

North-East Asia Multi-stakeholder Plan on Combating Desertification and Land Degradation

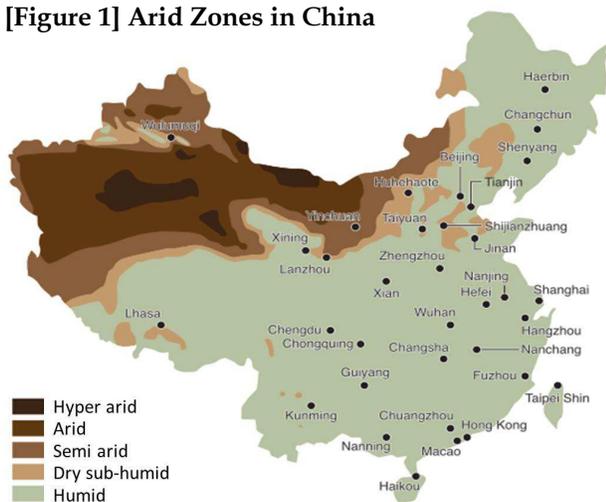
PART I Background

1.1. Desertification and Land Degradation in North-East Asia

North-East Asia (NEA) is a vast and diverse subregion comprising six countries: China, Democratic People's Republic of Korea (DPRK), Japan, Mongolia, Republic of Korea (ROK) and the Russian Federation.

Desertification and land degradation has been a significant problem in North-East Asia, not only affecting the environment but also threatening both irrigated and rain-fed agricultural land and rangelands, where the livelihoods of more than half of the population in the subregion depend. The increasing frequency of dust and sandstorms (DSS) originated in China and Mongolia as a result of degraded land and encroaching deserts is causing damages not only close to the dust-source areas, but also hundreds and even thousands of kilometers downwind of the dust-source areas¹. The adverse impacts of the 'yellow dust' on health and visibility are well-known.

[Figure 1] Arid Zones in China



Source: *Combating Desertification and Land Degradation: Proven Practices from Asia and the Pacific*, Korea Forest Service (2011)

North-East Asian countries have been affected by desertification and land degradation (DLD) at varying degrees and taken different steps and approaches to combat this challenge:

China has over a quarter of its landmass² and more than 400 million people³ threatened by DLD. The most degraded areas are often poor and geographically marginal zones in the North-West, North and North-East of China. DLD hinders the progress on poverty reduction and socio-economic development, has adverse impact on health, and causes annual direct economic losses exceeding 120 billion yuan⁴ (or USD 19.2 billion).

¹ The DSS in North-East Asia were mainly originated from the mid-latitude Desert Zone (N 40-45°, E 90-120°) (ADB, 2005a). The ADB-GEF project has identified a number of major dust-source areas in China and Mongolia and the probable trajectories of the DSS (ADB, 2005a, 2005b, 2005c).

² 20 Years from Rio, Green Times, 2014.

³ http://www.greentimes.com/green/news/gjhz/wsdtd/content/2014-10/14/content_273661.htm

⁴ Wang, et al., 2012. Desertification and its Mitigation Strategy in China. *Journal of Resources and Ecology* 3(2): 97-104.

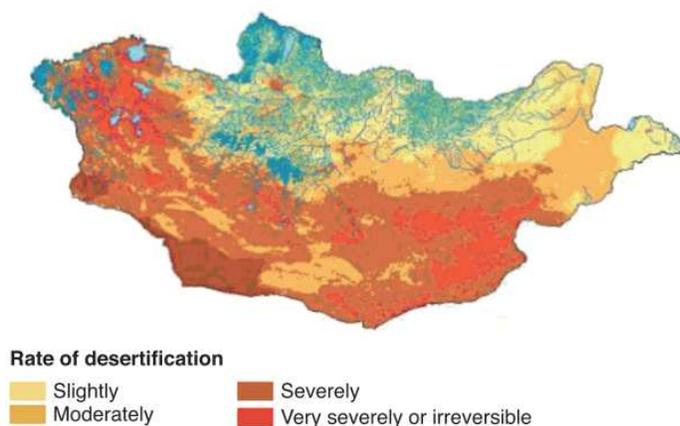
⁵ http://news.cb.com.cn/html/money_10_14264_1.html

In recognition of the serious threat of desertification decades ago, China pioneered in DLD-related legislation by enacting the Law on Prevention and Control of Desertification in 2002, as the world's first law dedicated to desertification prevention and control. Since 2000, over USD 100 million has been invested annually in key desertification control projects, and more than nine national research centers on desertification prevention and control have been established since the 1950s to enhance monitoring capacity and promote technical advancement. These efforts have resulted in an annual net reduction in degraded land from 2000 to 2009 and the annual area under desertification control has reached almost 1 million hectare.

In continuation of its previous works, the current National Plan on Desertification Prevention and Control (2011-2020) outlines China's key approaches in combating DLD. It contributes to the national targets of rehabilitating 50% of rehabilitable desertified land by 2020, and the rest by 2050⁵.

Mongolia has over 75% of its territory under threats of DLD including almost all of its grasslands and pasturelands. DLD has been the most challenging environmental issues in Mongolia as it is closely related to the most prominent economic sectors: agriculture and mining. Agricultural sector is dominated by livestock which contributes almost 85% of the sector as a whole, enabling Mongolia being the second biggest raw cashmere producer in the world after China. The main causes of DLD is the reduction in precipitation exaggerated by climate change and rapid increase in livestock by almost 40% (number of goats doubled) from 2000 to 2009. The number of days with dust and sandstorm events has multiplied by more than three folds between 1960 and 2006. A recent study suggested that there has been little change in overall situation, however significant changes have been found in spatial distribution of heavily or extremely degraded lands, with numerous newly formed extremely degraded land⁶.

[Figure 2] Desertification in Mongolia



Source: *Combating Desertification and Land Degradation: Proven Practices from Asia and the Pacific*, Korea Forest Service (2011)

The Mongolian government has taken multiple steps in combating DLD, including the Green Wall Programme 2005-2030, developing the Atlas of Desertification, formulating the National Action Plan to Combat Desertification (2010) and Law on Soil Protection and Combating Desertification. The National Committee to Combat Desertification (NCCD) was established in 1998, to develop and implement policies, and facilitate international cooperation and resource mobilization⁷. In the Mongolian

⁵ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from China as affected country Party, July 2014.

⁶ Nyamtseren et al., The assessment and mapping of desertification in Mongolia, 3rd UNCCD Scientific Conference 2015, Book of Abstract

⁷ Mongolia Environmental Database <http://www.eic.mn>

Green Development Plan endorsed by the Parliament in June 2014, national commitment has been made through stating that “Reduction of impacts from desertification, land degradation and drought by creating conditions to minimize human impacts on environment in climate change conditions and through rapid economic growth” as one of the measures to be implemented in achieving its strategic objectives.

Democratic People’s Republic of Korea (DPRK) has historically been mostly covered in forests. However, pressure from food security and economic difficulties have resulted in over exploitation of forests for fuel wood and conversion to agricultural land. Between 1990 and 2002, timber forest areas reduced from 81,333 km² to 75,541 km² at a rate of 480 km² per year⁸. Areas of timber forest have been expanding since 2000, but it has not re-established to former coverage in 1990 and earlier. Deforestation and degradation has caused serious impact on both human and ecosystem health. It has negatively impacted a number of ecosystem services such as water infiltration and soil erosion, which lead to reduction in soil and agricultural productivity. This has also resulted in increased vulnerability to disasters including landslides and reduced resilience to climate change.

Preventing forest degradation and restoring degraded forests have become a national priority. The government of DPRK adopted the Law on Land in 1997 with revision in 1999 to provide the legal basis for the protection, sustainable development and utilization of land resources. The Long-term National Plan for Forest Development (1990-2020) and National Action Plan to Combat Desertification and Land Degradation in DPRK (2006-2010) were prepared to protect and preserve existing forest, and to develop plantations to meet demand for timber and other forest products. Monitoring and assessment has taken place to document land degradation through an annual survey, and land erosion survey and analysis is also conducted every 4 to 5 years. Every spring and autumn, the Government declares a period of “General Mobilization for Land Management” for nation-wide activities to mobilize people to undertake various reforestation and land restoration activities.

1.2. Linkages to Sustainable Development

Land is an important natural resource that provides vital ecosystem services and for food production, its degradation is closely linked with various factors as illustrated in Figure 3. It is the main asset for many, especially the rural poor, whose livelihoods and survival depend upon the fertility and health of their land. Degradation of land that diminishes its biodiversity and ecosystem functioning as well as its provision, is caused by both human and natural factors, and their interactions such as climate change. The pressure on land resources will continue to grow, with global demand for food, water and energy is projected to increase by 35%, 40% and 50% respectively by 2030⁹.

⁸ DPRK Environment and Climate Change Outlook, 2012, Ministry of Environment and Land Protection, DPRK.

http://www.unep.org/dewa/portals/67/pdf/ECCO_DPRK.pdf

⁹ National Intelligence Council, 2012. Global Trends 2030: Alternative Worlds.

http://www.dni.gov/files/documents/GlobalTrends_2030.pdf

As humans exert pressure on land causing its degradation, the socioeconomic impact is widespread. Roughly 40% of the world's degraded land occurs in areas with highest incidence of poverty, seriously affecting health and livelihoods of 1.5 billion people, with women and children bearing disproportionate burden. Current cost of land degradation worldwide reaches about USD 490 billion per year¹⁰.

[Figure 3] DLD's related factors and impacts



Adapted from Figure 1 at *Drylands and the MFCAL Approach, Background Paper 3: Drylands* (FAO and IFAD)
<http://www.fao.org/docrep/x2775e/X2775E05.htm>

Global Consensus and Movement

Desertification and land degradation (DLD) has long been recognized internationally as one of the greatest challenges to sustainable development, notably at the 1992 Rio Earth Summit where the **United Nations Convention to Combat Desertification (UNCCD)**, Convention on Biological Diversity (CBD) and United Nations Framework Convention on Climate Change (UNFCCC) were adopted and DLD highlighted in Agenda 21. Since then, UNCCD has been working to mainstream integrated DLD management in decision making and high-level discussions, enhancing the scientific process, and promoting sustainable land management and good practices such as through the Land for Life Award. A Ten-year Strategic Plan and Framework (2008-2018) has been adopted as UNCCD enters its second decade, with 'Strategic Objectives' to be achieved at the end of the period and 'Operational Objectives' guiding short and medium-term actions.

¹⁰ UNCCD Land Degradation Neutrality, Resilience at Local, National and Regional Levels.
http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/Land_Degrad_Neutrality_E_Web.pdf

[Table 1] UNCCD Ten-year Strategic Plan and Framework 2008-2018

Strategic Objectives	Operational Objectives
<ol style="list-style-type: none"> 1. <i>To improve the living conditions of affected populations</i> <ul style="list-style-type: none"> • Improved and diversified livelihood base • Reduced socio-economic and environmental vulnerability to climate change 2. <i>To improve the condition of affected ecosystems</i> <ul style="list-style-type: none"> • Enhanced sustainable land productivity and ecosystem goods and services • Reduced vulnerability of ecosystems to climate change 3. <i>To generate global benefits through effective implementation of the UNCCD</i> 4. <i>To mobilize resources to support implementation of the Convention through building effective partnerships between national and international actors</i> <ul style="list-style-type: none"> • Increased financial, technical and technological resources made available • Enable the improvement of policy environment 	<ol style="list-style-type: none"> 1. <i>Advocacy, awareness raising and education:</i> to actively influence relevant international, national and local processes and actors 2. <i>Policy framework:</i> to support the creation of enabling environments for promoting solutions on DLD 3. <i>Science, technology and knowledge:</i> to become a global authority on scientific and technical knowledge 4. <i>Capacity-building:</i> to identify and address capacity building needs in prevention and reversal of DLD and its effects 5. <i>Financing and technology transfer:</i> to mobilize and improve the targeting and coordination of national, bilateral and multilateral financial and technological resources for increased impact and effectiveness

In the **United Nations Conference on Sustainable Development (Rio+20) Outcome Document** (2012), governments underlined the economic and social significance of good land management, specifically in relation to economic growth, biodiversity, sustainable agriculture and food security, eradicating poverty, the empowerment of women, addressing climate change and improving water availability. The need for urgent action to reverse land degradation is recognized and governments also agreed to strive for land-degradation neutral, also known as **zero net land degradation**, which was first introduced at the Conference.

The Outcome Document mandated a proposal to be prepared by an Open Working Group (OWG) for developing the **Sustainable Development Goals (SDGs)** that frames the development agenda for the next fifteen years. Desertification and land degradation is specified in one of the seventeen goals proposed by the OWG in 2014 with goals by 2020¹¹: **Goal 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and half biodiversity loss.** Under Goal 15, the following is of particular relevance:

15.2 by 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests, and increase afforestation and reforestation by x% globally

¹¹ Open Working Group proposal for Sustainable Development Goals.
<http://www.unccd.int/Lists/SiteDocumentLibrary/Rio+20/OWG%20SDG/SDGs%20Proposal.pdf>

15.3 by 2020, combat desertification, and restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation neutral world

15.a mobilize and significantly increase from all sources financial resources to conserve and sustainably use biodiversity and ecosystems

15.b mobilize and significantly increase from all sources and at all levels to finance sustainable forest management, and provide adequate incentives to developing countries to advance sustainable forest management, including for conservation and reforestation

Of note is that not only DLD has been specified with targets as a global sustainable development goal, its relations with the use of land resources and sustainability have been underlined. DLD is also closely connected to other proposed goals such as poverty (Goal 1), hunger (Goal 2), gender (Goal 5), water resources and sanitation (Goal 6) and climate change (Goal 13), etc. The proposed SDGs have brought DLD to a higher and broader agenda of sustainable development, demanding greater attention and investment of resources.

Linkages of DLD to sustainable development are evident and recognized. However, DLD is still considered a low priority among donors when compared to biodiversity and climate change¹². Other approaches have been taken globally to urge for provision of resources into tackling DLD through sustainable land management (SLM). To increase awareness of the economic consequences and made known the potential benefits of sustainable land management practices, the Economics of Land Degradation (ELD) Initiative¹³ has been founded. It provides a global platform to develop data and methods in assessing economic benefits of land and land-based ecosystems.

¹² UNCCD 2nd Scientific Conference Economic and social impact assessment (2013)

¹³ Economics of Land Degradation (ELD) Initiative <http://www.eld-initiative.org/>

2. North-East Asia Situation Analysis

2.1. Overview

North-East Asia has been combating DLD for decades and a large community working at various levels and aspects to fight DLD has been built up overtime. A brief overview is presented in Table 2 to outline key activities undertaken in the subregion and the roles and linkages of primary actors in DLD.

[Table 2] Overview of DLD Works in the North-East Asia

Areas of Activities and Current Primary Actors	Description
Technical Assistance and Capacity Building <ul style="list-style-type: none"> ▪ Governments ▪ Research Institutions ▪ International Organizations ▪ Civil Organizations 	<p>Technical assistance and capacity building activities are common. There are plenty of institutions within and beyond the subregion that possess knowledge and skills needed by others. China alone has over 160 science and technology institutions involved in DLD-related programmes and projects, in contrast to less than 10 in Mongolia^{14,15}. The straw box sand fixation methodology has been widely regarded as the ‘Chinese magic box’ for its effectiveness in stabilizing sand¹⁶. These activities often involved international cooperation in the form of joint research, pilot projects and knowledge dissemination activities, and local governments as implementing units. International organizations and mechanisms such as UNCCD and NEASPEC, and civil organizations play roles as facilitators in matchmaking and financing as well as providing technical support.</p> <p>Content usually ranges from highly technical topics such as research on plant species and ecological processes, to practical and implementation-oriented knowledge and skills, including afforestation methodology, watershed management, policy-making, local livelihoods and land management etc. The Green Asia Network (GAN), for instance, trained 2,800 locals over the years in forestry practices and sustainable agriculture to restore degraded lands and improve the livelihood of 14,000 people¹⁷.</p>
Tree Planting and Land Restoration <ul style="list-style-type: none"> ▪ Governments ▪ Private Sector ▪ Civil Organizations 	<p>Tree planting has been the most common projects supported by governments, corporates and civil organizations. Constructing physical barriers and restoring vegetation have been a crucial part in halting further degradation, restoring ecosystem services and generating local livelihoods. It is also linked to disaster reduction such as reducing risks of floods and landslides in DPRK. These activities are popular as North-East Asian governments often have local and national targets directly relevant to land rehabilitation. The government of DPRK carries out nationwide tree planting programme during autumn and spring every year.</p> <p>Local governments also play key roles in implementation and to pilot new methodologies, as well as transboundary cooperation such as Erhenhot City, a Chinese town near the border with Mongolia, has been providing over 30,000</p>

¹⁴ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from China as affected country Party, July 2014.

¹⁵ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from Mongolia as affected country Party, June 2014.

¹⁶ http://www.forestry.gov.cn/Zhuanti/content_201410hmggy/709719.html

¹⁷ <http://www.unccd.int/en/media-center/Press-Releases/Pages/Press-Release-Detail.aspx?PRId=60>

Areas of Activities and Current Primary Actors	Description
	<p>seedlings per year to Mongolia for over a decade, and as a pilot town on new technology such as irrigation with recycled water¹⁸.</p> <p>The subregion has a number of large corporations¹⁹ interested in supporting tree planting by funding and sending their employees as part of their corporate social responsibility (CSR) initiatives. Enterprises have begun to see tree planting beyond CSR, which is not only a cost but an investment. The return in economic benefits has been increasingly recognized in particular to those operating in arid areas. For example, salt-mining company in China has to reforest the area to maintain the roads for transporting its products. Over 25 years, a greenbelt of 240 km has been created, not only securing the transportation route but contributing in reducing sandstorms and halting desertification in the area²⁰.</p> <p>Public-private partnership such as the Green Silk Road Fund has been launched in March 2015 by corporate partners, UNCCD, UNEP and other international organizations²¹. The Fund aims to plant 1.3 billion trees along the Silk Road and rehabilitate 1.3 million hectares of degraded land.</p> <p>The subregion also has civil organizations dedicated to tree planting and greening of degraded land such as Future Forest, Green Asia Network (GAN) and Northeast Asia Forest Forum (NEAFF), and many other reforestation projects, e.g. the Rotary International²² and Saemaul Undong Centre (KSUC). Some projects are of large scale such as the NEAFF has planted 7 million trees in over 3500 ha²³, GAN had mobilized 25,000 volunteers on sustainable land development projects²⁴, and Red Cross volunteers mobilized 10,000 youths to plant 300,000 tree seedlings²⁵.</p> <p>Community-based tree planting programme²⁶ has been implemented by the International Federation of Red Cross and Red Crescent Societies (IFRC) in DPRK, alongside with government reforestation programmes, to reduce risks of soil erosion and its related disasters. It also provides an important source for forestry products including fire woods.</p>
<p>Socioeconomic and Sustainable Development</p> <ul style="list-style-type: none"> ▪ Governments ▪ International Organizations ▪ Private Sector ▪ Civil Organizations 	<p>Socioeconomic linkages to DLD and its control are well known, yet they have been generally less addressed compared to the environmental dimension. However, the need to integrate socioeconomic linkages has been increasingly recognized for their significance in determining success to combat DLD, in particular for the sustainability of projects and support from local communities. For example, projects that introduced sea-buckthorn²⁷ in Mongolia that is not only ideal for holding sand with their deep and extensive root system, but also for their berries that are important source of vitamin and can become products to be sold.</p> <p>In China, desert eco-farms that produce cash crops, high-value herbal medicine and organic crops, and power generation from photovoltaic (PV) systems, have grown in</p>

¹⁸ http://finance.ifeng.com/a/20131222/11317838_0.shtml

¹⁹ Examples of these corporations include but not limited to: Beijing Hyundai Motor Company Corporation, Brother Industries, Elion Resources Group, NEAMSPan Airlines, Korean Air and Toyota Motor Corporation

²⁰ <http://finance.huanqiu.com/world/2013-08/4226255.html>

²¹ <http://www.unccd.int/en/media-center/MediaNews/Pages/highlightdetail.aspx?HighlightID=367>

²² <http://navarrerotary.org/917/keep-mongolia-green/>

²³ <http://www.neaff.org/info/greeting.asp>

²⁴ <http://www.unccd.int/en/media-center/Press-Releases/Pages/Press-Release-Detail.aspx?PRId=60>

²⁵ <http://www.ifrc.org/es/noticias/noticias/asia-pacific/korea-democratic-peoples-republic-of/dprk-red-cross-prepares-for-disaster/>

²⁶ <http://kp.one.un.org/content/uploads/2012/03/201300-North-Korea-Case-Study.pdf>

²⁷ <http://www.globalnature.org/35055/Themes-Projects/Project-References/Sea-Buckthorn/resindex.aspx>

Areas of Activities and Current Primary Actors	Description
	<p>popularity and usually carried out in partnership with corporate and local governments^{28,29,30}. Some projects are combined with tourism to increase awareness and generate further income for local communities. The commercial desertification control of the Elion Resource Group with desert farming has restored 13,500 km² in the past 25 years, with its Board Chairman Mr. Wang Wenbiao being awarded the first “Global Dryland Champion” by the UNCCD at its 11th Conference of Parties in 2013³¹. The growth of deserticulture and its products has led to establishment of various deserticulture associations in Beijing, Qinghai and Inner Mongolia, etc., and a number of deserticulture forums were held since 2008³².</p> <p>Another key socioeconomic aspect linked to DLD is agriculture and food security. Rehabilitation of agricultural land, stabilization of slopes and integrated watershed management are critical to ensure food security. An example is to promote agroforestry which integrates forests and food crops on the same unit of land in a sustainable manner. The World Agroforestry Centre, Ministry of Land and Environmental Protection of DPRK and the Swiss Agency for Development and Cooperation, have jointly developed guidance for participatory agroforestry development in DPRK³³.</p>
<p>Funding</p> <ul style="list-style-type: none"> ▪ Governments ▪ International Organizations ▪ Private Sector ▪ Civil Organizations 	<p>National governments are major funders of DLD control and prevention in the subregion. The Chinese combating DLD efforts are largely government-led, and the central government will have invested over 200 billion yuan (or USD 32 billion) by 2020 in the western desertified areas alone³⁴ to reach national targets.</p> <p>Foreign governments have also contributed as bilateral donors or through various financing mechanisms, including:</p> <ul style="list-style-type: none"> • ROK will have invested over USD 13.4 million on the Greenbelt Project in Mongolia by 2017³⁵; • The Government of Japan through the Japan Fund for Poverty Reduction (JFPR) financed two projects of over USD 2.4 million in total to establish sustainable management for forests and peat lands in Mongolia³⁶; • The Swiss Agency for Development and Cooperation (SDC) provided over USD 13 million for the ‘Coping with Desertification’ project in Mongolia³⁷; and almost EUR 2.2 million up to 2014 for Sustainable Sloping Land Management in DPRK³⁸; • The German Federal Government provided EUR 8.6 million (USD 9 million) since 2008 for re-vegetation in Ningxia, China³⁹; and • The Government of the Netherlands funded a capacity building and

²⁸ <http://www.elion.com.cn/cpybw/stxb/index.shtml>

²⁹ <http://www.pepsico.com.cn/media/pr-june08-01.php>

³⁰ <http://guangfu.bjx.com.cn/m/?s=1&l=4&v=558601>

³¹ <http://www.prnewswire.com/news-releases/china-wins-worlds-top-award-for-desertification-control-225181382.html>

³² <http://211.167.243.165/sub/FstArticle.aspx?id=lyyw.18345.2008-09-09>

³³ Xu et al., 2011. Participatory Agroforestry Development in DPR Korea. World Agroforestry Centre (ICRAF), China and East Asia Node.

³⁴ http://news.cb.com.cn/html/money_10_14264_1.html

³⁵ <http://www.koreaherald.com/view.php?ud=20140618001043>

³⁶ <http://www.adb.org/news/adb-mongolia-sign-24-million-grants-japan-forests-and-peatlands>

³⁷ http://doc.rero.ch/record/200169/files/01-CODEP_in_Mongolia_eng.pdf

³⁸ <https://www.eda.admin.ch/content/dam/countries/countries-content/the-democratic-people-s-republic-of-korea/en/140326%20Factsheet%20SLM%20final.pdf>

³⁹ <http://www.giz.de/expertise/downloads/giz2013-en-german-national-report-unccd.pdf>

Areas of Activities and Current Primary Actors	Description
	<p>institutional development project in Mongolia through the FAO⁴⁰.</p> <p>However, it is generally considered that bilateral assistance received in the subregion requires more adequacy, timeliness and predictability⁴¹.</p> <p>Multilateral funding sources have also key in providing and channeling funds for DLD-related projects in North-East Asia, on a wide range of projects from technical assistance, capacity and management support, to desertification control, etc. Most implementing agencies are ministries or local governments. For example:</p> <ul style="list-style-type: none"> • Asian Development Bank (ADB) supported the development of "An investment strategy for the Prevention and Control of Dust and Sandstorms through Demonstration Project", provided grant for technical assistance project to combat desertification in Asia⁴² and sustainable forest management in Mongolia⁴³. • Global Environment Facility (GEF) is mandated to address DLD as a financial mechanism of the UNCCD. A USD 5.2 million project to offset land degradation in Mongolia has been approved in 2014⁴⁴. Over USD 9.8 million has been approved since 2009 on national projects in China, including the USD 5.25 million PRC-GEF Partnership on capacity and management support which includes ADB, World Bank and IFAD⁴⁵. Total cost for this project is USD 23.3 million, to be co-financed by the government in cash and in-kind administrative support. • World Bank has loan projects of over USD 100 million for the Ningxia Desertification Control and Ecological Protection Project⁴⁶ (2013-2018), and USD 10 million for reforestation on degraded land⁴⁷, both in China. • Public-Private Partnership: Green Silk Road Fund aims to mobilize 30 billion yuan (approximately USD 4.8 billion) at its first phase, to rehabilitate the Silk Road region through projects integrating ecological restoration, clean energy and ecological industries. <p>In addition to gathering and providing funds, civil organizations with technical and project management capacity, are key in utilizing funds as implementing agency. The scale of implementation varies, with numerous small local-focused projects to million-dollar campaign such as the International Rotary USD 1 million on 'Keeping Mongolia Green' campaign (2004-2009)⁴⁸.</p>
<p>Volunteerism and Awareness</p> <ul style="list-style-type: none"> ▪ Private Sector 	<p>Voluntary work in DLD in the subregion is dominated by tree-planting programmes, usually mobilized by civil organizations or private companies. Many schools and universities in the subregion have organized campaigns for students to plant trees in</p>

⁴⁰ <http://www.fao.org/forestry/enterprises/38735/en/>

⁴¹ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from Network for Mitigation of Desertification as subregional reporting entity of East Asia, September 2014.

⁴² <http://www.adb.org/sites/default/files/project-document/68660/34012-reg-tacr.pdf>

⁴³ http://adb.org/projects/details?proj_id=48061-002&page=overview

⁴⁴ http://www.thegef.org/gef/project_detail?projID=5700

⁴⁵ http://www.thegef.org/gef/project_detail?projID=3484 and <http://www.thegef.org/gef/node/11027>

⁴⁶ <http://www.worldbank.org/projects/P121289/ningxia-desertification-control-ecological-protection-project?lang=en>

⁴⁷ <http://www.worldbank.org/projects/P105958/reforestation-degraded-land-northwest-guangxi?lang=en>

⁴⁸ <http://navarrerotary.org/917/keep-mongolia-green/>

Areas of Activities and Current Primary Actors	Description
<ul style="list-style-type: none"> ▪ Civil Organizations 	<p>DLD-threatened areas, such as the annual Chinese-Korean Universities Student Volunteer Exchange Camp⁴⁹. Volunteers provided important labour and often fundraise for the other costs required for tree planting. Project scale varies, but they can make significant difference at a local scale.</p> <p>Volunteer programmes often integrate awareness elements on DLD and wider environmental issues, for participants as well as locals; for example, the Million Tree Project⁵⁰ in China mobilized sponsors, volunteers and students, planted over a million trees in Inner Mongolia. It is combined with awareness raising campaign on desertification and participant's environmental footprints, including corporate participants. Future Forest trained more than a thousand Green Corps volunteers since 2002⁵¹ and offered youth exchange programme between Chinese and Korean youth.</p> <p>Awareness in the subregion has risen through means other than volunteering:</p> <ul style="list-style-type: none"> • Number of information events has almost doubled in China between 2012 and 2013, and mass media reporting on these events more than tripled in the same period in China⁵². • Mass media has been reporting various DLD campaigns, produced documentaries, commercials and incorporated into popular TV celebrity shows⁵³. • Promotion and popularity of deserticulture products has raised attention in the origins of the products, desertification as well as wider environmental issues.
<p>Tourism</p> <ul style="list-style-type: none"> ▪ Governments ▪ Private Sector 	<p>Tourism has been growing in desert areas with its distinctive landscapes and history, and it has potential in generating significant income for local communities. Eco-tourism has been on rise in Mongolia including visits to desert areas, namely the Gobi Desert. In China, more than 40 desert areas have been recognized as National Scenic Areas, Geological Parks, National Nature Reserves and National Heritage Protected Units in Ningxia, Gansu, Xinjiang provinces, etc. Four of these areas were visited by a total of almost 2 million visitors in 2004⁵⁴. In recognition of the diverse desert eco-tourism resources and the importance of their protection, 33 pilot national desert parks sites have been approved by the State Forestry Administration across 7 provinces in China.</p> <p>There are also tree-planting tours in DPRK, combining sight-seeing with tree-planting in Pyongyang and Rason, offered by private tour operators⁵⁵.</p>
<p>Networks and Cooperation</p> <ul style="list-style-type: none"> ▪ Governments ▪ Private Sector ▪ International 	<p>Formal networks and cooperation mechanisms in the subregion are mostly of intergovernmental nature, apart from the Green Silk Road Fund recently established by the private sector and the Northeast Asian Forest Forum (NEAFF). NEAFF is a non-governmental organization established in 1998 to restore degraded ecosystems and conserve forests. It is made up of a group from industries, environmental</p>

⁴⁹ <http://gongyi.sina.com.cn/greenlife/2014-04-04/101548643.html>

⁵⁰ <http://www.mtpchina.org/index.php/english/about-us/>

⁵¹ http://www.futureforest.org/eng/page/greencorps/about_greencorps.asp

⁵² UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from China as affected country Party, July 2014.

⁵³ <http://yule.sohu.com/20131024/n388857358.shtml>

⁵⁴ <http://wenku.baidu.com/view/650d007df46527d3240ce0ec.html?re=view>

⁵⁵ <https://krahun.com/tree-planting-2015>

Areas of Activities and Current Primary Actors	Description
Organizations ▪ Civil Organizations	<p>organizations, foresters groups, academic communities and individuals in China, Mongolia and the Republic of Korea. It receives technical and financial support across sectors such as national and local governments, private sector, public funds and citizens. NEAFF activities include reforestation and afforestation, research, international meetings, review of policy issues, environmental education and promote collaboration with international agencies and governments. For example, a joint project with UNDP aims to rehabilitate approximately 1.6 million hectares of forests in the DPRK; and NEAFF aims to reforest 5,000 ha by 2030^{56,57}.</p> <p>Current key DLD-related intergovernmental networks, mechanisms and meetings in the subregion includes:</p> <ul style="list-style-type: none"> Northeast Asia Desertification, Land Degradation and Drought Network (DLDD-NEAN) has expanded from the Northeast Asia Forest Network in 2011⁵⁸. Its members include China, Mongolia and the ROK, with observers including DPRK, Japan and the Russian Federation. The functions of the Network are: (i) address issues relating to desertification and dust and sandstorms; (ii) cooperate in addressing other relevant forest issues, which contributes to the prevention of desertification and land degradation; (iii) contribute to sustainable forest management (SFM) implementation and sustainable land management. A feasibility study on 'Joint demonstration project for prevention and control of dust and sandstorms originated in Erlinhote, China and Zamiin Uud, Mongolia source areas' was conducted between 2012 and 2013⁵⁹. The most recent annual steering committee meeting was held in Kunming, November 2014, participated by State Forestry Administration (China), Ministry of Environment and Green Development (Mongolia), Korea Forest Service and UNCCD⁶⁰. The meeting discussed subregional cooperation and implementation of action plan, and provided recommendations on future development of the network. Northeast Asia Sub-Regional Action Programme to Combat Desertification and Dust and Sandstorms (NEA SRAP) was adopted in 2008 by the Northeast Asia Forest Network (which expanded into DLDD-NEAN in 2011). It is a framework plan for the network to implement its future cooperation activities under the framework of UNCCD and the principle of partnership building. It outlines a number of proposed programmes and collaborative mechanisms on information sharing, joint research, capacity-building, technology transfer and other joint projects. Participating countries (China, Mongolia and the ROK) agreed on the need and importance of the Programme; however the recent subregional report⁶¹ suggested that there have been obstacles in its implementation, namely fund raising and technology sharing. No specific practical and investment plans have been made. It is therefore recommended to promote the SRAP among regional

⁵⁶ <http://www.neaff.org/>

⁵⁷ <http://www.fao.org/docrep/007/y5841e/y5841e11.htm>

⁵⁸ <http://m.korea.net/english/NewsFocus/Policies/view?articleId=116583>

⁵⁹ Northeast Asia Sub-Regional Action Programme to Combat Desertification and Dust and Sandstorms (NEASRAP), March 2009. UNCCD and Northeast Asia Forest Forum.

⁶⁰ <http://www.forestry.gov.cn/main/139/content-721976.html>

⁶¹ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from Network for Mitigation of Desertification as subregional reporting entity of East Asia, September 2014.

Areas of Activities and Current Primary Actors	Description
	<p>and international organizations to overcome these obstacles.</p> <ul style="list-style-type: none"> • North-East Asian Subregional Programme on Environmental Cooperation (NEASPEC)⁶² is an intergovernmental cooperation mechanism on key environmental issues, launched in 1993 and participated by six countries (China, DPRK, Japan, Mongolia, ROK and the Russian Federation). Served by the permanent secretariat at UNESCAP East and North-East Asia Office, ‘desertification and dust and sandstorms’ has been one of its key programme areas. NEASPEC was active in the implementation of a Regional Master Plan jointly developed by ADB, UNESCAP, UNEP and UNCCD in 2005, to enhance prevention and control of dust and sandstorms through strengthening transboundary cooperation. Activities carried out include tree planting with irrigation system, capacity building, development of GIS database and publication of awareness raising and capacity building materials. • UNCCD and its Asia Regional Coordinating Unit⁶³ promote activities at national, subregional and regional level in the form of coordinated and integrated action programmes. It supports the preparation and implementation of National Action Programmes (NAPs) for China and Mongolia, and monitors national, subregional and regional progress towards achieving the Convention’s goals as well as the other Rio Conventions goals. Regional activities are also launched through Thematic Programme Networks (TPNs)⁶⁴. Each network deals with one core aspect, which is either a cause or an effect of desertification, and aims at providing and promoting regional solutions through improved and innovative regional cooperation and exchange of information.

2.2. Subregional Analysis

The overview of the subregional situation, progress and roles of primary actors allows us to understand what the subregion has in terms its strength and infrastructure (both hard and soft); gaps and opportunities in enhancing current efforts and overcoming barriers; as well as emerging challenges and threats. With this understanding, an action plan can then be formulated to achieve the most through building on current capabilities, addressing critical gaps and exploiting potentials.

[Table 3] Summary of Analysis

Strengths and Infrastructure	Challenges	Uncertainties	Opportunities
<ul style="list-style-type: none"> • Technological and Methodological Development • Policies and Initiatives 	<ul style="list-style-type: none"> • Sporadic nature and limited coordination • Lack of long-term planning, monitoring 	<ul style="list-style-type: none"> • Climate change • Funding 	<ul style="list-style-type: none"> • Better coordinated stakeholder community • More comprehensive

⁶² <http://www.neaspec.org/>

⁶³ <http://www.unccd.int/en/regional-access/Asia/Pages/asia.aspx>

⁶⁴ <http://www.unccd.int/en/regional-access/Asia/Pages/default.aspx>

<ul style="list-style-type: none"> • Deserticulture and economic opportunities • Soft infrastructure in provision and reception of funding 	<ul style="list-style-type: none"> and follow-up • Access to information • Language barrier 	<ul style="list-style-type: none"> project management • Enhanced information and knowledge sharing • Improved private sector engagement
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2.2.1. *Strengths and Infrastructure*

With decades of experiences and progression, the subregion has leading DLD-related technical capacity over a range of **methodologies and technologies** such as remote sensing, meteorology, monitoring, geology, hydrology, vegetation restoration, plant species research and agricultural production etc. The subregion has committed and implemented with success, a number of **policies and initiatives** to control and reverse the DLD process. China, in particular, has achieved annual net reversal resulting through long term nation-wide policies with technological development such as pioneering effective techniques like the ‘Chinese magic box’, by over 160 science and technology institutions.

Traditionally DLD-oriented efforts were seen as costs. There has been increasing evidence on the economic cost of DLD and its inaction; however it has yet to be translated into the scaling up of actions and commitments. It is still underinvested, even when compared to the other two Rio Conventions. The new models of DLD-control developed and put into practice in the subregion, have not only integrated economic viability but also changed perspectives of DLD projects from burden to opportunities. In contrast to the traditional approach that relies heavily on external funding with little security for its sustainability, the new models would explore economic opportunities of the unique desert setting thus tapping into new markets. The growth of **deserticulture** in utilizing resources in deserts as shown in Table 2 has provided a new approach beyond ecological restoration. This new approach addresses the socioeconomic drivers and barriers of DLD and its control, leading to improved local livelihoods and more sustained DLD-control efforts.

The subregion with its long history in combating DLD hand-in-hand with international partners, and has formed rich connections with numerous donors and partners. Governments in the subregion have utilized various channels of financing DLD projects, both in provision and reception of funds. The soft infrastructure of capability, knowledge and experiences in channeling funds is well-established.

2.2.2. *Challenges*

Northeast Asia has a large community working on DLD issues. Mongolia alone reportedly has over 600 DLD-related civil society organizations⁶⁵. As the overview shows, a range of activities including technical assistance, research, volunteering and tree planting has been carried out at

⁶⁵ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from Mongolia as affected country Party, June 2014.

various scales. However, most activities have been **sporadic with limited coordination** despite they share a common goal: to half DLD and strive for sustainable land management. There is some coordination with the current intergovernmental mechanisms, for instance, UNCCD, NEASPEC and governments meet regularly to discuss and join hands in DLD activities, in addition to other bilateral meetings. International organizations have also facilitated finance channeling and international cooperation among governments. Civil society organizations and private sector, on the other hand, have very little synchronization and relatively less joint activities. It implies missed opportunities for potential joint activities to upscale and maximize benefits, avoid duplication and build on lessons learnt.

Many tree planting projects have been and will be implemented. **Long-term planning, monitoring and follow-up** of these projects are key in their success as sand fixation and succession of vegetation takes a long period of time to establish such hostile conditions. In a review of current activities carried out by Korean civil society organizations in Mongolia⁶⁶, most of the implementing agencies have not performed follow-up and this can lead to conflicts in post-project period management. Projects are often one-off and unable to last for more than three years due to the absence of planning through feasibility studies. The report also suggested that enhanced consultation and further participation of local experts, communities and administration could have reduced the chances of failure such as selecting the wrong tree species or using inappropriate technology in the specific local context.

Access to information and language barrier has also been particularly challenging in combating DLD in this subregion with six vast countries speaking five official languages. At the moment, most project information, if made available, is in the implementing agencies' official language and occasionally in implementation site language. Only projects implemented or funded through international agencies would have information available in English. Furthermore, the sporadic nature of DLD activities makes it uneasy or impossible to access and research on similar projects or for country/local information. Even locals may not be aware of projects taking place in their surroundings as mentioned in the Korean review report⁶⁶.

Uncertainties faced by the subregion also pose significant challenge in addressing DLD. Both Chinese and Mongolian governments have made long-term commitments and targets on DLD, which confirms support for government-led actions for the next decade at the minimal. For other projects, however, funding has been largely unpredictable and no new commitments on bilateral grants have been made in China in 2014⁶⁷. Current projects are mostly one-off and only have short-term targets (up to about five years).

Another key uncertainty lies with the impact of **climate change** when changes take place in temperature and rainfall patterns, as well as extreme events including droughts. Drylands have sensitive ecosystems. This can result in substantial impact as conditions are already hostile in desert areas, further variability may lead to increased difficulty in restoring vegetation that can

⁶⁶ Combating Desertification in Mongolia, Survey Study of Plantation Projects. Green Asia Network, November 2014.

⁶⁷ UNCCD Performance Review and Assessment of Implementation System, Fifth reporting cycle, 2014-2015 leg. Report from China as affected country Party, July 2014.

adapt to the new climate. Worse still, it can accelerate DLD transforming vulnerable areas into deserts and increase the areas threatened. On the other hand, rate of DLD is influential in mitigating climate change as land cover is one of the key contributors of greenhouse gas (GHG) emissions.

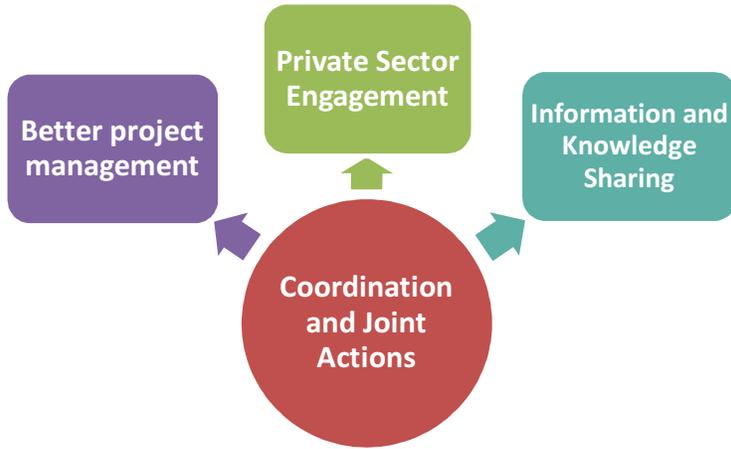
2.2.3. Approach

Northeast Asia has a number of strengths and infrastructure that can be built on and utilized to address the challenges, gaps and uncertainties identified. In view of the fragmented nature of current DLD works, a critical first step for action would be to bond key actors, facilitate understanding of each other's works and support cooperation.

Coordinated and joint actions can significantly improve the alignment of approaches and support the exploration of opportunities identified above as shown in Figure 4. This can be enabled through improved information and knowledge sharing, which is particularly challenging in a subregion that speaks five official languages with fragmented DLD activities. Given the size of the DLD-affected areas and the numerous projects that had or will take place, substantial amount of data, knowledge and advancement could have been made known or accessible to others. It can be utilized to grow the subregion's DLD community as a whole, through building connections, identifying opportunities, avoiding duplication and risks, facilitating research and raising awareness. At the minimum, information should be made available locally in the appropriate language and format. With more information available in a common language, and ideally at a centre point, not only will it greatly facilitate the subregion's DLD progress, Northeast Asia's leadership and progress in halting DLD can also be promoted and utilized globally.

A coordinated and informed community provides the basis for: (i) better project management for more comprehensive and long-term project success; (ii) stronger engagement of the private sector to unlock the potentials of the numerous corporations that have already established and involved in halting DLD in the subregion, as well as attracting new actors to participate; (iii) more integrated approach for sustainable development and land management for wider participation across sectors and re-align disconnected projects towards increasingly interlinked efforts; (iv) greater success and efficiency in resource pooling, matching demand and supply of technical, human and financial resources; (v) more resilient towards uncertainties for diversified methodologies and resources; and (vi) greater awareness and attention through bigger and unified actions.

[Figure 4] Areas of opportunities and their interactions



PART II: North-East Asia Multi-stakeholder Plan (NEAMSP)

With the clear need and benefits of joint actions, a Multi-stakeholder Plan (MSP) is proposed to form a harmonized and cooperative group that harnesses the benefits of coordinated efforts, and reinforces our work to halt DLD in wider sustainable development context.

The NEAMSP is a voluntary initiative participated by current and potential key stakeholders addressing DLD in the subregion. It is owned by all participating agencies and seeks to facilitate knowledge sharing of existing activities, roles and capabilities of stakeholders. The Plan will strengthen communication and coordination, as well as to promote joint actions and to increase the impact of DLD work as one community.

1.1. Goal

The overall goal of the Plan is to support North-East Asian DLD stakeholders in their endeavor to sustainable land management, improve the quality of life in particular the rural population, and secure ecosystem health and services.

The NEAMSP will support the goal through:

- Mapping activities and capacity in the subregion in order to coordinate, complement and enhance efficiency of DLD-related activities carried out by key stakeholders in North-East Asia;
- Developing and maintaining an open subregional network that addresses the multidisciplinary aspects and impact of DLD;
- Building partnerships for joint activities, and mobilizing financial and technical resources for NEAMSP partners; and
- Promoting subregional DLD actions under wider sustainable development context in connection with the SDGs

1.2. Activities

Activities by stakeholders to be presented in the NEAMSP will include those related to the following:

1. To increase re-vegetated and restored land areas, prevent land degradation, improve health of the ecosystem, and restore provision of ecosystem services
2. To strengthen local and national capacity in sustainable land management, and increase the understanding of the root causes and trends of DLD
3. To enable the integration of DLD into socio-economic development, poverty reduction, improved food security and enhanced resilience towards climate change and natural disasters

4. To mobilize resources to step up DLD efforts, improve effectiveness and secure long-term benefits
5. To increase engagement of local stakeholders to ensure that positive impacts are sustained and local communities are directly benefited
6. To promote awareness of DLD for its immediate and wider implications on sustainable development

The NEAMSP is expected to present a subregional overview of DLD activities as follows:

Actions	Agencies
1. To increase re-vegetated and restored land areas, prevent land degradation, improve health of the ecosystem, and restore provision of ecosystem services	
Brief information of actions collected through the questionnaire, for example: <i>Tree planting project X in Country Y, to plant 100,000 trees in 2015 to 2016</i>	<i>Agency A and Agency B</i>
...	...
2. To strengthen local and national capacity in sustainable land management, and increase the understanding of the root causes and trends of DLD	
<i>e.g. Training workshop on topic Z for experts and officials in 2016</i>	<i>Agency C</i>
...	<i>Agency D</i>
3. To enable the integration of DLD into socio-economic development, poverty reduction, improved food security and enhanced resilience towards climate change and natural disasters	
<i>Brief information of actions...</i>	...
4. To mobilize resources to step up DLD efforts, improve effectiveness and secure long-term benefits	
<i>Brief information of actions...</i>	...
5. To increase engagement of local stakeholders to ensure that positive impacts are sustained and local communities are directly benefited	
<i>Brief information of actions...</i>	...
6. To promote awareness of DLD for its immediate and wider implications on sustainable development	
<i>Brief information of actions...</i>	...

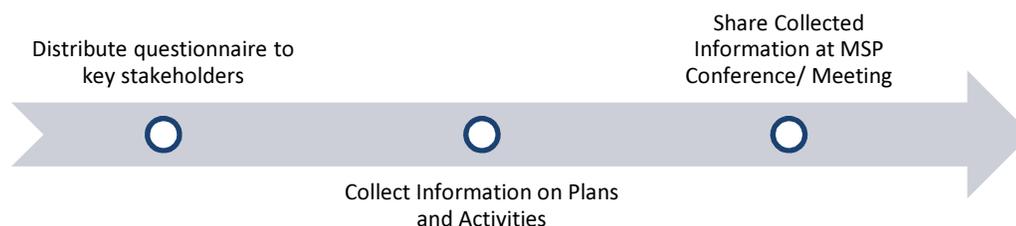
1.3. Proposed Approach

- **Information Sharing and Subregional Overview**

Create an active focal point to collect and share information in a common language by producing a living document which is updated regularly. Information of planned activities by key stakeholders will be collected, to provide a better picture of the subregion

as a whole on DLD efforts which will be useful for individual planning and exploration of potential joint activities. Information will be collected as follows:

- A simple standard template is distributed to current key actors to collect basic information of their latest plans and upcoming activities (see Annex for Questionnaire)



- ***Stakeholders Engagement***

To continuously strengthen and expand the NEAMSP, stakeholders can be engaged in various ways to form a closer and growing network, such as through:

- Consultation of key stakeholders including an regular conference/forum, to review subregional progress, identify needs, key issues, opportunities and challenges for the subregion, and seek potential solutions;
- Engaging and inviting new stakeholders to expand and diversify resources and scope of activities; and
- Sharing of information within and beyond the subregion on latest developments, key activities and experiences

ANNEX

North-East Asia Multi-stakeholder Plan (NEAMSP) on Desertification and Land Degradation (DLD)

Planned Activity Questionnaire

Information is collected to be made available for joint planning and discussions of the NEA-NEAMSP on DLD. Please fill in as much information as possible and provide the completed form to Ms. Gabrielle Chan, Associate Environmental Affairs Officer, UNESCAP East and North-East Asia Office, Incheon, ROK (chank@un.org, tel. +82-32-458-6611).

Organization	
Organization	Name, location (town), website (if any)
Contact Person	Name, title, email and phone number
Brief Description of Organization	Brief info on the organization's DLD work
Planned Activity	
Activity 1	
Name of Activity	
Location and size	Town or coordinates (if available), size in terms of area (e.g. km ² , ha)
Time period	From when to when
Objectives/ Goals	<ul style="list-style-type: none"> • Xxx • Xxx • xxx
Key Activities	Involved activities (e.g. tree planting, volunteering, selling of products, awareness raising etc)
Budget	Amount of budget, funding source
Partners	e.g. donors, implementing agencies, partners, technical support etc
Brief Description	Rationale/ reasons for project Connection with other projects or policies
Other information	e.g. web links, documents, maps etc.
Activity 2	
Name of Activity	
Location and size	Town or coordinates (if available), size in terms of area (e.g. km ² , ha)
Time period	From when to when
Objectives/ Goals	<ul style="list-style-type: none"> • Xxx • Xxx • xxx
Key Activities	Involved activities (e.g. tree planting, volunteering, selling of products, awareness raising etc)

Budget	Amount of budget, funding source
Partners	e.g. donors, implementing agencies, partners, technical support etc
Brief Description	Rationale/ reasons for project Connection with other projects or policies
Other information	e.g. web links, documents, maps etc.
Activity 3	
Name of Activity	
Location and size	Town or coordinates (if available), size in terms of area (e.g. km ² , ha)
Time period	From when to when
Objectives/ Goals	<ul style="list-style-type: none"> • Xxx • Xxx • xxx
Key Activities	Involved activities (e.g. tree planting, volunteering, selling of products, awareness raising etc)
Budget	Amount of budget, funding source
Partners	e.g. donors, implementing agencies, partners, technical support etc
Brief Description	Rationale/ reasons for project Connection with other projects or policies
Other information	e.g. web links, documents, maps etc.

**Please add rows in the same format if you wish to provide information of more than three activities/projects*