

Asia's Sustainable and Green Growth through Forest Cooperation



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— **JUN Yong Wook** Indiscriminate deforestation is worsening desertification in Asian countries, as well as exerting bad influences on climate change, biodiversity and people's lives. Forestation in arid lands may prevent desertification, conserve diverse species and contribute to sustainable growth as it prevents disasters, increases food production and helps organizing eco-friendly tourism. South Korea is advised to join the Reducing Emissions for Deforestation and Forest Degradation(REDD+) and the role of conservation projects in Asian countries as a way to better respond to climate change.

— **LEE Don Koo** The forests in the Asia-Pacific region occupy about 740 million hectare, accounting for 26 percent of the land in the region, with 450 million people depending upon them for their livelihood. One hectare of forest absorbs two to five tons of Carbon dioxide(CO₂), and the entire Asian forests store 55 billion tons of CO₂, contributing to lessening climate change. The challenging issues in the region include illegal logging, forest fires, over-grazing, shifting cultivation and mining activities, which continue to decrease forests, affect the climate and biodiversity, and influence the livelihood of local

dweller depending on forests. The most serious problems are the enormous increase of desertification in Mongolia(90 percent of the land) and China(30 percent of the land), and the degradation of the 2.8 million hectare of forests in North Korea. Degradation of forests invites water shortages and worsens its quality, posing threats to food production and socio-economic safety. For the sustainable management of their forests, Asian countries are strongly advised to utilize the Asian Forest Cooperation Organization(AFoCO), which is joined by the ten ASEAN countries plus Mongolia, Kazakhstan, Bhutan, East Timor and South Korea.

The South Korean experience of successful restoration of forests and its knowhow can be introduced in forest restoration programs in the countries in the Asia-Pacific region. The driving force behind the success of South Korea included the forest service(governance), the strong will of the people, the Saemaoul(New Village) Movement and the use of alternative fuel(coal briquettes and oil, instead of wood) amid economic development. There are various forest-related Non-Governmental Organizations(NGOs), such as Forest for Life Na-

tional Initiative; the Northeast Asian Forest Forum; Forests for Peace; the United Nations Environment Programme(UNEP) Eco-Peace Leadership Center; EcoPeace Asia; and Future Forest, which voluntarily engage in reforestation projects in China, Mongolia and North Korea. Trust-based transparency and self-sacrifice are strongly needed for the solidarity of civil networks, which lead to a successful accomplishment of forestation.

— **JEON Eui Chan** The Paris Agreement adopted at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change(UNFCCC) in December 2015 took effect on Nov. 4, 2016. As the new climate regime is to go into full implementation in 2020, developed countries as well as developing countries should commit themselves to reduce greenhouse gases. South Korea, whose greenhouse gases continued to increase every year, except for the year 1998 under the IMF trusteeship, is set to cut its current emissions business-as-usual level to 37 percent by 2030. South Korea is implementing the Renewable Energy Portfolio Standard(RPS) system, which requires power companies generating 500 megawatts or more to compulsorily produce certain rates of their total electricity by using renewable energy under this standard. The portfolio of renewable energy is set at four percent in 2017 and 20 percent in 2024.

The South Korean demand for wood pellets(bio-fuels made from compacted sawdust) in 2020 is set at 1.69 million tons, only 0.41 million tons of which can be produced domestically. Wood pellets will be produced through afforestation projects in Asian countries and distributed to power plants as biomass fuel. From 2013, a pilot afforestation project has been underway on a land of 0.1 million hectare in Indonesia, supplying 0.17 million tons of wood pellets to domestic power plants. To meet the greenhouse gas reduction goals by 2030, the Korea Forest Service and its affiliated agencies should attract investment from private firms in the afforestation project by assisting their field surveys and feasibility studies. The REDD+ project to reduce emissions from deforesta-

tion and forest degradation in developing countries is the most concrete and certified formula to reduce greenhouse gases. South Korea has been operating pilot projects in the name of K-REDD+ in Indonesia, Cambodia, Myanmar and Laos since 2013.

South Korea should secure 11.3 percent of its emission reduction target(a cut by 37 percent from business-as-usual level in 2020) by obtaining emission credits in the international carbon market. In other words, South Korea would have to pursue the REDD+ projects with Asian countries. It is advised that the REDD+ and afforestation projects be pursued with North Korea, as well. The joint forest projects with Asian countries and North Korea would contribute to the sustainable development of the entire Asian region and help the region effectively address climate change.

— **Batbold DORJGURKHEM** Sustainable development is development that satisfies the needs of the present without compromising the ability of future generations. It is the management of human, natural, and economic resources that aim to satisfy the essential needs of humanity in the very long term. In Mongolia, the temperature rose by an average of 2.24 degrees Celsius from 1940 to 2016. According to weather monitoring reports from 1961 to 2013, during summer throughout Mongolia, the air temperature increased by 2.39 to 4.18 degrees Celsius, whereas during the same period, the temperature dropped, compared to the average in eastern and central parts of Mongolia during January. A rapid change in atmospheric temperature creates many problems that cannot be ignored because such changes affect our everyday life, with consequences such as sea level rises, Arctic and Antarctic ice melting, dust formation, and the increase of frequency of natural disasters. Among natural resources, forests provide many benefits and services to society, including clean water and air, recreation, a wildlife habitat, carbon storage, climate regulation and a variety of forestry products.

The forest ecosystem has two main functions. It removes atmospheric carbon, and yet it stores

carbon in immense amounts. Excess carbon in the atmosphere is not good, but carbon is one of the essential gases that make life on earth possible. Forests both store and release significant amounts of carbon as part of a natural cycle. The forest ecosystem as a biomass plays an important role in carbon sequestration. To sustainably maintain these two functions of forest resources, the actions such as the reduction of emissions from deforestation and forest degradation, the conservation of forest carbon stocks, sustainable management of forests and the enhancement of forest carbon stocks are essential.

— **LEE Seong Eun** Former President Lee Myung-bak announced “Low Carbon Green Growth” in August 2008, as a national vision for the next 60 years. Aiming to become one of the five greenest countries in the world by 2050, South Korea mapped out a five-year plan for a national strategy of green growth. In line with the government policy, the Jeju Special Self-Governing Province set in motion the first phase of a five-year plan for low carbon, green growth in 2009. Based on the assessment and analysis of the results of the first five-year plan(2009-2013), the province launched the second five-year plan(2014-2018) with the goal of achieving “World Environmental Capital.” For the Forest Recreation Project for 2016, the province invested 94.3 billion won in forest recreation, forest management and conservation, and the Halla Eco-Forest in order to prevent pine wilt disease, cultivate resources for forest recovery and support forestation activities to create a natural environment with refreshing and healing effects on the island.

The forest land per capita in Jeju Island occupies 1,484m² as of 2015, the second largest in the nation, following Gangwon Province marking 2,405 m². However, the forest areas around cities that are easy to access without the burden of travel and cost average at 9.91m² per capita across the nation, a size far smaller than the world standard. Jeju Province is set to invest three billion won to create 15 hectare of forests in nine urban areas on the island in 2017. This urban forestation movement is underway in metro-

politan areas, with business enterprises, civic groups and residents actively participating in it.

[Q & A]

Q. KANG Ho-sang(Chairman, National Instrumentation Center for Environmental Management, Seoul National University) Is there a possibility or a concrete plan to cooperate with North Korea on forestation affairs, including the REDD+ project?

A. JEON Eui Chan Because of the lack of mutual trust between the two Koreas, it is difficult to push for an inter-Korean cooperation project on the initiative of the government. It would be better for religious groups such as the Committee for the Reconciliation of the Korean People at Catholic Bishops’ Conference of Korea; civic groups like Forest for Life; and business enterprises with the experience of inter-Korean projects such as Yuhan Kimberley to promote the cooperation project under the administrative support of the government. They can also push for a transparent North aid program such as vermin extermination and fine dust reduction projects in North Korea. The government can secure part of the 11.3 percent of the emission reduction units that have been bought abroad to serve the needs of credit acquisition and afforestation in the North.



Policy Implications

- A close partnership between government agencies, non-governmental organizations and local residents is the best way to achieve sustainable development and green growth of Asia.
- To reach its emission reduction target under the new climate regime, South Korea should push for diverse the REDD+ projects jointly with Asian countries. It requires forestation projects with these countries to increase the use of renewable energy such as biomass.
- The REDD+ and afforestation projects should be pursued by both Asian countries and North Korea when it is permitted. The projects would help the entire Asian region maintain sustainable development and properly respond to climate change.

Supergrid and New Green Opportunities in East Asia



Chair	KIM Sang-Hyup Chairman, Coalition for Our Common Future
Presenter	CHO Hwan-Eik CEO, Korea Electric Power Corporation Robert STAVINS Albert Pratt Professor, Harvard University Frank RIJSBERMAN Director-General, Global Green Growth Institute
Discussant	KIM Hong-Gyun Director, Korea Electric Power Corporation Kilaparti RAMAKRISHNA Director, UN ESCAP
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— **CHO Hwan-Eik** This is an overview of what South Korea has done to build a Northeast Asia supergrid so far. The proposed Northeast Asia supergrid is aimed at developing and sharing renewable energy as well as enhancing power system reliability. Unfortunately, renewable energy is distributed unevenly and concentrated in certain areas, and areas with rich renewable energy sources are not necessarily areas with the demand. The role of the Northeast Asia supergrid is to build a “Smart Energy Belt” in ways that make renewable energy sources storable, transportable and controllable by smart grids. The project has developed to such an extent that a Memorandum of Understanding on joint promotion of an interconnected electric power grid, spanning Northeast Asia, was signed in March last year, and a pilot project was initiated for the first time between Mongolia, China, Korea and Japan.

Jeju has the clean air, however such routine happiness from clean air will become less available. Fine dust is causing a serious problem in our neighbor, China. The energy companies should draw a new picture of power generation in line with the gov-

ernment’s policy to address the issue of resolving fine dust. The time has come for us to come up with ways to replace coal-fired power fundamentally, and hopefully together with fossil fuels.

— **Frank RIJSBERMAN** Like all technologies across a rapidly competitive landscape, the speed of deployment and its cost are critical and major factors. The Asia supergrid was conceptualized to speed up the deployment of clean, safe and affordable renewable energy. The Asia supergrid attempts to pave the way for maximizing the use of renewable energy by taking advantage of diversity in loads and resources as well as increasing global access to reliable and sustainable energy for all by 2050. Plenty of renewable energy generation has been secured and is under development. Now the question is how to move the renewable energy throughout Asia. Asia represents about two-thirds of the total world population. Electricity generation by Japan, China, Korea and Russia represents 76 percent of Asia’s total, and similarly, electricity consumption by these four countries represents 77 percent of Asia’s total.

Simply put, Japan, China, Korea, and Russia