

# **Cooperation for reforestation in North Korea: international perspectives and governance**

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## **Abstract**

Deforestation in North Korea is a critical environmental issue that draws attention of international community. This study provides an overview of North Korea's efforts and its interaction with South Korean and international organizations on reforestation, and identifies institutional aspects that hinder implementation of cooperative governance arrangements. Given the limited information on North Korea, secondary data from a variety of official and non-official sources was used. South Korea's governance structure was identified through face-to-face interviews with representatives from 17 organizations. The results show that although the foundation has been laid, linkages with North Korean counterparts are currently dysfunctional and uncoordinated. A multi-stakeholder approach is proposed under North Korean leadership that should allow direct engagement with key international actors, without an intermediary institution. However, the main barrier to cooperation remains political, as North Korea fears open exposure to foreign influences that challenge its political-economic system.

**Keywords:** South Korea, North Korea, reforestation, international cooperation, governance, environment.

## **Introduction**

Over the last two decades, the Democratic People's Republic of Korea (DPRK) or North Korea has been under high pressure from deforestation, consecutive natural disasters (floods

and droughts), degradation of arable lands, and hence, food shortages (Teplyakov 2011). The disintegration of the Soviet Union and demise of the East-European bloc in 1991, together with China's establishment of diplomatic relations with the Republic of Korea, have had a devastating impact on North Korea's economy. North Korea almost instantly faced difficulties caused by the termination of wide support from Russia and China in terms of energy, agriculture, and military equipment. The drop in aid was significant, from 2.5 billion USD in 1990 to 70.1 million USD in 1995, reaching its minimum of 38.4 million USD in the 2000 (Teplyakov 2012). Although the most recent data show a certain increase, it is still estimated to fluctuate between 3% and 5% of the peak 1990s level (Pankina 2010). The country's economic downfall further accelerated after its withdrawal from the International Atomic Energy Agency, which only hastened its political, diplomatic, and economic isolation (Lee and Zang 2013).

Despite the slow but steady economic growth (Bank of Korea 2014), high average life expectancy, and literacy rate (CIA 2014), 70% of North Koreans struggle to secure food supplies (Birgit and Rosen 2013). The country is also facing serious energy supply problems. Major sources (coal and crude oil) are used to fulfil industrial demand, whereas residents in remote areas use firewood for heating and cooking, exacerbating the deforestation and forest degradation (Hayes *et al.* 2011) in the absence of government monitoring (Park *et al.* 2009). According to the Food and Agriculture Organization of the United Nations' (FAO) Global Forest Resources Assessment, North Korean forest coverage declined by 21% (1% per year) in the last two decades, whereas other land uses increased in coverage by 21%. At present, arable lands make up only 4%; 'other lands' covering 17% are believed to be unproductive lands (FAO 2005, 2010). These lands lack vegetation cover and they are vulnerable to land degradation and erosion.

Deforestation is a severe environmental problem in the country, with a long historical record. North Korea's deforestation program dates back to 1961, when the nation's founder Kim Il-Sung put into use arable land in mountain slopes (Yoo 1994). By the early 1990s, addressing food and energy shortages added a new incentive to stripping the mountainsides. In 1995, the worst floods of the century displaced 5.4 million people and destroyed 330 000 hectares of agricultural land, according to the official government reports (Noland *et al.* 2001), drawing international attention. It was the direct reason for the introduction of land management for environmental protection. The period from 2001 to 2010 was designated as

the ‘10-year reforestation plan’. Unauthorized logging and conversion of forests to agricultural land were then banned (Yoon 2014).

Despite the ban, deforestation never eased. Even primary forests in Baekdu Mountain Protected Areas (BMPA) were extensively harvested. A recent study estimated that by 2007, some 50% of the total primary forest area within the BMPA, as well as 75% of the primary forest landscape in the core area, had been logged (Tang *et al.* 2010). Weak forest governance and floods again brought about disastrous results, when heavy rains across the country killed 91 people and devastated swathes of farmland on July 18, 2012 (Asia Disaster Reduction Centre 2015). In July and August 2013, torrential rains caused flooding in 41 counties in seven provinces, affecting an estimated 788 000 people (UN 2015). Severe flooding has been almost annual in the last five years (UN 2015).

Almost every year between 1990 and 2015, natural disasters, mostly floods, affected North Korea’s population and economy. The direct damages of major disasters between 1987 and 2012 are estimated to reach almost 24 billion USD (CRED 2015). In other words, almost 1 billion USD is spent annually for the recuperation of damaged areas, crops, and infrastructure. Millions of people were affected and almost 2 000 lost their lives in floods, whereas many more were victims of the worst draught in the country’s history in the mid-1990s (Library of Congress 2009). Both high vulnerability to natural disasters and unproductive budget spending to recover after disasters put prospects for economic growth at risk (Park 2011).

Reforestation and sustainable forestry are the key aspects to confront many of the aforementioned issues. Both practices help reduce flood hazard and soil deflation as well as provide opportunities to increase crops and provide wood as fuel for cooking food and heating houses. Forest governance, a critical issue in the DPRK, is a decision-making and -taking procedure that includes a set of political, economic, socio-cultural, technological, and historical processes associated with the relationship between forests and people (Teplyakov 2009). Governance is collectively carried out by the state, private sector, and civil society. Thus, governance processes are designed to provide a stage for strategic dialogue and negotiations among different stakeholders over issues stemming from different and often conflicting beliefs and values (Lockwood 2010).

Little is known about internal forest governance processes in North Korea. The country has been struggling with reforestation policies and programs made ineffective by economic problems and political isolation (Youn and Park 2008). Outside cooperation and

support, in terms of technical and financial assistance, are urgently needed. The present study provides an overview of North Korea's efforts and its cooperation with South Korean and international government and non-government organizations as regards environmental efforts, particularly reforestation. To shed light on the aspects that hinder the implementation of cooperative governance arrangements, the research analysed the governance network of South Korean organizations and then, based on on-site experiences of major NGOs, identified the institutional aspects that weaken North Korea's capacity to cooperate. Considering that recently North Korea is demonstrating willingness to broaden cooperation with outside world, this paper is also an attempt to bring about the topic of reforestation to the scientific community concerned with environmental issues in North Korea.

## **Materials and Methods**

For political reasons, information on North Korea is scarce. The forest sector is no different in this respect. There is little information provided through official channels; more detailed observations are shared by experts who visited the country or defectors. Institutions such as UN FAO, United Nations Development Programme (UNDP), and International Union of Forest Research Organizations have released a few occasional articles, papers, and proceedings of international meetings on North Korea's forest and environmental sectors. Therefore, the present study uses a variety of academic and print sources as well as interviews and personal meetings with authorities and experts on North Korea.

A major method used in this research is a combination of analysis and synthesis. Analysis is needed for data on the structural disintegration of forest-related processes and environment in terms of global governance. Through analysis, apt descriptors could be identified. Meanwhile, synthesis is used to defragment the vast network of concepts, terms, and expressions. Another method applied is historical/retrospective analysis, used to compare the past with the present to determine the formation of the key issues.

Data on governance structures, actors, and their communication in relation to reforestation projects in North Korea were obtained through face-to-face interviews in 2014 with representatives of 17 government and non-government organizations that possess extensive experience in project development, negotiation, and on-site implementation. These organizations are, namely, the Korean Forest Service (KFS), Ministry of Unification (MoU),

Gyeonggi and Gangwon Provinces, Presidential Committee on Green Growth, Korea Forest Research Institute (KFRI), Institute for Peace and Unification Studies of Seoul National University, Green One Korea, Forest for Peace, six other NGOs, Yuhan-Kimberly Korea, and MBC, the broadcasting company. The respondents, who hold high positions within their respective organizations, were asked about other institutions and organizations they officially and unofficially interact with, for communication, information exchange, and funding. A number of questions considered the perceived conflicts among South Korean organizations and issues to be solved to foster reforestation in North Korea.

## **Results**

### ***North Korea's international involvement***

North Korea has been a UN member since 1991. It is also a member of UN FAO, United Nations Educational, Scientific and Cultural Organization, United Nations Industrial Development Organization, World Meteorological Organization, and other UN-based agencies, as well as many international groups and organizations, including the Group of 77, Red Cross, International Olympic Committee, and Non-Aligned Movement. The Resident Program in North Korea was established in 2004, and includes representatives of 6 UN agencies, 3 bilateral European agencies, and NGOs employing approximately 120 international citizens and 200 Korean nationals (Reed 2005).

The UN presence in the country is carried out via the Strategic Framework (UNSF). The overall objective is to support the government in its endeavour to improve the quality of life of the people and thus ensure sustainable development and the achievement of Millennium Development Goals. The major agency is the World Food Programme, which operates in 82 counties in North Korea. From 2007 to 2010, UN agencies provided about 47 million USD in aid, mainly via the UN Food Programme (FAO 2012). Similarly, the UNDP formulated intervention projects focusing on ecosystem-based adaptation strategies, including strengthening community capacities for disaster reduction, improved forest management, and rehabilitation of sloping lands.

According to the World Database of Protected Areas, the country has 31 terrestrial (2 931 km<sup>2</sup>) and 2 marine (59 km<sup>2</sup>) protected areas, which combined comprise only 1% of the

country's territory (<http://www.protectedplanet.net>). Meanwhile, North Korea claims that its protected areas in 1995 covered 6 969 km<sup>2</sup> or 5.68% of its total land area, which increased in 2006 to 8 793 km<sup>2</sup> or 7.2% of its total land area (UNEP 2011). These protected areas can be a source of potentially high-quality seeds for tree orchards and tree nurseries when North Korea begins the implementation of scaled reforestation. North Korea has one member-organization in the International Union for Conservation of Nature (IUCN), namely, the Natural Conservation Union of the DPRK (<http://www.iucn.org>).

North Korea has also accommodated a number of non-UN actors, including a few European Union Support Units (Resident International NGOs), the Red Cross Movement, Resident Bilateral Missions (mainly from the development side), as well as a few international NGOs. Many NGOs, including a large number from South Korea, have been working in the north via short-term monitoring visits, and a few focus on nature conservation and reforestation issues (Seliger 2009).

### ***North Korea's efforts and opportunities for international integration***

Currently, over 1 000 Multilateral Environmental Agreements (MEAs) have been produced for the protection of the environment worldwide. North Korea has signed 142 MEAs: 13 as a signatory party, 34 ratification, accession, succession, or similar agreements; and 126 entry-into-forces agreements (Mitchel 2013). As is the case of many developing countries, North Korea lacks sufficient financial and technical capacity to participate in international treaties. Of the 'Big Five' biodiversity conventions, North Korea is not a member or contracting party to three, namely, the Ramsar Convention (1971), Convention on International Trade in Endangered Species of Wild Fauna and Flora (1975), and Convention on Migratory Species or Bonn Convention (1979), despite its numerous wetlands that represent North Korea's biodiversity (Scott 1989).

Meanwhile, there are many key MEAs that North Korea ratified and endeavoured to implement. After the United Nations Conference on the Environment and Development (UNCED), national development goals were adjusted and aimed at providing the country with better quality of life in a politically, economically, and environmentally sustainable manner. These goals were formulated in 1993 as part of (1) the 'North Korea's National

Action Plan for Agenda 21', (2) a set of national strategies (NSs) and national action plans (NAPs) on major UNCED conventions, and (3) later elaborated self-assessment of national capacity needs and development (DPRK/UNEP 2005). Despite these efforts, the plans were not fully and satisfactorily implemented owing to economic difficulties and natural disasters that occurred during the mid-1990s (DPRK/UNEP 2007). North Korea joined the UN Convention on Biodiversity on October 26, 1994 and soon developed a National Biodiversity Strategy and Action Plan (NBSAP) that was adopted in 1998 (DPRK/UNEP 2007). The DPRK NBSAP was developed with other national primary industry development plans, including the Forestry Plan and Agricultural Plan (DPRK/UNEP, 2007). North Korea also ratified the United Nations Convention to Combat Desertification (UNCCD); its NAP to implement the UNCCD from 2006 to 2010 was developed and adopted in June 2006 (DPRK 2006).

The plans are ambitious, although North Korea has the facilities to implement them. A good example is the plan for a central tree nursery that can grow about 160 tree species and yield about 5 million seedlings and young trees; this nursery is said to have a potential to increase the yield threefold. The process of growing seedlings in containers is successful and well organized, as the nursery is equipped with relevant machines and instruments received from donor countries (Teplyakov and Kim 2012).

The legal basis for wildlife and natural resource conservation that could support reforestation is also well-developed in North Korea. It includes 25 national legal acts and regulations related issues: Land Law (1977), Law on Environment Protection (1986), Forest Law (1992), Land Use Planning Law (2002), and a number of national regulations (Park and Lee 2014). These national laws, national programs, and action plans create a sound basis for international aid and assistance for critical areas in many fields, including (1) information needs, (2) sustainable forest management policies, (3) knowledge sharing, (4) financial aid, and (5) capacity building (Teplyakov and Kim 2012).

In terms of legal arrangements, infrastructure, and technical knowledge, North Korea has the capacity to implement reforestation programs. In general, reforestation efforts can be carried out by mobilized labour units working with simple tools. The reforestation in South Korea is a prime example of the success of this type of initiative (Teplyakov and Kim 2012). Nonetheless, specialized nurseries and well-trained foresters, without good fertilizer and seed stock, are unlikely to succeed, especially on north-facing steep slopes (Hayes 2009). Thus,

the scale of implementation is in question, given the amount of resources that seem to be limited.

International finance institutions and bilateral aid programs are absent in North Korea. Therefore, the UN system continues to play an essential role in development assistance, capacity building, facilitation of international contacts for enhanced economic cooperation, and other forms of engagements with the international community (UNCT 2011). More recently, however, the IUCN expressed interest in helping catalyse landscape-restoration initiatives. The European Union might also be a potential donor, showing interest in North Korean issues and offering capacity building programs (Stone 2012).

In the last decade, North Korea made several efforts that can be considered as progress made toward international cooperation. The first trend is the increase of transparency in decision-making processes particularly related to international aid. Since 2007, the North Korean government has improved its level of transparency and cooperation by providing foreign organizations with unprecedented access to the field to conduct damage assessment (Mansourov 2007). The second trend is the enhancement of institutional knowledge and capacity building. The country has been closely working not only with inter-governmental organizations but also with donor organizations and global research institutes since early 2000. In 2012, 85 North Koreans and 14 experts from eight countries, including the USA, met to share their expertise and ideas on means to restore ecosystems and improve the country's food security (Stone 2012). The final trend relates to the increase of stakeholder participation in response to deforestation. With the World Agroforestry Centre's agroforestry project, an innovative approach was applied to provide food, fodder, and other products for local people, while restoring degraded land. By working with various partners, the project helped establish user groups, design agroforestry systems, and implement agroforestry trials, with monitoring and evaluation occurring at all levels (Xu et al. 2012).

The prospects for cooperation are considerably positive. Reforestation using North Korea's own resources might start in the near future. According to North Korea's official news agency, the North Korean Cabinet adopted a resolution in March 2015 to support national forest restoration activities, covering the funds necessary for forest restoration. The directive also set up a management system, including a supervisory and regulatory task force for forest conservation (IFES 2015). The importance of reforestation was further underlined by Kim Jong Un on the Tree-Planting Day on March 2, 2015; he revealed North Korea's plans to begin an intensive 10-year forestation restoration campaign (IFES 2015). The



question of resource availability to implement those plans remains, as past experience shows that plans and statements have had little effect on reforestation in North Korea. Nonetheless, reforestation is high on the priority list; but without external technical and financial assistance, North Korea is unlikely to achieve such ambitious goals. Therefore, international cooperation seems to be indispensable.

### ***Forest governance network and international cooperation***

In addressing the issue of environmental degradation in North Korea, reforestation and afforestation measures should be undertaken to stabilize the natural environment, agricultural production, and wood supply. To achieve success, however, the question is not ‘what should be done’ but ‘how should it be done’. For the successful implementation of these measures, cooperation and governance should be implemented at two levels: the national and the local.

At the national level, governance should foster collaboration and continuous, integrated planning among the participating parties. Kim and Kang (2015) carried out a survey to gather professional opinions on the international cooperation system and effective strategies for reforestation/afforestation in North Korea. They asked industry experts, including North Korean professionals, at four workshops held in Thailand, Mongolia, South Korea, and Kazakhstan to identify the key stakeholders in the process. They pinpointed the North Korean central government, UNDP, North Korean local government, Korea Energy Economics Institute, and Korea National Intelligence Service as crucial parties. The opinions of North Korean government officials in the forestry sector did not necessarily differ from those of South Korean or international experts. Surprisingly, among the principal stakeholders, none were from the EU countries that have recently provided assistance to North Korea. Apart from the two Koreas’ governments, other major international donors, such as the UK, Germany, Canada, and Australia, should participate (Lee and Zang 2013).

Indeed, previous studies have called for international and inter-Korean cooperation. Chung (2012), Kang (2010), Song (2009), and Yang and Lee (2008) emphasized either cooperation inside South Korea or inter-Korean cooperation, whereas Oh (2007) and Lee (2004) suggested the greater significance of international support, along with the South Korean government’s role in the process. Both approaches have been used successfully in the past. The examples include an innovative and pioneering project involving the Swiss Agency

for Development and Cooperation and North Korea's Ministry of Land and Environment Protection. The agroforestry project Sloping Land Management Project turned out to be successful (Teplyakov and Kim, 2012), and therefore, the North Korean government planned to increase the number of Sloping Land User Groups by the end of 2015 (Kim and Xu 2012). At the inter-Korean scale, KFS, MoU, and local governments of Kangwon and Kyeonggi Provinces have been supporting North Korean forest recovery efforts along with private companies and NGOs. A number of nursery, plantation, and degraded forestland recovery projects are being planned (Korea Forest Service 2011). Similar inter-Korean cooperation forestry projects have been underway since 1998 (Park 2015).

Clearly, international and inter-Korean projects can be successfully implemented. However, these are not coordinated initiatives but singular actions designed bilaterally. They were formulated on an ad-hoc basis, without long-term perspectives, and mostly in response to North Korea's demands (Park and Lee 2014). A governance structure for inter-Korean and international cooperation gives a better understanding of the reasons for this lack of joined efforts for North Korea's reforestation.

Until May 24, 2010, when economic sanctions against North Korea began, the governance structure of South Korea's aid entities was composed of various governmental and non-governmental actors and financial supporters, such as MoU, KFS, local governments, private enterprises, and NGOs, as actual project developers, and universities and research institutions as advisors (Fig. 1). MoU is a major funding source in financing NGO projects and is responsible for issuing visit permits to North Korea. KFS provides limited funding support to FAO and research institutions in South Korea to collect data and plan for the reforestation in the north. However, it does not receive a dedicated budget from MoU to deal with North Korean issues. Given this limitation and jurisdictional barrier, KFS has not been able to influence the reforestation projects. Consequently, the main role of KFS is to serve as a technical advisor to MoU on feasibility verification and capacity building for the proposed projects. Reforestation initiatives are funded mainly by MoU, but implemented by NGOs either directly from MoU funding or through the local governments of Gangwon and Gyeonggi Provinces that established their own NGOs to implement projects. Additionally, funding is provided by private sector companies that support NGOs.

[Figure 1 near here]

The cooperation among MoU, KFS, and NGOs that deal with reforestation in North Korea has been limited owing to the competition for funds and lack of an umbrella type of organization with jurisdiction to coordinate the efforts and flow of information. Indeed, interviews with the actors revealed that 64.7% (n=11) perceived a conflict among South Korean organizations. Only 23.5% (n=4) reported the presence of barely any conflict, whereas 11.8% (n=2) indicated that relations among organizations were neutral.

Lastly, all cooperation initiatives and communication between South and North Korean actors have to go through one central North Korean NGO, called Council for National Reconciliation (Fig. 1). South Korean institutions and NGOs cannot communicate directly with their North Korean partners without the approval and interference of this intermediary, which complicates communication. There are also restrictions in the intervention sites, namely, in the three areas of Pyeongyang, Kaesung, and Keumkang Mountain. According to North Korea, these restrictions are imposed for security reasons. The interviewed institutions confirmed that the North has maintained dialogue and negotiations with South Korean aid entities separately to hamper communication among them. Consequently, the South Korean governance structure for reforestation has faced difficulties in accumulating organizational experiences and memories. As a result, many short-term NGO-led projects fail to deliver expected results.

Limited communication among actors, individual negotiations, and centralization of the only channel for direct cooperation with aid organizations are strategies North Korea has been using in its dealings with international organizations that operate inside its territory. According to the experience of Hanns Seidel Foundation Korea, beginning in 2005, all contacts have to be made first with the Ministry of Foreign Affairs and its sub-organizations founded to coordinate with foreign actors. Thus, direct contacts with actors on various levels are forbidden. Although UN agencies and other international actors in Pyongyang meet often to coordinate their activities, it is not encouraged by North Korea itself (Seliger 2009). Moreover, South Korean donors are strictly separated from international donors. Seliger (2009) also pointed out the lack of communication among North Korean departments, rendering overall coordination difficult.

Since the economic sanction in 2010, political and military tension between the two Koreas has only increased, and the Council for National Reconciliation of North Korea has firmly closed channels for communication. Consequently, the negotiation capacity of South Korean aid entities has been hindered. Meanwhile, international organizations assume limited

roles to support reforestation in North Korea using an ad-hoc approach. For example, the North Korean Ministry of Foreign Trade has allowed Hanns Seidel Foundation Korea to provide Clean Development Mechanism (CDM) capacity building program and reforestation project. The Overseas Koreans Aid Commission of North Korea has also accepted an offer of forest seeds from US-based One Green Korea Movement (Kyung Seok Park, personal communication July 15<sup>th</sup> 2015).

Firm political support, structured management systems, clear communication, and participation of a wide range of stakeholders are major success drivers for an inter-Korean or international approach. A governance model needs to be established to set up a cooperative communication channel among the central government, local governments, and international actors. In the context of the North Korean political system, a government-led model that is formally represented and structured is most likely to be the only feasible option. The international and North Korean experts from Kim and Kang's (2015) study also emphasized that North Korean reforestation must take place under the leadership of the North, while the key roles of South Korean and international organizations were funding, capacity building, and provision of expertise. Funding seems to be one of the main concerns, not because of the lack of funds or donors but because donors require a high level of transparency and accountability in the management of provided financial resources (Reed 2005). Transparency and accountability, however, have been issues in North Korea's relations with its donors (Seliger 2009).

Currently, the cooperation with foreign technical experts is limited, despite the importance of science-based approaches to solve the issues. On-site capacity building projects have been carried out mainly by NGOs based in the country, and it is most likely to stay this way under the proposed network governance scheme because the North Korean government wants to prevent contact between the general public and foreign experts (Reed 2005). In this context, a community-based participatory approach is not yet possible in North Korea. For successful capacity building, parties "must identify those projects that are legitimate in the view of the regime and at the same time point at least in the right structural direction, allowing for development in some later stage" (Seliger 2009: 69). Thus, the most viable approach to build capacities for reforestation is by training mid-level North Korean technicians who can pass down their knowledge to their local-level counterparts.

The recommendations to solve the aforementioned issues that hinder reforestation are products of analyses of the authors of this study as well as international experts and scholars

who have accumulated a significant body of knowledge on the topic. These opinions correspond with the perception of interviewed representatives from South Korean organizations that work toward reforestation in North Korea. As shown in Table 1, collaboration, communication, and capacity building are key components for the success of reforestation initiatives. Interestingly, six respondents called for consistency in project implementation regardless of political stability issues, which shows that drastic policy changes and the economic opening-up of North Korea are not necessarily requirements to establishing effective cooperation for reforestation.

[Table 1 near here]

## **Discussion**

A cooperative governance network and its respective funds to carry out much-needed activities are crucial to the success of the reforestation initiative. Such a network can be achieved only if North Korea takes the lead in creating a more cooperative environment for building the required level of trust with South Korea and other international stakeholders. Foreign experts promote the benefits of engagement in trainings and activities of individuals and organizations, new ways of thinking and increased competence of specialists, and enhanced personal connections (e.g. Hayes *et al.* 2011), but such a view is not necessarily shared by the North Korean authorities. Similarly, based on CBD (1992), the IUCN's governance principles, such as Legitimacy and Voice, Accountability, Performance, Fairness, and Direction, go against the principles that North Korea has followed in the last 50 years. Achieving them seems to be unrealistic, as is expecting drastic changes from the regime.

The North Korean government is aware that through cooperation with international stakeholders and knowledge sharing, governments, educational institutions, and NGO leverage soft power to influence their society through educating citizens on different values that challenge North Korea's current political-economic system. Thus, these endeavours are seen as threats to the regime. Activities carried out by North Koreans outside of the country or bringing outside experts inside the country would increase the pressure for opening to the outside (Reed 2005). The experience of Hanns Seidel Foundation Korea in working on development projects in North Korea shows that multi-stakeholder cooperation and direct

collaborative projects are highly discouraged. In fact, since 2005, a reduction of foreign actors has been a trend, along with the streamlining of North Korean contacts to such entities (Seliger 2009). Having a centralized intermediary governmental institution deal with all foreign actors is not effective, but it is safer for North Korea to control these entities and avoid unwanted collateral consequences.

Many scholars have grounded their work under the scenario of North Korea's political and economic opening to the world. This article, however, stresses the importance of cooperation under the current circumstances. Radical changes in North Korea's economic-political system should not be a requirement to commence reforestation. Although the establishment of effective governance requires a certain level of adjustment and opening from the regime, it is feasible to be implemented without North Korea compromising its core principles. Reforestation has been set as one of the strategic priorities of North Korea. This link should be exploited because North Korea clearly lacks sufficient financial and technical resources to deal with nationwide reforestation. North Korean farmers, technicians, and managers are educated and have demonstrated openness to new ideas and new approaches. Coordinated planning and financial aid should facilitate technology transfer and capacity building on a much larger scale than has been done.

## **Conclusions**

The political environment is extremely important, but geography and natural resources remain the key issues in economic development. Hydrological hazards (flood, drought) are major threats to food security in North Korea, and the deforestation of slopes only increases the country's vulnerability. One of the simplest and the lowest costing methods for environmental restoration is reforestation of denuded areas and afforestation in other lands not used for agricultural production. The importance of reforestation should be highlighted at all levels of governance and management. The general goal of reforestation and afforestation activities in North Korea might be seen as a set of activities intended to increase forest cover, food security, and the sustainability of local livelihoods nationwide.

The UN system provides a legal international framework for further international cooperation in North Korea. Many international organizations are willing to offer their assistance to revitalize major sectors of the country's economy. These are, however, singular

actions that lack coordination and are designed to deal with specific problems on an ad-hoc basis. The few institutions in the country are not receiving the necessary resources. Thus, the provision of funds and a multi-stakeholder approach under North Korean leadership are proposed solutions.

To achieve better communication and cooperation, North Korea has to create a more cooperative environment conducive to building the required level of trust with South Korea and other international stakeholders. Arrangements should be made to allow key international actors to engage with North Korean partners directly, without an intermediary institution. Meanwhile, South Korea should improve the level of communication and cooperation among national institutions. Currently, the competition among different organizations has produced a perception of conflict among South Korean actors. A number of competent forestry-related institutions use their own budget and do not receive direct funding for North Korean reforestation initiatives. Further, communication restrictions hamper their collaboration with North Korean partners directly. Instead, the projects are mainly implemented on an ad-hoc basis by the NGOs allowed to work on-site. To maximize the effectiveness of reforestation initiatives, communication and project implementation should also be handled directly by North and South Korean counterpart institutions. Recent experiences show that the North Korean government seems to be more flexible and ready to accept capacity building for its higher-level experts. However, it may not act similarly at the local level, which would have a much greater positive impact.

Nonetheless, the main barrier for implementation of network governance remains political, as North Korea fears open exposure to foreign influences that challenge its current political-economic system. This point has to be carefully considered when choosing the most appropriate model for cooperative governance for reforestation. Institutional and political limitations in North Korea are likely to affect the ultimate choice. A compromise has to be reached that does not entirely challenge its socio-political system but leaves enough space for foreign actors to have a level of control over the budget and its use. More importantly, the coordination of programs and activities and flow of information among different parties are crucial elements of the governance framework. Finally, the South Korean strategy for reunification is reconciliation, cooperation, and an alliance between North and South. In this sense, maintaining Green North Korea will significantly contribute to the achievement of these objectives. The recent political opening of and declarations of the North about peace

agreement with the South has been received with a lot of hope. It seems that reforestation of NK is closer to reality than ever before.

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