and reuse applied in Erenhot City.
24. The participants also recommended conducting research activities on root causes of desertification, monitoring activities and baseline studies of natural conditions in pilot areas to ensure successful implementation of projects. The meeting underlined the importance of establishing close contacts and communication between local and central authorities in planning and implementation of activities on combating desertification.

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