



# Efforts of the Republic of Korea on Combating Desertification

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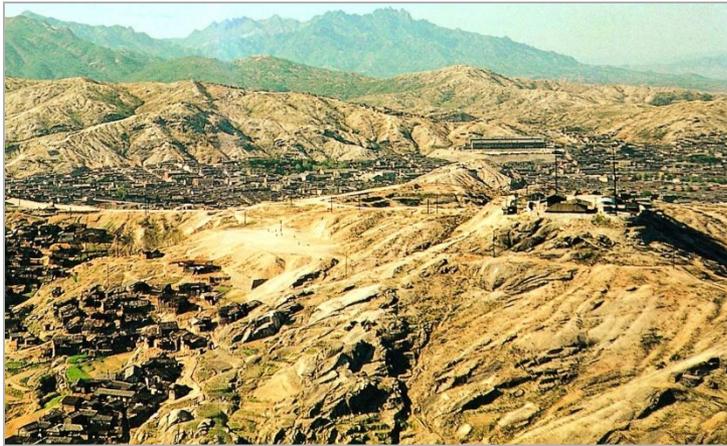


# 1. Forest Restoration Experience of ROK



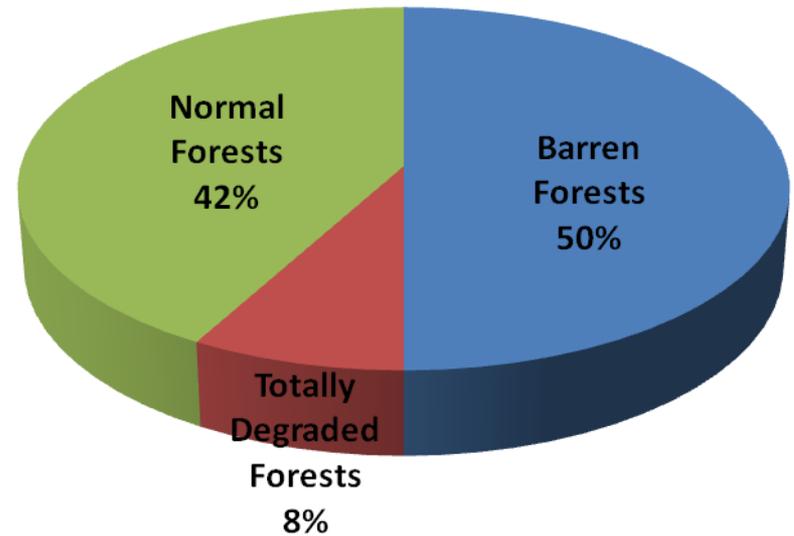
## State of forests in 1960s

- Landscape level degradation of forest ecosystem in the 60s



1960s Seoul

## Forests of ROK



Growing Stock per ha = 12/ m<sup>3</sup>





## State of forests in 1960s

- + Over-exploitation during the Japanese occupation (1910-1945)
- + Korean War (1950-1953)
- + Use of fuelwood



Forest exploitation during Japanese occupation



Damaged forests during the Korean War



Use of fuelwood





## State of forests in 1960s

### ▪ Impact of the deforestation/forest degradation:

+ Continuous erosion of mountains and floods

⇒ elevated riverbed (causing more frequent flooding)

⇒ destruction of infrastructures and properties

+ Series of droughts

⇒ decrease in agricultural productivity

⇒ lack of residential water = difficulties in local livelihood

⇒ lack of industrial water = difficulties in industrial operation



**Delayed  
Economic  
Developments**





## How did ROK restore its mountains?

### 1. Establishment of the Forest Governance

- **Establishment of the Korea Forest Service in 1967**
- **Establishment of long-term forest restoration projects (1973-1987)**
  - Plantation of total of 2.08 million ha through the projects
- **Development and implementation of strong, clear laws and regulations for forest protection**



# 1. Background: History of Forest Restoration in Korea



## How did ROK restore its mountains?

### 2. Mobilization of the manpower

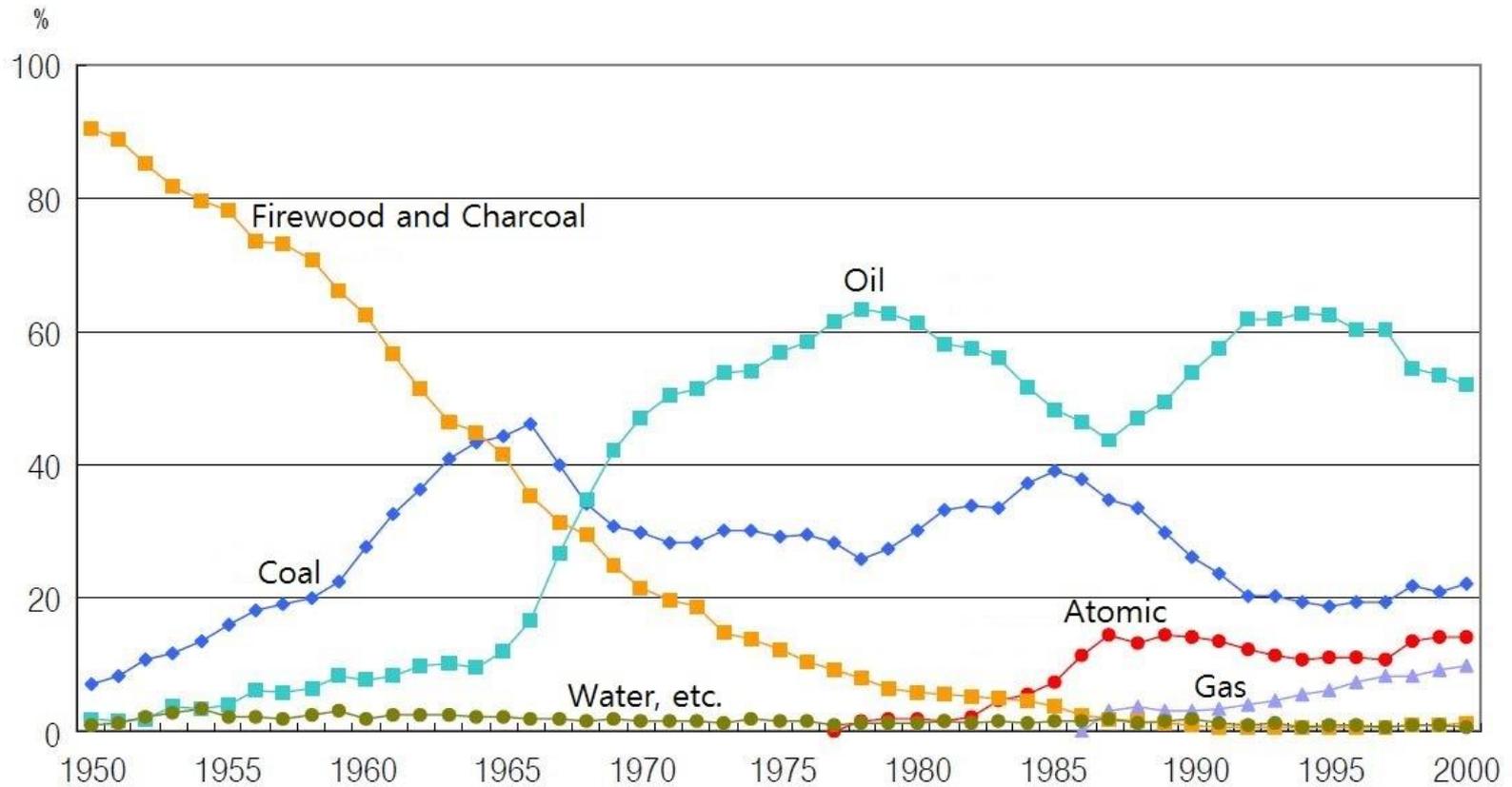
- Top-down and bottom-up planning with emphasis on cooperation between government and local communities
  - A broad-based approach through *Saemaul Undong* (New Village Movement)





## How did ROK restore its mountains?

### 3. Diversification of the primary energy sources



Changes in the Primary Energy Consumption of ROK (%)





## Result of the reforestation/restoration projects

### Forests in the Republic of Korea

1953

2010

GNI per capita

\$67

\$20,000

Population density

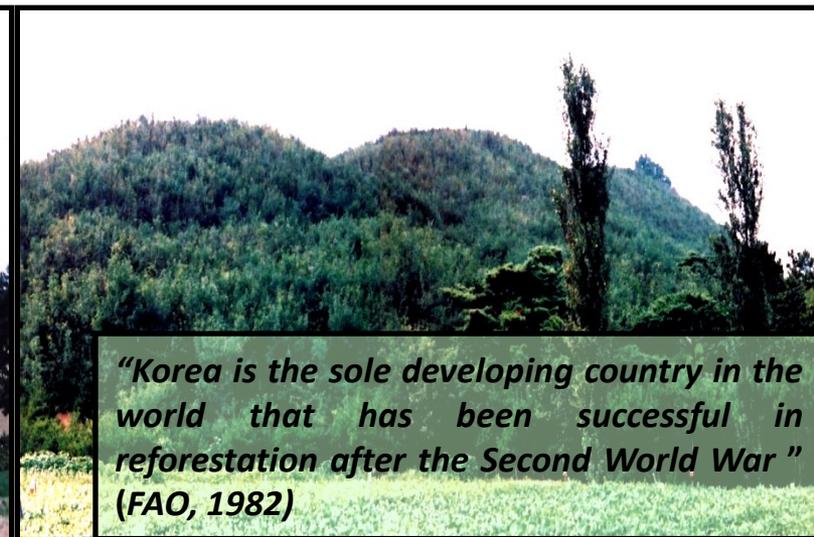
222/km<sup>2</sup>

485/km<sup>2</sup>

Growing stock per ha

6/m<sup>3</sup>

126/m<sup>3</sup>



*“Korea is the sole developing country in the world that has been successful in reforestation after the Second World War”  
(FAO, 1982)*

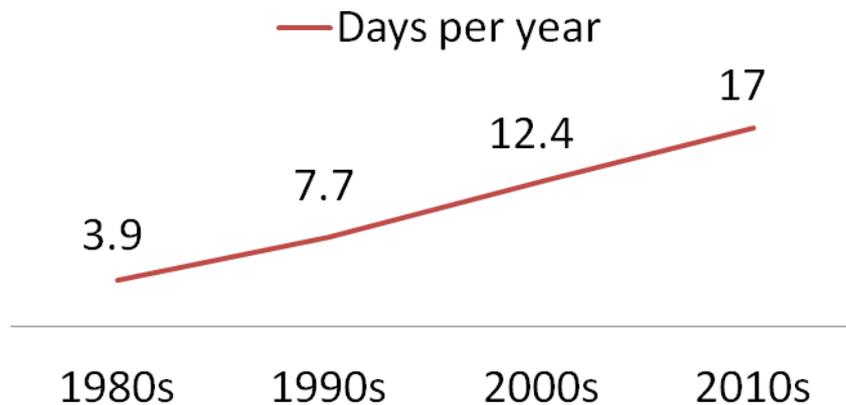
A wide-angle photograph of a desert landscape. The foreground and middle ground are dominated by sand dunes with distinct, wavy ripples. The sand is a light tan color. Scattered across the dunes are several small, dry, brownish shrubs and bushes. In the background, a large, smooth sand dune rises against a clear, pale blue sky. The lighting suggests a bright, sunny day, with soft shadows cast by the dunes and vegetation.

## 2. ROK's Efforts on Combating Desertification



# Dust and Sandstorms (DSS) in the Republic of Korea

### DSS occurrence in ROK



- Increasing trend in damages caused by DSS in Korea
- Increased DSS occurrence in autumn and winter (used to occur only in the spring season)

Since 2000, the Republic of Korea has been promoting international cooperation projects on afforestation and rehabilitation of degraded forests to combat desertification and DSS in Northeast Asia.



**Increased forest cooperation in the region**





# Projects for Combating Desertification

## ◆ Rationale and Purpose – why?

- 1) **Sharing experiences on successful forest restoration**  
-know-how and technology sharing
- 2) **Mitigation of adverse effects of DSS**
- 3) **Promotion of private sector participation**
- 4) **Contribution to the international efforts on combating desertification and land degradation**





# Projects for Combating Desertification

## ◆ Means of the Project Implementation

### 1) Bilateral Implementation

- Greenbelt Plantation Project in Mongolia
- Climate Change-related plantation projects in Myanmar

### 2) Implementation through CSOs/NGOs

- Desertification-related plantation projects in China (Kubuqi)

### 3) Implementation through International Organizations

- Changwon Initiative (2011) implementation through UNCCD
- GDP projects in Africa through UNEP
- GDP projects in South America and Central Asia through UNCCD
- Relevant projects in Southeast Asia through the AFoCo Agreement

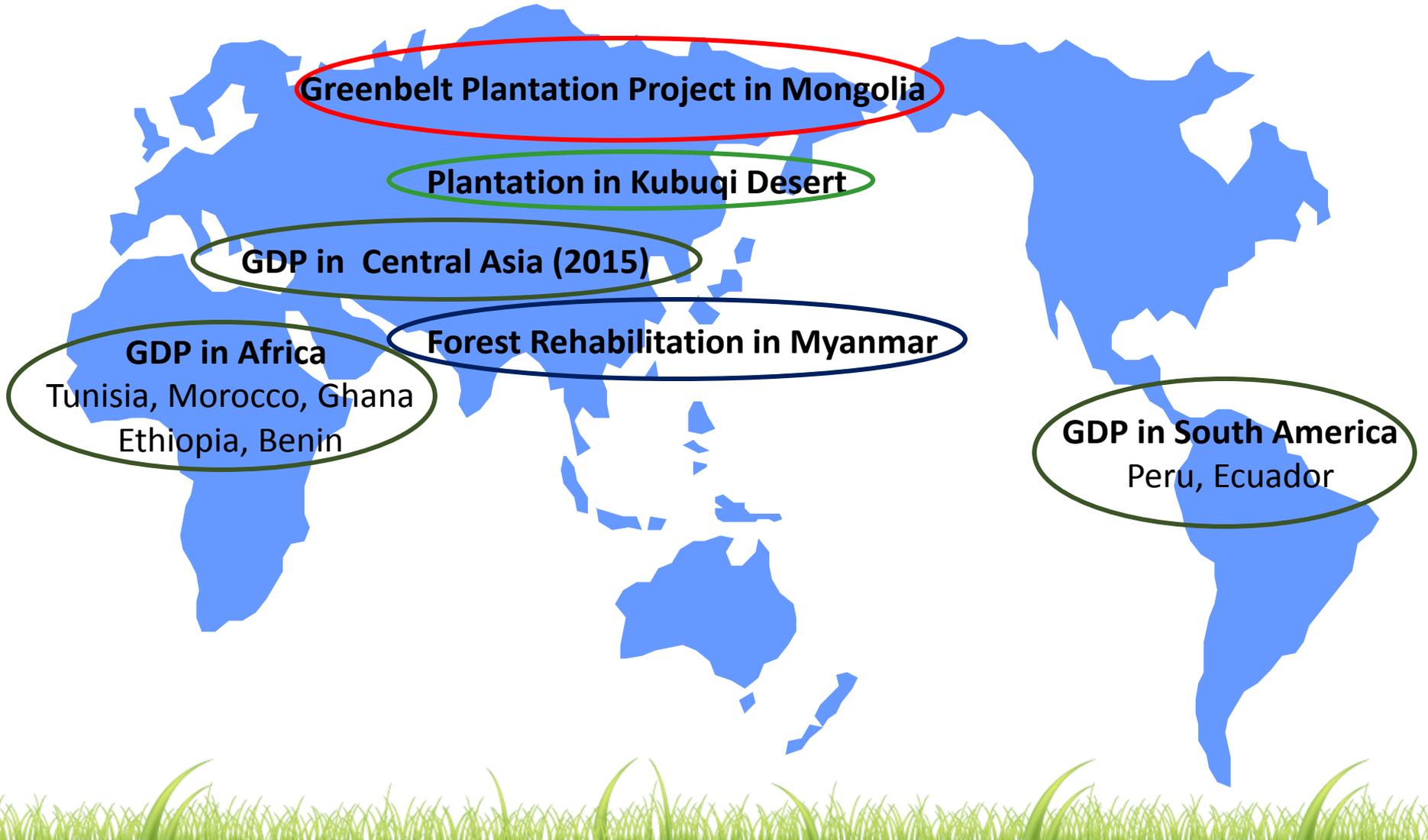


## 2. ROK's Efforts on Combating Desertification



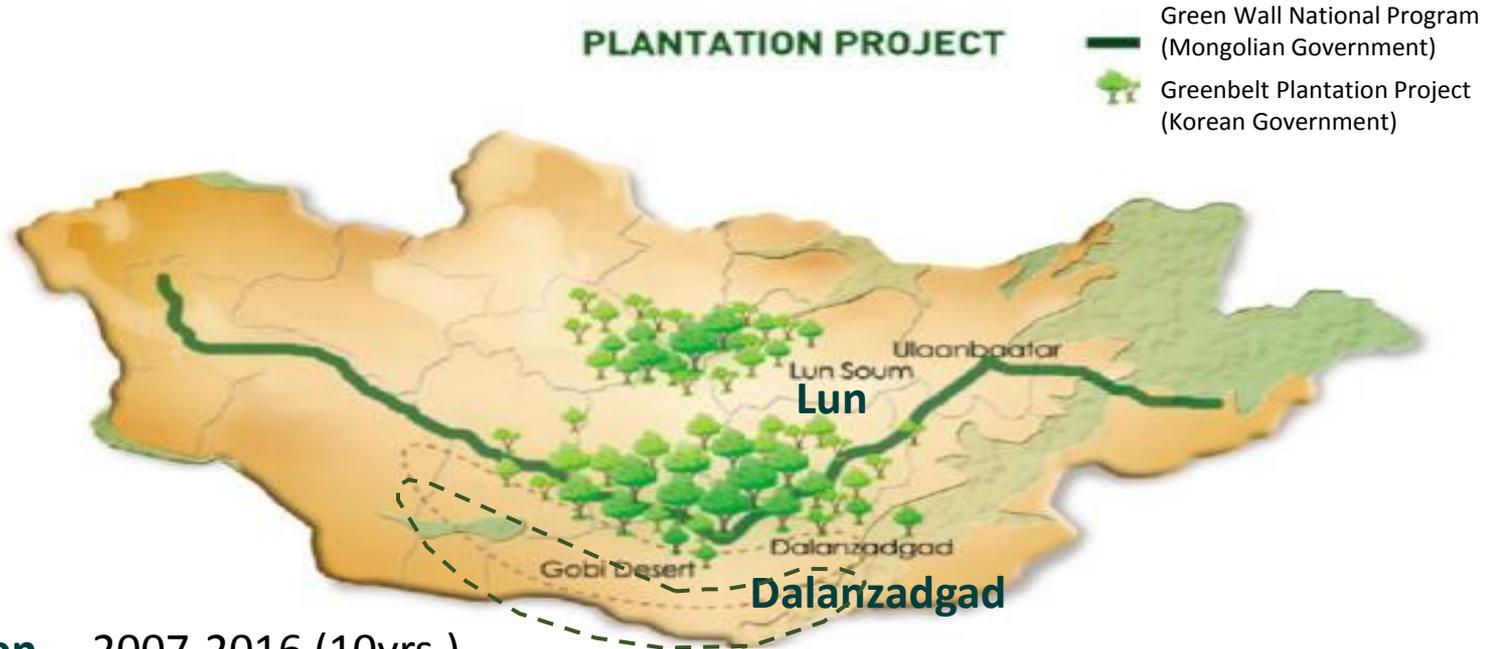
# Korea Forest Service in Action!

(13 Nations, 2015)





# 1. Korea-Mongolia Greenbelt Plantation Project



**Duration** 2007-2016 (10yrs.)

**Goal** plantation of 3,000ha

**Main Components**

Plantation	Provision of Materials
Joint Research	Project Evaluation
Education and Training	
Secondment of Experts	



# 1. Korea-Mongolia Greenbelt Plantation Project

## ◆ Purpose

- Prevention of desertification and DSS through plantation
- Enhancement of contribution to international society by sharing successful experiences and forest rehabilitation technologies of Korea

## ◆ Major Outcomes (2007-2014)

- Total areas planted :**1,946 ha**
  - \*Initial survival rate of about 50% → now up to 90%
- Establishment of basic project infrastructure:
  - \*2 nurseries, 2 education and training center, etc.
- Increased local participation and livelihood
  - \* Employment (200 jobs in short-term, 50 in long-term)
  - \* Income generation

## ◆ Plans for 2015

- Target plantation goal :**500 ha**





# 1. Korea-Mongolia Greenbelt Plantation Project



**4 years after plantation  
(Lun)**



**4 years after plantation  
(Gobi Desert)**

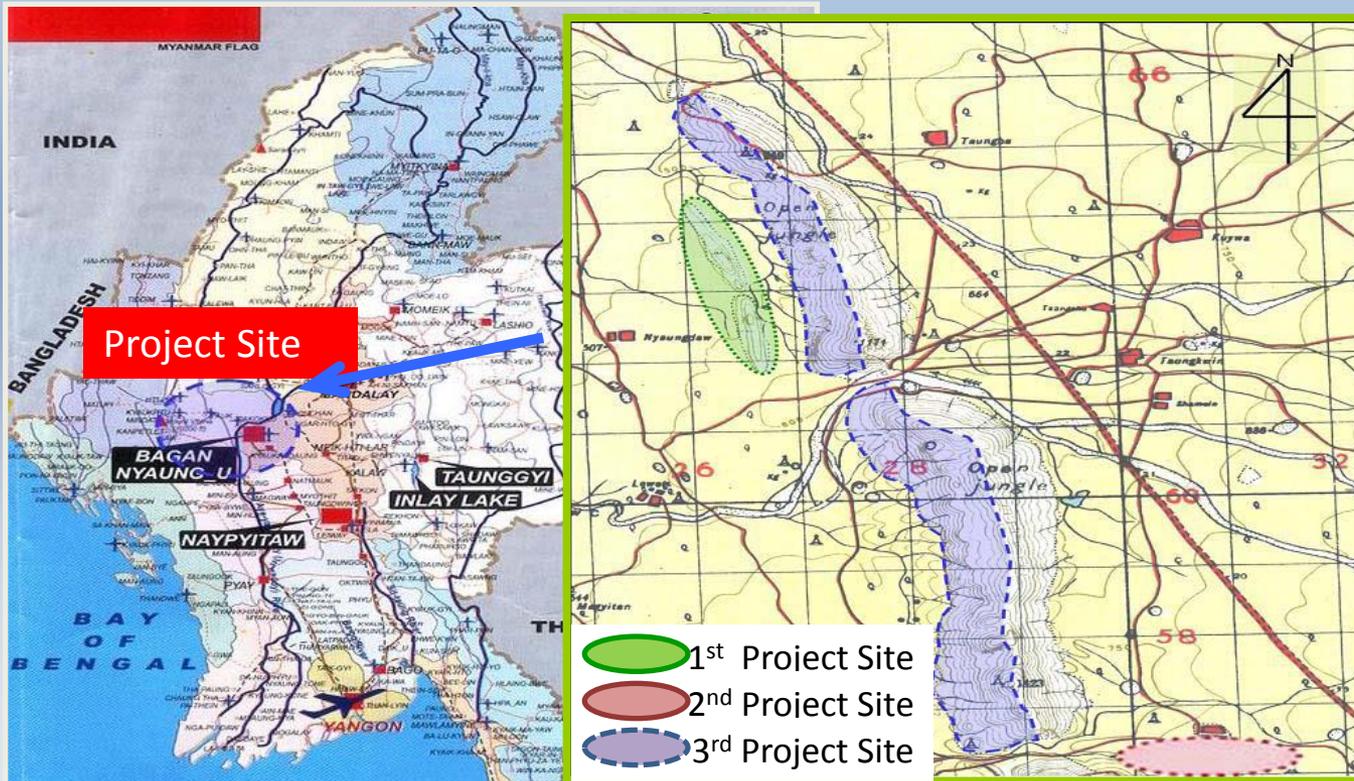


## 2. ROK's Efforts on Combating Desertification



## 2. Forest Rehabilitation of Dry Zone Area in Central Myanmar

Forest rehabilitation and management  
600 ha (1998 – 2010)





### 2. Forest Rehabilitation of Dry Zone Area in Central Myanmar

- **Period** : 1998~2015

- 1<sup>st</sup>: '98-'00, 2<sup>nd</sup>: '04-'05, 3<sup>rd</sup>: '08-'10, 4<sup>th</sup>: '13-15

- **Location**: Dry Zone Area in Central Myanmar

- **Activities until 2010:**

- Forest rehabilitation (**600 ha**) and post-plantation management
- Office building construction
- Expert secondment
- Training programs
- Equipment provision

- **Activities of 4<sup>th</sup> Project Period:**

- Additional forest rehabilitation (**260 ha**) by July 2015





### 2. Forest Rehabilitation of Dry Zone Area in Central Myanmar





# 3. Plantation Project in Kubuqi Desert

Developing Great Green Wall in Kubuqi Desert (2007 – present)





### 3. Plantation Project in Kubuqi Desert

#### ◆ Purpose

- To combat desertification and prevent DSS through supporting private sector's activities  
(Implemented by CSO - Future Forest)

#### ◆ Achievements

- 1,199 ha of desert area was rehabilitated for 8 years ('07- '14)  
- Visits with Green Volunteers (100 person/yr) to the project site for raising awareness on desertification and dust and sandstorm.

#### ◆ Contents of Plantation Project in 2015

- ① Sand fixation to prevent shifting of sand and installation and maintenance of forest road
- ② Plantation of drought resistant trees (82 ha)
  - ※ Main species of trees are white poplar, poplar and desert willow trees.





### 3. Plantation Project in Kubuqi Desert

Signboard for Plantation Project



White Poplar Plantation Area



Green Volunteers' Commemorative Planting



Plantation after Sand Fixation Work



Construction of Forest Road





### 3. Plantation Project in Kubuqi Desert

Before the establishment of the Great Green Wall (2006)



The Great Green Wall (2007)



After 3 years after planting (2009)





# 3. Plantation Project in Western China

Plantation to combat desertification  
8,040 ha (2001-2005, 5M USD, KOICA fund)





# 3. Plantation Project in Western China





### 4. Greening Dryland Partnerships

– with UNCCD and UNEP

#### ◆ Greening Dryland Partnerships (GDP) and its projects

- A tripartite arrangement between Korea Forest Service-UNCCD-UNEP

#### ▪ Africa

- Pilot project on biodiversity conservation and tree planting activities by local community in **Ghana, Morocco and Tunisia (Completed in 2013)**
- Upscale of completed projects planned on the way forward
- Pilot Projects are being implemented in **Benin, Ethiopia**



Local Training in  
Ghana



Plantation in Morocco



Nursery in Tunisia





## 2. ROK's Efforts on Combating Desertification

### 4. Greening Dryland Partnerships

– with UNCCD and UNEP

#### ◆ Greening Dryland Partnerships (GDP) and its projects

##### ■ South America

-Pilot Projects are being implemented in **Ecuador, Peru**

-Main project components

✧ Ecuador: Restoration of degraded lands, reforestation and capacity building

✧ Peru: Combating desertification and poverty through forestry and afforestation



**Ecuador  
Project Site  
(Nabon)**



**Peru  
Project Site  
(Piura)**





# 4. Greening Dryland Partnerships

– with UNCCD and UNEP

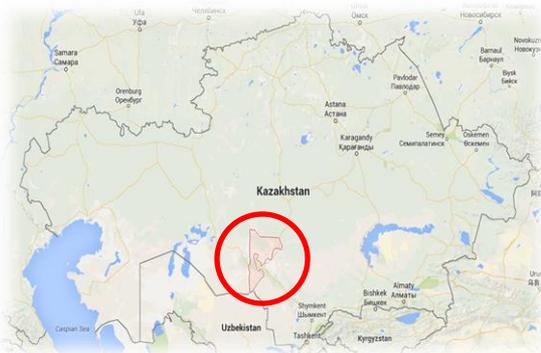
## ◆ Greening Dryland Partnerships (GDP) and its projects

### ■ Central Asia

-Proposals for **3 Central Asian countries (KA, KY, TA)** are under review

-Main project components

- ✧ KA: Improvement of the national strategies on drought and climate change issues
- KY: Establishment of the UNCCD National Center in the Kyrgyz Republic
- TA: Implementation of capacity building, reforestation and anti-erosion measures



**Kazakhstan Project Site**  
**(Syrdarya)**



**Kyrgyz Republic**  
**Project Site**  
**(Bishkek)**



**Tajikistan Project Site**  
**(Varzob)**



# 4. Greening Dryland Partnerships

– with UNCCD and UNEP

## ◆ Greening Dryland Partnerships (GDP) and its projects

### ■ Northeast Asia

- China and Mongolia will apply for a joint project in Mongolia (Zamiin Uud)
- Main project components
  - ※ Urban Forest Rehabilitation in Zamiin Uud, Mongolia (such as tree nurseries, trees near rail roads, urban forests, etc.)



**China & Mongolia  
Project Site  
(Zamiin Uud)**





# ★ Northeast Asia Desertification, Land Degradation and Drought Network (DLDD-NEAN)

- Northeast Asia Forest Network (NEAFN, 2007) → DLDD-NEAN (2011-present)
  - **NEAFN**: Established in 2007 as a international cooperation network against DSS, Desertification , Forest disease and pest among Northeast Asian countries
    - \*Member Parties : ROK, China, Mongolia and UNCCD
  - **DLDD-NEAN**: re-established from NEAFN in 2011 to enhance the cooperation and implementation of SRAP under DLDD
    - \* Extension of Participants: government to CSOs, Experts, Researchers and Company
    - \*NEASRAP: North East Asia Sub-Regional Action Programme to combat desertification and dust and sand storms
- DLDD-NEAN Meetings
  - **DLDD-NEAN Forum**
    - 1<sup>st</sup> Forum (2012): Sharing Experiences and Expertise on Combating Desertification
    - 2<sup>nd</sup> Forum (2013): Best Practices on Saxaul Management
    - 3<sup>rd</sup> Forum (2014): Efforts on Combating Desertification by the Member Countries





# ★ Northeast Asia Desertification, Land Degradation and Drought Network (DLDD-NEAN)

## - DLDD-NEAN Steering Committee

### 1<sup>st</sup> Steering Committee:

- Hosted in Seoul, ROK in Nov, 2012
- Agendas:
  - Ways and means to further develop DLDD-NEAN
  - Mid-term Work Plan for the DLDD
  - Submission of NEASRAP report

### 2<sup>nd</sup> Steering Committee:

- Hosted in Ulaanbaatar, Mongolia in Dec 2013
- Agendas:
  - Draft of the Mid-term Work Plan for the Joint Project in Zamiin Uud;
  - Ways and means to further develop DLDD-NEAN
  - Submission of NEASRAP report





# ★ Northeast Asia Desertification, Land Degradation and Drought Network (DLDD-NEAN)

## - DLDD-NEAN Steering Committee (Cont.)

3<sup>rd</sup> Steering Committee:

- Hosted in Kunming, China in Nov 2014
- Agendas:
  - Discussion on the implementation of Joint Project in Zamiin Uud(GDP)
  - Result of submission of NEASRAP report and next report in charge
  - Discussion on the LDN Initiative and Asia Regional Implementation Committee
  - Discussion about the possibility of establishing Funding Mechanism

4<sup>rd</sup> Steering Committee:

- Will be hosted in Korea in 2015



An aerial photograph of a vast desert landscape. The foreground and middle ground are dominated by rolling sand dunes, some of which are covered with sparse green vegetation. A long, straight road or canal runs diagonally across the scene from the bottom right towards the top center. In the far distance, a city or town is visible under a hazy sky. The overall lighting is bright, suggesting a sunny day.

# 3. Future Plans and Actions



## Sharing for the Future Generations

◆ By sharing experiences and knowledge through action-oriented international cooperation, the Republic of Korea aims to:

- ✓ Support **sustainable development** by enhancing the value of natural resources;
- ✓ Increase forest carbon sink and control forest disasters;
- ✓ Contribute to poverty reduction by improving land productivity; and
- ✓ Support related capacity building, technology transfer and governance



### 3. Future Plans and Actions

## Asian Forest Cooperation Organization (AFoCO)

- AFoCO is a legally binding regional Organization by Asian countries
- The ASEAN-ROK Forest Cooperation Agreement (AFoCo) was formalized in August 2012 as a platform to establish AFoCO and facilitate cooperation among ASEAN-ROK in the field of forestry





## Forest Ecosystem Restoration Initiative (FERI)



**FERI**

is a project...

- to identify and assess areas with ecosystem and forest degradation;
- to identify areas with high potential for forest ecosystem restoration, and suitable restoration methods;
- to implement appropriate restoration activities that result in diverse and resilient ecosystems; and
- to manage the complex dynamics inherent in forest ecosystem restoration

**...through Capacity Building and Direct Support**



Thank you!

