

A Prospect for Inter-Korean Economic Development Cooperation: Utilizing ODA to Promote Multilateral Forestation Projects

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“The best way to destroy an enemy is to make him a friend”

– Abraham Lincoln

A joint-forestation project is an effective and feasible means to promote amicable relations between South and North Korea as well as to confer practical benefits onto both parties. During last two decades, the North Korean economy has experienced difficulties, while its forests have rapidly and extensively disappeared and weakened. This paper proposes a joint Korean forestation (JKF) project between the two Koreas to help the desolated North Korean mountains. The UN, the World Bank and other international organizations are eager to confront climate change and help developing countries implement reforestation programs. The UN REDD+ and the World Bank's FCPF are good financial and technical resources, and the Kyoto Protocol's CDM provides attractive monetary incentives. South Korea's growing ODA fund and responsibility also have valuable external effects. Protecting and caring for North Korean forests will essentially be an advance payment in post-unification afforestation as well. A JKF project appears to be the most plausible and cost-effective method in satisfying both Koreas' political and economic interests.

Key Words: forestation, climate change, UN Reducing Emissions from Deforestation and Forest Degradation (REDD), Forest Carbon Partnership Facility (FCPF), Kyoto Protocol

Introduction

Inter-Korean relations have been strained in recent years. In contrast to the two former so-called "progressive"¹ administrations, the conservative Lee Myung-bak government has displayed little favor for its northern neighbor that conducted nuclear tests and dared to engage in military ventures. Since the inauguration of the Lee government in 2008, relations between the two Koreas have deteriorated, and the catastrophic March 2010 sinking of the ROK corvette *Cheonan* in the Yellow Sea resulted in the May 24 Measures.² Upon North Korea's continual transgressions, South Korea suspended its cooperative projects, except the Kaesong Industrial Complex, and imposed international sanctions. These actions may be justifiable responses from a realist perspective, but they have exerted a negative influence on the security and stability of the Korean peninsula.

North Korea casts two mutually contradictory implications on South Korea. The hostile *de facto* country is heavily armed with WMDs (weapons of mass destruction) and has the obstinate will to extend its Communist revolution down to the southernmost corners of the Korean peninsula. North Korea is, however, an integral part of the Korean unification that may come at any time in the future. The number of South Koreans who feel apprehensive from the extended impasse of inter-Korean relationship has also increased lately.

Now is a critical time to mend the fence between the two Koreas and explore ways to promote each other's common goods. The means to improve inter-Korean cooperation must be politically viable and economically efficient. Considering the present situation in which South Korea is trying to expand its official development assistance (hereafter ODA) and North Korea is suffering from food deficiency and environmental degradation, a forestation project could be the

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1. In South Korea, "progressive" means the attitude that advocates reconciliation and cooperation vis-à-vis North Korea.
 2. The May 24 Measures banned all inter-Korean economic exchanges and cooperation upon the *Cheonan* sinking, which was most likely to be caused by a North Korean torpedo.

ideal breakthrough in resuming inter-Korean dialogue and exchanges.

North Korean forests have been terribly devastated since the 1990s.³ The barrenness in North Korean mountains is a man-made calamity. Poverty, among others, has caused significant damages in the forests, threatening the livelihood of inhabitants. The hungry North Koreans are devoid of heating fuel from the damaged forests, but the government authorities continue to cut trees in the deep mountains as a means to build up the national budget.

Lack of access to healthy forests is a serious threat to the residents' lives. North Korea is in a vicious cycle of deforestation. Even a modest drought or flood easily hits the country hard and its soil is prone to erosion by rainfall, making the farmland infertile. As a consequence, farming has increasingly fallen into bad shape, and destitution further hurts and exploits forests.

Forests are of great economical values. Trees not only supply timber, wood pulp, firewood and the like, but also function to purify water and cool the heat. Concerned international institutions offer financial incentives because forest degradation is responsible for greenhouse gas (henceforth GHG) emissions.⁴ Furthermore, healthy forests culturally and economically conserve meaningful biodiversity and maintain vital balances in the ecosystem.

This study is to design and discuss a joint Korean forestation (hereafter JKF) project as a way to reconcile the two hostile Koreas. The next chapter briefly surveys recent inter-Korean relations and the North Korea's forests condition. In the following chapter, representative international forestation programs are to be introduced and evaluated. The last chapter proposes a JKF project under multilateral ODA procedures.

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3. Deforestation and forest degradation are serious issues in many Asian countries. China is undertaking large-scale planting projects, and Indonesia has reduced its rate of forest loss at a considerable rate. India and Vietnam also rigorously exert their efforts for afforestation and reforestation.
 4. GHG is an umbrella concept that comprises of CO₂, CH₄, N₂O, SF₆, PFCs and HFCs. The damage caused by GHG is second to that of the energy sector, and greater than that of the whole transportation sector. Thus, forestation is essential in constraining global warming.

Recent Inter-Korean Relations and North Korean Forestation

Since North Korea's nuclear experiments, many South Koreans have come to doubt the effectiveness of economic assistance and cooperation in achieving inter-Korean reconciliation and ultimately, Korean unification. If South Korean goodwill only results in economically benefitting the North Korean authorities with little effect on North Korean people's suffering, then we should consider other alternatives. Albeit a few economic reform trials, North Korea does not appear to have any intention on abandoning its system. The regime ruled by three generations of the Kim family has faced a security dilemma, where economic reform and openness threaten regime security, while maintaining the present system brings forth nothing but economic ruin.

The current situation in the Korean peninsula requires an inter-Korean exchange and cooperation that is politically feasible as well as economically beneficial. The North Korean ecosystem has been devastated by the impoverished residents who look for firewood or foodstuffs during two decades or so of economic plight. The forests have been hit hard with not only the cutting of tree but also the swarming of moths, which has caused several negatively interlinked effects on the economy and residential lives. Restoring forests in North Korea is necessary not only for helping suffering inhabitants but also for opening a dialogue between the two Koreas.

Political Economy of Inter-Korean Relations

Since the year 2000, South and North Korea arranged two summit meetings and North Korea conducted two nuclear tests. The southern half has inducted three presidents, while its northern equivalent has witnessed the leadership descend from father to son. As of 2012, the inter-Korean relations are near non-existent.

The most serious obstacle to the improvement of inter-Korean relations is the North Korean nuclear issue. The North's nuclear development program was first spotted in 1982 by a U.S. satellite.

Although North Korea participated in the nuclear non-proliferation treaty (NPT) in 1985, its nuclear development has persisted. Together with the Al Qaeda attack on New York City in 2001 that turned the Bush administration firmly against external threats, North Korea's nuclear problem became a complicated regional security risk. Ignoring a series of extended international negotiations, North Korea conducted the first nuclear test in October 2006. Despite the February 13 Agreement at the Six-Party Talks in 2007 and the second inter-Korean summit in October 2007, North Korea refused to abandon its nuclear ambitions and the Lee Myung-bak administration was inaugurated in South Korea in February 2008.⁵

The new conservative government in the South maintained a strong stance against North Korea. The North began to denounce the South, and inter-Korean relations had deteriorated accordingly. Then, Kim Jong-il conducted the second nuclear test in May 2009. The UN Security Council also vowed sanctions against the maverick North Korea.

The North Korean economic plight has structural causes, which cannot be overcome by stopgap policy measures. Chronic shortages of energy, food, raw materials, technology and capital are system-bound problems. The foreign exchange shortage has driven the country into a state of bankruptcy, and the severe inflation caused by an under-supply of goods has disabled normal macroeconomic operation.

It is unlikely that Kim Jong-un will abandon the socialist system and adopt economic liberalization and opening because the "socialist mode of production" and "self-reliant national economy" are integral to the North Korean system.⁶ A compromise between regime security and economic crisis once influenced reform measures in the early 2000s, but it failed to revive the ailing North Korea economy.⁷ North

5. For the details of events, refer to Sang Hwa Chung, *Political Economy of Inter-Korean Relations and Education for Unification* (Seoul: Byuphyun, 2009), pp. 22-25.

6. See the Article 19 in the North Korean Constitution revised in 2009.

7. It is known that the incumbent leader Kim Jong-un is launching his version of economic reform, the June 28 Measures, since last August.

Korea reemphasized the socialist systems in late 2000s claiming that “capitalist evils” had been threatening its ruling system.

North Korea is now facing a dilemma. The year 2012 marks Kim Il Sung’s centennial birth year and his deceased son, Kim Jong-il, vowed to develop his country into one that is strong and prosperous by his father’s birthday, April 15. This venture failed or at best, partially succeeded, because of the shortage in materials and capital. This impoverished country needed to import capital and technology from outside but failed to do so due to the imposition of economic sanction and the lack of industrial competitiveness. The only card to receive external assistance was the agreement to abandon nuclear development, but it failed because it already lost its credibility. The second nuclear test conducted in May 2009 was the fatal blow.

North Korea hopes to finalize a peace treaty with the U.S. and secure economic assistance from the global community. However, South Korea and the U.S. are not interested playing into the North Koreans’ hands. Inter-Korean relations have come to an impasse, and it will continue unless the present cat and mouse game ends. North Korea will not abandon its nuclear program, unless its regime security is guaranteed. In return South Korea will not resume its economic cooperation without its northern aggressor’s denuclearization.

One way to resolve this dilemma is to establish a detour strategy. What needs to be done is to find a way of economic cooperation that satisfies both sides and at the same time does not affect their security sensitivities.

Address of North Korean Forest

North Korean forests,⁸ 84% of which is comprised of natural forests and 16% by plantations,⁹ are gradually desolated and disappearing.

8. North Korea has about 1,100 species of plants of which 150 or so are trees, while there are some 700 species of medicinal plants and 200 species of edible herbs. See www.thewoodexplorer.com/countrydata/Korea-North/resource2.html (July 6, 2010).

9. www.fao.org/forestry/49410/en/prk/ (July 10, 2010). Most North Korea

Table 1. Forest Area Statistics in North Korea

(Unit: 1,000 hectares)

FRA 2005 Categories	1990 (%)	2000 (%)	2005 (%)	2010 (%)
Forest	8,201 (68.0)	6,821 (56.6)	6,187 (51.3)	5,666 (47.0)
Other Land	3,840 (31.9)	5,220 (43.3)	5,854 (48.6)	6,375 (52.9)
Total Land	12,041 (99.9)	12,041 (99.9)	12,041 (99.9)	12,041 (99.9)
Inland Water Bodies	13 (0.1)	13 (0.1)	13 (0.1)	13 (0.1)
Total Area of Country	12,054 (100.0)	12,054 (100.0)	12,054 (100.0)	12,054 (100.0)

Sources: Modified from FAO. Global Forest Resources Assessment 2005, www.fao.org/forestry/country/32183/en/prk (July 5, 2010); Global Forest Resources Assessment 2010, www.fao.org/forestry/fra/fra2010/en (August 21, 2012).

As Table 1 shows, the forest area had shrunken during the 1990s — a 16.8% reduction from 8, 201ha in 1990 to 6,821ha in 2000. The damage to the forests had persisted in the 2000s. During the five years from 2000 to 2005, it had diminished by 9.3% from 6,821ha to 6,187ha, equivalent to a decrease from 68.0% to 51.3% of the total area in the country. In 2005, South Korea surpassed North Korea in term of the size of forest area. South Korean forest area was 6,265ha.¹⁰

The economic predicament has been, among others, the leading cause for the recent deforestation in North Korea. The coal supply for heating houses and farms has become insufficient and it has been replaced by firewood.¹¹ Arable land cultivation has also contributed

statistics are from “State of the Environment 2003 - DPR Korea” published by UNEP and prepared by UNEP, UNDP and North Korea. This report is the first and only survey of the North Korean natural ecosystem. See Forestry Department, FAO, “Global Forest Resources Assessment 2010: Country Report - The Democratic People’s Republic of Korea” (2010).

10. The total land size of North Korea is 12,053ha, while that of South Korea is 9,926ha. South Korean statistics are from www.fao.org/forestry/country/32185/en/kor (July 10, 2010).

11. The output of coal production had decreased by 57% from 1989 to 1998, and the import of oil had dropped from 2,520 thousand ton in 1990 to 320 thousand ton in 1999. From Jang Min Choo et al., “Inter-Korean Environmental Forum 2007,” KEI 2007 Policy Document, pp. 56 & 59. Not only the decrease in coal production but the malfunctioning transportation system was also responsible.

to forest clearing. In 1976, North Korean leader Kim Il Sung ordered the creation of terrace fields in order to expand farmland.¹² As a result, many forests with low tilts had turned into farms making the lands vulnerable to natural disasters and hurting the ecological health. It was a man-made mistake.

A second wave of deforestation took place in the 1990s. The food ration system did not properly function because the government did not have the adequate budget to operate it. But, many rural residents were able to overcome this serious economic hardship thanks to the patch farms they created in low mountains around their houses. Since 2007, North Korean authorities imposed a strict control on patch farming because of the severe damage to forests, but allowed it to continue in 2010 because the food shortage was too severe. Slash-and-burn farming began afterwards.

The quality of forests has deteriorated as well. The growing stocks of wood¹³ had downsized by 21.6% from 504 million cubic meters in 1990 to 395 in 2005.¹⁴ Growing stocks plays the role of a surrogate indicator to measure the amount of carbon contained. As North Korean growing stocks of forests have decreased, the country's record of capturing carbon has regressed.

Many woods are not in good shape either. Most North Korean forests are coniferous, and pine trees in the lowlands near Pyongyang and many historically famous mountains, such as Mt. Geumgang, Mt. Guwol and the like, have been exposed to severe pine moth attacks in recent years.¹⁵ Insect control is ineffective due to the shortage of

The use of firewood for heating and cooking began in the mid-1980s by rural residents and expanded to the urban dwellers near forests in the 1990s.

12. It was at the National Agricultural Ardors Meeting. Party History Research Institute, Chosun Workers' Party, *Kim Il Sung Literary Works 31* [*Kimilsungjeo-jakjip 31*] (Pyongyang: Chosunrodongdangchoolpansa, 1987), p. 336.

13. Growing stock is defined to be the volume of all living trees in a given area of forest that have more than a certain diameter at breast height. It is usually measured in cubic meters (m³).

14. www.fao.org/forestry/country/32183/en/prk/ (August 21, 2012).

15. See www.fao.org/forestry/49410/en/prk/ (July 10, 2010).

equipment and budget.

Deforestation and degradation of forests are threatening the people's livelihood in North Korea. Whereas North Korea is notorious for its forest losses and degradation, South Korea is internationally acclaimed as a model case in reforestation. Forest rehabilitation is a vital project in North Korea, and the South Korean government should consider approaching the North for mutual cooperation on a viable reforestation project.

Contemporary Multilateral Forestation Projects

The 2009 Copenhagen Accord addressed the target of limiting temperature rise to just 2-degree Celsius above pre-industrial levels.¹⁶ A post-Kyoto regime may require substantial incentives for meeting this objective. Without appropriate monetary incentives, developing countries may neglect to keep their forests standing sound.

There have been international campaigns for the protection and care of forests during last two decades or so. To fulfill the conditions on the Korean peninsula, an appropriate framework of incentives must be provided. Three programs — the UN Reducing Emissions from Deforestation and Forest Degradation (REDD) program, the World Bank's Forest Carbon Partnership Facility (FCPF) and the Kyoto Protocol's Clean Development Mechanism (CDM) — are credible candidates to launch a forestation project in North Korea.

The United Nations REDD (Plus) Program

The UN-REDD is a collaboration of three UN agencies: the Food and Agriculture Organization (FAO), UN Development Program (UNDP) and UN Environment Program (UNEP). The REDD Program is a trial that introduces monetary incentives on behalf of the developing countries' efforts to store carbon in forests. It supports forestation and

16. The Copenhagen Accord is limited in that it does not entail binding responsibility.

other services that help land use in developing countries. Whereas the primary function of REDD is to reduce GHG emission from forests, REDD+ further pursues the efficient management of forests. The three UN organizations provide expert technical assistance as well as funds to the individual countries that have implemented the REDD+ Program.

The concept of REDD evolved from an esoteric idea to a model program as a means to reduce greenhouse gas emissions and take care of forests. Led by Secretary-General Ban Ki-moon, the United Nations launched the REDD Program in September 2008. Five countries in Africa, Asia and Latin America were chosen in March 2009 as pilot ventures for the REDD Program with a budget of \$18 million.¹⁷ The number of pilot countries increased to eight by July 2010, while the budget was raised to \$42.6 million.¹⁸

REDD+ is an enhanced and extended version of the REDD Program, which focuses on the sustainable preservation and management of forests in addition to the enhancement of forest carbon stocks. The UN-REDD+ is planned to be officially included in a broader post-Kyoto climate regime in 2012. The Program's financial contributors are Norway (\$105 million), Denmark (\$8 million), Japan (\$3 million) and Spain (\$2 million). As of 2012, the Program works with 44 countries, 16 of which are directly receiving assistance and the total of budget approved increased to \$67.3 million.¹⁹

In short, REDD and REDD+ are able to provide multiple benefits for the local people and their economies while supplying global public goods by reversing the trend of deforestation and forest degradation,

17. www.un-redd.org/Events/18MillionApprovedUnderUNREDDProgram/tabid/598/language/en-US/Default.aspx (July 20, 2010).

18. www.un-redd.org/AboutUNREDDProgram/tabid/583/language/en-US/Default.aspx (July 20, 2010).

19. www.un-redd.org/AboutUNREDDProgram/tabid/583/language/en-US/Default.aspx (August 20, 2012). The 16 countries are Bolivia, Cambodia, Democratic Republic of the Congo (DRC), Ecuador, Indonesia, Nigeria, Panama, Papua New Guinea, Paraguay, the Philippines, Republic of Congo, Solomon Islands, Sri Lanka, Tanzania, Vietnam and Zambia.

and results in the cultivation of healthy forests. The UN and the World Bank regard REDD+ as an essential element in addressing global climate change.²⁰ The Program is responsive to a country's demand, and there is no reason that North Korea should be excluded if it is willing to participate. It is also significant to note that the UNDP (established in 1980) and FAO (established in 1995) have offices in Pyongyang.

The World Bank's Forest Carbon Partnership Facility (FCPF)

The World Bank provides funds to developing countries that carry out reforestation projects. In December 2007, the Forest Carbon Partnership Facility was ratified at the thirteenth Conference of the Parties (COP 13) in Bali, Indonesia, and will be initiated in June next year. It is an associate of the UN REDD+. The original recipients were fourteen countries, including three from Asia (Nepal, Laos and Vietnam). As of 2012, the number of forest developing countries is thirty-seven (14 in Africa, 15 in Latin America and the Caribbean and 8 in Asia-Pacific).

The FCPF helps developing countries reduce emissions from deforestation and forest degradation by providing monetary value to standing forests. Its two mechanisms are Readiness Mechanism and Carbon Finance Mechanism. The Readiness Mechanism is designed to help new REDD+ participants and is supported by the Readiness Fund of the FCPF, while the Carbon Finance Mechanism is designed to compensate countries that have made significant progress toward REDD+ and is financed by the Carbon Fund. The FCPF has collected about \$230 million from 15 public donors on behalf of the Readiness Fund for the 37 countries selected into the Facility, and accumulated \$205 million for the Carbon Fund from public and private contributors.²¹

20. www.un-redd.org/NewsCentre/The_Road_Ahead_for_UNredd/tabid/3016/language/en-US/Default.aspx (July 15, 2010).

21. www.forestcarbonpartnership.org/fcp/sites/forestcarbonpartnership.org/files/Documents/PDF/Mar2012/FCPF_About_US_English.pdf (August 21, 2012); www.forestcarbonpartnership.org/fcp/node/12 (July 30, 2010). Donor countries are Germany (US\$59 million), the United Kingdom (\$30 million),

The UN-REDD Program and the FCPF agreed to closely coordinate their programs. The former primarily addresses technical fields in carbon measurement, reporting and verification (MRV) and others, while the latter presides over the monetary aspects of REDD strategies should the need arise. Although their history is rather short, these activities have been successful thus far.

The governance of the FCPF has a noteworthy feature. The program is run by the Participants Assembly, whose members are all countries and organizations active in the FCPF, and the Participants Committee, which is composed of an equal number of REDD+ countries (14) and financial donors (14) elected by the Participants Assembly once a year. The Committee is the prime control tower over the FCPF and convenes roughly three times a year. Observers representing indigenous peoples, civil society, international organizations, the UN-REDD Program, the UNFCCC (UN Framework Convention on Climate Change) Secretariat and the private sector also participate in the Committee's meeting.

If North Korea wishes to be a member of the FCPF, then it should prepare the necessary policies and programs, which include organizing national strategies and designing measurement, reporting and verification (MRV) systems. Again, it is a matter of will rather than impracticability for North Korea.

Kyoto Protocol's Clean Development Mechanism (CDM)

The Clean Development Mechanism (CDM) under the Kyoto Protocol²² is designed to encourage the developed countries in Annex I launch anti-climate change projects in Non-Annex I countries. The countries participating in such projects will receive Certified Emission Reduc-

the Netherlands (\$22 million), Australia and Japan (\$10 million each), France and Switzerland (\$7 million each) and Denmark and Finland (\$5 million each). A NGO, the U.S.-based Nature Conservancy, pledged \$5 million as well.

22. The Kyoto Protocol, which was ratified in 1997, came into effect in February 2006. It is an action program designed to realize the vision agreed upon at the Rio UN Conference on Environment and Development in 1992.

tion credits (CERs), which can be traded in the carbon market, upon projects completion. The CER credits are then used either to satisfy their Kyoto Protocol liabilities or be traded in the international CERs markets for profit. This scheme will reward efforts for environmental protection with monetary incentives.

The CDM scheme's selling point is its feasibility. Wealthier countries can be flexible with their emission cap commitments, while the poorer parties can contribute to the prevention of climate change and pursuit of pro-environmental economic development. Profit-seeking private hands are regular in this business. Since concerned parties can freely choose their partners and methods, this scheme will firmly abide by the principle of market efficiency. South Korean corporations, such as Hanhwa, LG and Posco, among others, are carrying out various CDM projects in developing countries.²³

North Korea is fairly attractive from an international investors' perspective. Its energy efficiency is very low, and its forests are under severe danger. The isolated country also heavily relies on obsolete facilities and fossil fuels, most notably coal. North Korea is soundly qualified as a CDM participant; it endorsed the Kyoto Protocol in 2005, established a DNA (Designed National Authority) in 2008, and there is no technical reason that prevents North Korea from participating in CDM projects.²⁴

Nevertheless, North Korea faces a serious impediment to eligibility in regard to the forestation-related CDM businesses. According to the official definitions of afforestation and reforestation by the UN, North Korea is hardly applicable. The Kyoto Protocol complies with the 2001

23. The number of projects, either registered or under review, is known to increase at an extremely high rate.

24. In 2008, North Korea appears to have earnestly decided to carry out CDM projects for garnering foreign exchanges upon the recommendation and consultation of the Hanns Seidel Foundation. It is known that 20 small-sized hydroelectric power plants have been under construction, while 8 of them have been reported to the UNFCCC as of May 2012. Refer to www.fnnews.com/view?ra=Sent0801m_View&corp=fnnews&arcid=201205240100222980013525&cDateYear=2012&cDateMonth=05&cDateDay=24 (August 22, 2012).

Marrakesh Agreement's definitions of afforestation and reforestation. Afforestation (A) is defined "as the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources," and reforestation (R) is "the direct human-induced conversion of non-forested land to forested land through planting and seeding on land that was forested but that has been converted to non-forested land. For the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on December 31, 1989."²⁵

Much of North Korea's deforestation has only taken place since the mid-1990s. Therefore, it is highly unlikely that North Korea has the sufficient amount of land that is required for AR CDM business. Moreover, AR CDM business entails a long maturity period to recover its investment because trees must grow for a considerable period of time in order to satisfy specific prerequisites in order to be classified as a forest.²⁶ This Kyoto scheme does not offer direct monetary incentives to the developing countries that implement forest preservation projects. Therefore, REDD appears to be the most appropriate in the case of North Korea, although AR CDM is the leading form of international forest carbon businesses.

A Joint Korean Forestation Project between the Two Koreas

There are obviously valuable benefits to forestation. A forestation project in North Korea will mutually benefit South Korea as well. If North Korean forests regain their ecological soundness, then they will have a reparatory effect on future unification-and-reconstruction costs.

25. www.amity.edu/aigwes/3.pdf (July 30, 2010).

26. Forest is defined as "a minimum area of land of 0.05-1.0 hectares with tree crown cover of more than 10-30 percent with trees with the potential to reach a minimum height of 2-5 meters at maturity *in situ*." *Ibid*.

If a joint Korean forestation (JKF) project is successfully initiated, then it will expedite the two Koreas' line of contact and dialogue because networking, meeting, communicating and other interactions are inevitable in this sort of project. Frequent encounters will promote deeper mutual understanding and trust. The joint project will also be a valuable opportunity to acclimate ordinary North Koreans to the outside world, since many local residents will be needed in planting and tendering of forests.

Rationale of a JKF Project

Forestation in North Korea has multiple positive effects. First, forestation shows that both Koreas are fighting against climate change. In the contemporary world, all countries are asked to make an effort in minimizing global warming and be a responsible member of the international community. North Korea does not have the sufficient capital, equipment and experience to manage a proper forestation program. South Korea needs a partner country for its anti-GHG business. It ranks about 10th in world production, but its GHG emission volume is about 6th largest in the world because it is a manufacturing powerhouse. South Korea will have to buy emission trading rights to satisfy its dues to the international community.

Second, it will provide income and employment for millions of North Koreans. If people can afford food and fuel, they do not have to abuse forests and deforestation will come to a halt. Reforestation and tender forestry will increase land productivity through the tightening of water security and improvement of soil fertility. It will affect the income as well. The North Korean economy has been deteriorating since the early 1990s, with an arguable exception of a few years in the mid-2000s. The public sector is incapable of providing sufficient jobs to North Koreans. Many factories can neither carry on working because of energy shortages nor pay wages on a regular basis because of financial difficulties. Forestation programs will provide new sources of income to a considerable number of poor North Koreans. Forest management usually bears its fruits in the long term. Invest-

ments in the forests will not only provide jobs and sources of income to contemporary North Koreans but also invest in the welfare of future generations, as well as enhance carbon reservoirs.

Third, a forestation project will promote the opening and internationalization of the North Korean society. The country adopted isolationism due to its ruling *Juche* ideology, which pursues a system of self-reliance. Although the host countries implement the vast activities, international agencies must act as a supervisor to measure, verify and report emissions and savings from forests. It is also inevitable that international organizations and NGOs are involved in the relevant processes. A project managed under the international agency will influence a host country's policies and governance. Frequent foreign contacts will also promote North Korea's familiarity with international customs and practices. Constructive cooperation is essential in inducting North Korea as a responsible member of the international community.

Lastly, inter-Korean relations will experience an improvement. As of 2012, inter-Korean relations are far from being cordial, and it will not improve for quite a time unless the North Korean nuclear issue is resolved. In this stalemate, non-political cooperation efforts, including forestation, can promote the two Koreas' relations. Time is needed for the two Koreas that have been antagonistic for more than six decades to understand each other, build mutual trust and achieve reconciliation and cooperation. Forestation is a program of excellent strategic merits.

According to the Bali roadmap of 2007, all countries will assume the responsibility for GHG reduction unlike the present Kyoto system, in which only the developed countries are required to do. A country with energy-intensive industries, like South Korea, will have difficulty in fulfilling that duty. A way to resolve this problem is through securing CERs from the outside: by either purchasing them in international carbon markets or acquiring them from GHG reduction activities in foreign countries.

Feasibility of a JKF Project

Since the destruction of forest is a serious issue, the North Korean authorities certainly understand the importance of forestation in the improvement of the people's lives.²⁷ The 2009 North Korean annual joint editorial emphasized forestation as a way to improve the people's economic wellbeing. However, its success may be hampered by the lack of knowledge, technology and capital. There is no reason for North Korea to refuse foreign assistance, barring any political interference. The country has consistently demonstrates an interest in forestation cooperation with its southern neighbor. The South Korean Korea Forest Service and Gyeonggi Province built tree nurseries throughout the 2000s.²⁸

At a micro level, the most serious obstacle to the forestation project is residents' resistance or non-cooperation. The North Korean government can barely persuade its people from cutting trees unless other energy sources are available. Likewise, North Korean rural residents do not want the government to interfere with their patch farming by planting trees in hills. North Korea is devoid of the money and technology needed to cope with these challenges, and it has to rely on foreign assistance. The UN REDD+ Program assisted by South Korea can offer a good opportunity to the money-hungry North Korea in order to revive its deteriorating ecosystem.²⁹

The idea of a JKF program is not new in South Korea. In 2005, the Roh Moo-hyun administration reviewed seven projects for inter-Korean

27. See for detailed discussion, Kyu-Chang Lee, "A Preliminary Study on the Legal Provision of Inter-Korean Forestation Cooperation Aiming at Korean Peninsula's Green Growth," KINU Policy Review Series 10-01, 2010, pp. 11-15.

28. For the record of inter-Korean forestation cooperation, see Hae-Jung Lee, "Implications and Promotion of Tree Plantation Projects in North Korea," *Issues and Tasks of Domestic and Overseas Economy [Guknaeoe Kyungje Hyunangwa Gwaje]*, Vol. 3 (2010), p. 5.

29. The Copenhagen COP 15 in 2009 addressed to collect \$30 billion for 2010-2012 and \$100 billion every year by 2020 to help developing countries, www.un-redd.org/AboutUNREDDProgram/tabid/583/language/en-US/Default.aspx (July 20, 2010).

economic cooperation, which included North Korean forestation.³⁰ However, this idea was aborted because of the missile and nuclear crises. In 2006, the South Korean government considered launching a joint forestation project again. It planned to open about 10 nurseries using the Inter-Korean Cooperation Fund.³¹ Private hands would sow the plantation, and the expenses would be redeemed from emission trading rights acquired from the plantation. The plan was not realized because North Korea conducted its first nuclear experiment. The summit in October 2007 proposed cooperation in the fields of forestation and control of disease and insects, but Lee Myung-bak administration replaced the Roh administration within a few months.

The concept of a joint forestation project reappeared in the incumbent government's initial policies on North Korea. In 2008, the newly inaugurated President Lee Myung-bak appealed three objectives³² and twelve tasks to serve as the official policy on North Korea, "The Policy of Mutual Benefits and Common Prosperity," in which cooperation in forestation was one of the twelve proposed tasks. Planting trees, reforestation, CDM business promotion and the like were included in the "Green Korean Peninsula."³³ The Green Growth Initiative, a pro-environmental growth strategy pushed since 2008, can also accommodate aid projects for North Korean forestation. In his 2009 Liberation Day speech, President Lee again proposed the Korean Peninsula New Peace Initiative. According to this proposal, some projects can be

30. The others were energy cooperation, railroads modernization, Mt. Baekdu tourism, Nampo Harbor remodeling, agricultural complex development and shared river co-usage.

31. The Inter-Korean Cooperation Fund was launched in 1990 on grounds that the South-North Korea Cooperation Fund Law will facilitate reconciliation and cooperation between the two Koreas.

32. They are the resolution on the North Korean nuclear issue, the opening of North Korea and the development of North Korea's economy.

33. Cho, Min, "Basic Directions and Strategies of the Denuclearization-Opening-3000 Project," Korea Institute for National Unification, *North Korea Policy by the Lee Myung-bak Administration: Vision and Direction [Leemyunbak]jeongboo Daebukjeongchaek Bijeon Mit Coojinbanghyang* (Seoul: Korea Institute for National Unification, 2008), pp. 50-56.

implemented, even before the North Korean nuclear issue has been settled. Mutual cooperation for North Korean forestation was one of them. This flexibility was timely and appropriate but failed to succeed due to the deterioration of bilateral relations.

International joint projects are hardly free from political intervention. Customs and institutions concerned with the forestation business across national boundaries have not been firmly stabilized yet. Political arbitrariness can be intervened in project implementation, taking advantage of the difficulties in securing objectivity in process.³⁴ Drastic and valiant changes to the two Koreas' perception and attitude toward a JKF project are indispensable for the success of the project. It appears that as of now, the South Korean government holds the key to implementing an inter-Korean forestation project. In February 2010, the Ministry of Unification announced that it intended to help the North Korean forestation efforts, only under the condition that things were settled,³⁵ but things still have not been settled as of November 2012. Furthermore, South Korea needs to clarify its constitutional interpretation on the legal status of North Korea. When an OECD DAC inspectorate visited Seoul in 2008 and asked if South Korea was willing to include its assistance to North Korea in the ODA, the South Korean authority was unable to provide a definite answer. This ambiguous situation remains unresolved and it must be politically determined. The UN sanctions against North Korea, such as Resolution 1874, do contain exceptional clauses, in which financial assistances for humanitarian or developmental reasons are allowed. Most countries also recognize humanitarian exceptions, so there are no any legal constraints on South Korea's ODA to its northern neighbor.

Another key aspect to the success of an inter-Korean forestation project is capital. While there is growing competition among the developing countries, those capable of financing forestation projects

34. For example, a CDM project should satisfy its additional conditions in economic, technical and environmental aspects.

35. See www.tongilnews.com (February 17, 2010). "Things" here mean nuclear issues.

are not quite ready to pay the required cost.³⁶ Therefore, if South Korea contributes funds and designates North Korea as its recipient, then neither the UN authorities nor the World Bank will seriously object the idea.³⁷ Although South Korea can use the inactive Inter-Korean Cooperation Fund for the joint forestation project, official development assistance for North Korea's reforestation would be better utilized.

South Korea is scheduled to assume more responsibilities in providing foreign aid and assistance in the coming years. In early 2010, South Korea joined the Development Assistance Committee (DAC) in the Organization for Economic Cooperation and Development, as its 24th member. In order to be eligible for member, it needs to raise its official development assistance (ODA) from 0.1% (\$0.8 billion) of the gross national income (GNI) in 2009 to 0.25% (\$3.2 billion) in 2015.

The Korean ODA authorities must determine new fund outlets. Although the KSP (Knowledge Sharing Program) has increased its budget by 75% annually from 2007 to 2011, its performance rates have been 56% (2007), 100% (2008), 83% (2009) and 80% (2010). The EDCF (Economic Development Cooperation Fund), which offers loans to developing economies with long-term maturation and low interests, has recorded a 14% annual increase but its performance rates have been 51% (2007), 67% (2008), 89% (2009) and 87% (2010).³⁸

All these conditions indicate that official development assistance is necessary. If South Korea successfully engages in joint forestation projects with North Korea, then it will be akin to catching two birds with one stone. A JKF project not only fits the moral justification but

36. See www.un.org/News/briefings/docs/2009/090923_Deforestation.doc.htm (July 20, 2010).

37. The funding mechanism for REDD has not been solidly settled yet, but Australia has already invested US\$175 million in its neighboring countries, Indonesia and Papua New Guinea, www.un-redd.org/NewsCentre/NewsUnitedNatioweventowforestsandclimate/tabid/1530/language/en-US/Default.aspx (July 20, 2010).

38. www.etoday.co.kr/news/section/newsview.php?TM=news&SM=0399&idxno=479564 (August 22, 2012).

also presents tangible advantages.

Looking for a JKF Project: Sustainable Forest Management (SFM)

South Korea has supported North Korean activities relevant to forestation in the past two decades. Seedlings along with the necessities for nurseries and pest control were provided, although the scale of provisions was limited. There was neither a serious strategic objective nor a systemic program. The two Korean governments will need to orchestrate all concerned programs in order to achieve forest greenification in North Korea.

The strategic objective of the JKF project should be the institutionalization of a sustainable forest management (SFM) in North Korea. SFM is defined as follows.

The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems.³⁹

The concept of SFM is derived from the concept of sustainable development. Without denying the use of forests for human purposes, it strongly advocates the preservation of the natural environments, believing that it eventually returns the favor to humans.

The UN and concerned international organizations have a plan to upgrade the REDD+ Program to a more comprehensive climate change regime in 2012 when the current Kyoto Protocol emissions reduction proposal ends.⁴⁰ This plan essentially creates monetary value (and thus, an incentive) from the forest conservatory. Developed countries “pay” developing countries to reduce emissions, and the

39. www.foresteuropa.org/eng/What_we_work_for/Sustainable_Forest_Management (July 30, 2010).

40. www.un.org/apps/news/story.asp?NewsID=27388&Cr=forest&Cr1= (July 25, 2010).

payment is used to carry out low-carbon development projects.⁴¹ If this is applied to the Korean peninsula, South Korea can provide financial support for North Korea's anti-deforestation and sustainable development efforts.

The dividends to South Korea will be three-fold. First, South Korea can utilize its growing ODA fund for North Korean forestation, and a unified Korea in the future can save money for planting trees. A considerable portion of grants, which are now worth more than 60% of Korean ODA, can be invested in North Korean forest. Moreover, if the stipulations from the Kyoto Protocol apply, then South Korea can buy emission trading rights from its contributions to North Korean afforestation and reforestation. The CDM, which has been defined in Article 12, allows a developed country to meet its cap by using Certified Emission Reductions (carbon credit) acquired from its GHG reduction project in a developing country. Lastly, South Korea can promote peace and friendship with North Korea by offering of knowledge, finance and other necessities for a successful forestation.

The South Korean government can make use of its ODA for a JKF project via UN REDD+ Program, World Bank FCPF or its own CDM projects. North Korea may be designated as the recipient of South Korea's financial contributions. The UN REDD+ project will need to secure new funds to finance its programs as the number of countries that want to participate in coming years is expected to increase. Therefore, if South Korea contributes fund by designating North Korea as its recipient, then the UN will not seriously object to the idea.⁴²

41. To reduce the annual deforestation rate by 25%, an estimated \$22 billion to \$29 billion will be needed by 2015, www.un.org/News/briefings/docs/2009/090923_Deforestation.doc.htm (July 20, 2010).

42. It is not definite whether South Korea can finance a UN REDD+ project in North Korea using its ODA contributions. The funding mechanism for REDD+ has not been clearly defined yet, but Australia has already invested US\$175 million in its neighboring countries, Indonesia and Papua New Guinea. Thus, there will not be a serious obstacle in applying an ODA scheme to North Korean forestation, www.un-redd.org/NewsCentre/NewsUnitedNationseventonforestsandclimate/tabid/1530/language/en-US/Default.aspx (July 20, 2010).

A JKF project needs to include various actors. Although central and local government agencies directly participate in the programs, a JKF project must be shared with various civilian agencies in order to be effective. The accomplishment achieved by South Korean participants, regardless of public or civilian, in the REDD+ programs that are to be implemented in North Korea must be treated as an equal to that in South Korea. A public authority will also be asked to coordinate the overall activities of private corporations and NGOs, from the conception and negotiations with North Korean partners to the implementation and closing, for the consistency and harmonization of relevant programs.

South Korean forests are fairly stable thanks to the country's solid acknowledgement and well-designed policies to protect the nature.⁴³ Therefore, the industrialized South Korea must collaborate with North Korea in order to accumulate credits for GHG emission reduction and eventually become a country that is carbon neutral. South Korea has already launched pilot REDD+ projects in Southeast Asian countries like Indonesia. The experience and technology accumulated will help the efforts to campaign reforestation and improve forest management in North Korea.

Concluding Remarks

Reducing deforestation is a battle against time and immediate actions are critical in mitigating global warming. Forestation is the most cost-effective investment to combat soil erosion, prevent floods and droughts, reduce GHG emissions and thus prevent climate change. It is also a swift approach to harvesting its effects.

Forestation is one of the few options that can contribute to the

43. Forestation and forest management started in 1973, and more than 10 billion trees had been planted by 1997. Reflecting on its experiences, South Korea has initiated the AFoCO (Asian Forest Cooperation Organization) that launched in September 2012, www.news.donga.com/3/all/20120810/48514708/1 (August 20, 2012).

wellbeing of the two Koreas, regardless of changes in the Korean peninsula's strategic environment. Despite several years of discussions and pilot projects, the main reason for the suspension of inter-Korean forestation cooperation is the lack of political will from the both leaderships. As detailed above, technical and financial issues are hardly significant problems. Considering the devastating repercussions of North Korea's deforestation and the enormous costs in addressing natural and social disasters, both Koreas must pay more attention to a joint forestation project. The South Korean ODA authority has plans to increase its green project spending by up to 30 percent of its budget by 2020 from the current ten or so percent. South Korea also succeeded in hosting the 2012 GCF (Green Climate Fund) headquarters in Incheon, and it will explore pragmatic cooperation with North Korea under a new leader.

A JKF project basically prescribes an exchange of technology and capital from South Korea and CERs from North Korea. Apart from substantial carbon appropriation and storage function, forestation harbors many valuable rewards and safeguards against disasters. These benefits emphasize human wellbeing, especially for the vulnerable by providing firewood, food and income. A political side effect, mutual understanding or reconciliation between the two Koreas, is also anticipated.

Both Koreas should pay their attentions to a JKF project for co-prosperity and peace on the Korean peninsula. It is neither a resolution to stop North Korea's deforestation nor a deadly catalyst to enhance peace on the Korean peninsula. North Korean forest damage is, however, very serious considering its magnitude and speed. Sustainable forest management (monitoring and assessment, silviculture, fire management, forest health, corrective logging and so on) requires much more attention than the assumed amount. There are, of course, tough barriers to overcome in order to realize a JKF project. Among others, the North Korean authorities must maintain the norms and rules that follow international development cooperation processes. Providing sufficient incentives to North Korean rural residents is another challenge because there are no private forests. Without their

participation and endurance, a long-term forestation project cannot succeed. South Korea must also technically separate forestation projects from politics.⁴⁴ Despite its complexity and difficulties, a JFK project is a matter of political determination rather than technical plausibility.

The UN REDD+ program supports countries in their preparation, management and marketing of activities concerned with forests and forestry. A joint Korean-REDD+ project is one of the few ways that can uphold inter-Korean cooperation and concurrently fulfill the South Korean GHG reduction obligation. The number of countries that joined the UN REDD+ program, as regular members or observers, has more than quadrupled in the last four years, and it is expected to further increase in coming years. To enjoy the early entry advantages, North Korea must apply for the program before it is too late. South Korea may utilize its ODA funds for North Korean reforestation efforts.⁴⁵

A JFK project, which makes use of UN REDD+ and others, can help alleviate North Korea's economic difficulties and encourage the country to act as a decent member of the international community. Although inter-Korean relations are currently at a stalemate, a joint forestation project can provide the momentum to promote reconciliation between the two Koreas.

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44. Considering the vulnerable food security in North Korea, a forestation project ODA can be said to have humanitarian as well as developmental purposes.
 45. UN REDD programs and ODA are not directly connected to each other. Thus, it is impossible for South Korea to designate North Korea as a recipient of South Korea's ODA for REDD for now. A technical review is needed for its realization.

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