

INTERNATIONAL ENVIRONMENTAL COOPERATION OF THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

REPORT PREPARED FOR THE DMZ FORUM

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- Five rivers—important to both Koreas’ water supply--forests, mountains, wetlands, prairies, bogs and estuaries.
- Over 1,100 plant species; 50 mammal species, including Asiatic Black Bear, leopard, lynx, sheep and possibly tiger; hundreds of bird species, and over 80 fish species. Birds migrate through the DMZ to Mongolia, China, Russia, Vietnam, Japan, the Philippines and Australia

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- *Clinical Case Compendia*: Documenting diplomatic processes that lead to conflict resolution while providing security

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1 Introduction

It is commonly perceived that the Democratic People's Republic of Korea (DPRK) is one of the most secretive and uncooperative countries in the international community. A notable example is its withdrawal from the Treaty on the Non-Proliferation of Nuclear Weapons in 2003, and subsequent development of nuclear weaponry. In the field of sustainable development, however, the DPRK's cooperation with other states and international organizations has apparently improved over time. While lacking in technical and financial capacity,¹ the DPRK has signed on to a number of international environmental agreements and implemented various measures to fulfill its obligations as a contracting party.² Some commentators have observed that the DPRK's reporting documentation to the three Rio Conventions, for example, has steadily improved in quality and detail over the past decade as a consequence of its institutional participation.³

Against this backdrop, this report presents an overview of the what, how, and why of the DPRK's international environmental cooperation. The key research questions are: when and in which issue areas has the DPRK formally cooperated with other states; how has the DPRK implemented its international environmental obligations; and, to the extent answerable, why has the DPRK cooperated in those chosen issue areas? Ultimately, this report aims to shed light on possible strategies to enhance environmental performance of the DPRK and promote peace and stability in Northeast Asia and beyond.

There are at least three reasons as to why a review of the current state of the DPRK's international environmental cooperation is timely and necessary. First, the international community has a shared responsibility to support developing states such as the DPRK to better protect their environment from unsustainable practices. Given its current economic hardship, environmental performance of the DPRK will only improve through financial and technical assistance from outside sources. Second, although the DPRK's contribution to global environmental change remains relatively insignificant, it has the potential to substantially increase the impact in the future. Third, the environment is a relatively neutral avenue for international dialogue.⁴ Engagement in environmental cooperation could help overcome

¹ The DPRK is a developing country with an estimated GDP per capita (PPP) of 1,800 US dollars, and a relatively small annual government budget of about three billion US dollars.

² Democratic People's Republic of Korea: Environment and Climate Change Outlook (Pyongyang, 2012); [hereinafter Environment and Climate Change Outlook].

³ B. Habib, 'North Korea's Surprising Status in the International Climate Change Regime' (2013), available at: www.eastasiaforum.org/2013/11/09/north-koreas-surprising-status-in-the-international-climate-change-regime. See also S.-H. Lee, 'Responding to North Korea's Ecological Vulnerability' (2012), available at: ourworld.unu.edu/en/responding-to-north-koreas-ecological-vulnerability.

⁴ L. Zarsky, 'The Domain of Environmental Cooperation in Northeast Asia', *Sixth Annual International Conference Korea and the Future of Northeast Asia: Conflict or Cooperation?* (1995), available at: dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/148/zarsky.pdf?sequence=1.

geopolitical and ideological differences by focusing on some universal sustainable development goals.⁵

This report begins by explaining how *Juche* as the supreme North Korean ideology might have affected the ways in which the DPRK approaches environmental issues. The report then briefly describes the current state of the North Korean environment, and the basic architecture of the national system of environmental law and administration. Having established and understood the context, the report surveys international environmental obligations that the DPRK has thus far committed to through global, regional, and bilateral arrangements, and illustrates how the government has attempted at implementing them. The report then discusses why the DPRK has cooperated (to the extent it has) on certain environmental issues, and how the rest of the international community could help enhance the DPRK's environmental performance in the future.

2 The Context

2.1 *Juche* Ideology and the Environment

Juche, or self-reliance, is the DPRK's official governing principle for all aspects of North Korean affairs and policies.⁶ The concept was developed as Kim Il Sung's application of Marxist-Leninist principles to the North Korean political context. The 1972 amendment of the Socialist Constitution of the DPRK formally introduced *Juche* as a constitutional norm, and defined it as a people-centered worldview and a revolutionary ideology for achieving the independence of the masses of the people.⁷

Juche is an essential concept for understanding the DPRK's interpretation of and approach to the environment.⁸ With its focus on self-reliance of the North Korean people, the idea of *Juche* puts emphasis on the need to protect the natural environment for human welfare.⁹ The Socialist Constitution, as amended in 1972, stipulates that the state shall provide the people with a hygienic environment and working conditions by adopting measures to protect the environment before production takes place, preserving and promoting the natural environment, and preventing environmental pollution.¹⁰ In the DPRK, therefore, "protecting the

⁵ S.-J. Hong, 'Environmental Pollution in North Korea: Another South Korean Burden?', 11 *East Asian Review* (1999), 79-98.

⁶ G. Lee, 'The Political Philosophy of *Juche*', 3 *Stanford Journal of East Asian Affairs* (2003), 105-112.

⁷ Socialist Constitution of the Democratic People's Republic of Korea, Article 3.

⁸ See, e.g., R. Winstanley-Chesters, *Environment, Politics, and Ideology in North Korea: Landscape as a Political Project* (Lexington Books, 2015).

⁹ *Environment and Climate Change Outlook*, n. 2 above.

¹⁰ Socialist Constitution of the Democratic People's Republic of Korea, Article 57.

environment is an important work that shall be a permanent undertaking in building socialism and communism”.¹¹

Following naturally from such a worldview, self-sufficiency in food production has always been a national policy priority.¹² The land has been considered as the basis for the livelihood and prosperity of the people, and the state has been trying to maintain its fertility.¹³ The DPRK leadership has continuously underscored the importance of sustainable land management and considered its proper implementation a patriotic duty.¹⁴ This has also been highlighted in a number of reports to international environmental conventions.¹⁵ In that sense, *Juche* ideology has played a positive role in promoting sustainable management of natural resources.

At the same time, however, the people-centered idea of *Juche* has justified the conquest of nature and, at times, acted as a source of environmental degradation.¹⁶ When agricultural self-sufficiency was being challenged in the 1970s due largely to the scarcity of arable land,¹⁷ the leadership ordered farmers to cultivate terrace fields on mountain slopes that are less than 15 degrees and located below 500 meters above sea level. Within few years, the entire landscape was transformed.¹⁸ Such an example clearly illustrates the limits of the North Korean version of people-centered, patriotic environmentalism.

It is unclear whether the DPRK leadership has acknowledged such a nature-transforming policy rooted in the idea of *Juche* as a cause of environmental degradation. What is clear though is that the DPRK leadership has been suggesting that pollution mostly arises in capitalist systems where people are supposedly driven by profits, and the ruling class is not interested in protecting the environment or serving the people’s interests.¹⁹ According to Kim Il Sung, the answer to environmental problems can only be found in socialism, where the continual improvement of the people’s living standard is the supreme guiding principle.

International environmental issues are also framed in this light. For the DPRK, international cooperation is required in areas such as climate change to

¹¹ Law on Environmental Protection, Article 2.

¹² ‘N. Korea Calls for Self-sufficiency in Food’ (2014), available at: english.yonhapnews.co.kr/national/2014/10/16/68/0301000000AEN20141016003600315F.html.

¹³ DPR Korea : State of the Environment 2003 (Pyongyang, 2003); [hereinafter State of the Environment 2003].

¹⁴ S. Nam, ‘The Legal Development of the Environmental Policy in the Democratic People’s Republic of Korea’, 27 *Fordham International Law Journal* (2004), 1322–1342. Kim Il Sung was a patriotic environmentalist. I.S. Kim, *Jayeonboho Saeopeul Ganghwahalde Daehayeo* (Pyongyang, 1993).

¹⁵ See, e.g., National Biodiversity Strategy and Action Plan of DPR Korea (Pyongyang, 2007); National Report on UNCCD Implementation in DPR Korea (Pyongyang, 2006).

¹⁶ Nam, n. 14 above.

¹⁷ ‘Ratio of Food Self-Sufficiency in Korea (Overall)’, available at: www.apip-apec.com/kr/statistics/files/Korea_Food_Self-Sufficiency.pdf; *FAO/WFP Crop and Food Security Assessment Mission to the Democratic People’s Republic of Korea* (FAO & WFP, 2013), available at: www.fao.org/docrep/019/aq118e/aq118e.pdf.

¹⁸ Hong, n. 5 above.

¹⁹ Nam, n. 14 above.

confront the United States and other “imperialist powers” who often engage in the exploitation of natural resources abroad, hence contributing to the deterioration of global environmental conditions.²⁰ In a similar context, the United States military presence in the Republic of Korea (ROK) has been severely criticized by the North Korean regime as a major source of environmental degradation in the Korean peninsula.²¹

2.2 Data Sources and Availability

There is a very limited number of reliable sources available for the public to gain an objective understanding of the current state of the environment in the DPRK. The DPRK government has so far published two official state of the environment reports in English: the State of the Environment Report of 2003 and the Environment and Climate Change Outlook of 2012.²² Both reports were prepared by the Ministry of Land and Environment Protection with technical assistance of the United Nations Environment Programme (UNEP). Priority environmental issues that are identified in these reports include forest depletion, water quality degradation, air pollution, land degradation, biodiversity loss, and climate change. Other sources from the government include various national reports, communications, and action plans prepared for and submitted to environmental treaties such as the Convention on Biological Diversity with support from the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP).²³

In addition to the government publications, there are a few studies by researchers outside the DPRK. For example, in 1999, Hong investigated the environmental conditions of the DPRK indirectly through the accounts of North Korean defectors and South Korean visitors to the DPRK, public addresses of Kim Il Sung and Kim Jong Il, and some North Korean films and economic reports.²⁴

Environmental performance of the DPRK has been periodically assessed in a series of global surveys conducted by Yale University and Columbia University in collaboration with the World Economic Forum and the Joint Research Centre of the European Commission. According to their 2010 Environmental Performance Index, the DPRK ranks 147th among 163 countries investigated with a score of 41.8 out of 100.²⁵ The DPRK ranks the lowest among 146 countries and 140th among 142

²⁰ Y. Han, ‘Jiguhwangyeongbohoreul Wihan Gukjejeok Hyeopryeokjedo’, 56 *Kim Il Sung Jonghapdaehak Hakbo* (2010), 137-141.

²¹ C. Han, ‘Namjoseon Gangjeom Miguneui Hwangyeonpagoe Haengwineun Namjoseon Inmindeuleui Saengjoneul Wihyeophaneun Beomjoehaengwi’, 25 *Jeongchi Beopryul Yeongu* (2009), 46-47.

²² State of the Environment 2003, n. 13 above; Environment and Climate Change Outlook, n. 2 above.

²³ See, e.g., National Biodiversity Strategy and Action Plan of the Democratic People’s Republic of Korea (1998).

²⁴ Hong, n. 5 above.

²⁵ J. Emerson et al., *2010 Environmental Performance Index* (New Haven, 2010).

countries in the Environmental Sustainability Index of 2002²⁶ and 2005,²⁷ respectively. The reports suggest that the DPRK's "serious environmental stresses, poor policy responses, and ... limited institutional capacity" are responsible for such a poor environmental performance.²⁸

2.3 Environmental Problems in the DPRK

The DPRK has a population of over 24 million with a population density of 200 people per square kilometer (similar to Italy).²⁹ Approximately 72.5 percent of the land is forested (as of 2005), and only 0.08 hectares of farmland are available to each person,³⁰ which is insufficient to ensure adequate food production for the growing population. The relative scarcity of arable land has resulted in the conversion of forested areas to agricultural uses.³¹ This pressure on forests has been exacerbated by a decline in soil productivity over the last several decades.³² Another key driver of forest degradation is increasing firewood consumption.³³ In recent years, most of the fuel consumed in rural areas has come from the forest. Forest fires have also been a major source of forest degradation in the DPRK as indicated by its dangerously high proportion of burned land area.³⁴

Unsustainable agricultural practices have resulted in soil erosion, compaction, and acidification, which have in turn reduced soil depth and limited agricultural productivity in some areas.³⁵ In addition, municipal solid waste is an acute source of land degradation.³⁶ Between 1980 and 2003, 71.4 percent of agricultural lands experienced greenness declines.³⁷ Runoff from agricultural land is a source of water contamination, while soil erosion in deforested areas adds large sediment loads to waterways. The majority of water pollutants come from the discharge of industrial wastewater and untreated sewage, particularly in rural areas where facilities are inadequate or absent altogether.³⁸

²⁶ D.C. Esty et al., 2002 *Environmental Sustainability Index* (New Haven, 2002).

²⁷ D.C. Esty et al., 2005 *Environmental Sustainability Index* (New Haven, 2005). The DPRK was excluded from ranking in other years because of insufficient data.

²⁸ *Ibid.*, at 21.

²⁹ Overview of Needs and Assistance: The Democratic People's Republic of Korea (United Nations, 2012).

³⁰ Environment and Climate Change Outlook, n. 2 above.

³¹ For evidence of deforestation, see R. Engler et al., 'An Assessment of Forest Cover Trends in South and North Korea, From 1980 to 2010', 53 *Environmental Management* (2014), 194–201; S. Kang and W. Choi, 'Forest Cover Changes in North Korea since the 1980s', 14 *Regional Environmental Change* (2014), 347–354.

³² Environment and Climate Change Outlook, n. 2 above.

³³ State of the Environment 2003, n. 13 above.

³⁴ D.C. Esty et al., 2008 *Environmental Performance Index* (New Haven, 2008), at 68

³⁵ Environment and Climate Change Outlook, n. 2 above.

³⁶ State of the Environment 2003, n. 13 above.

³⁷ Emerson et al., n. 25 above.

³⁸ Environment and Climate Change Outlook, n. 2 above.

The DPRK makes use of coal for producing much of its electricity and as a fuel for industrial processes as well as in urban residences for heating and cooking.³⁹ Air quality at certain locations near power plants and industrial sites periodically exceeds national environmental standards.⁴⁰ In 2007, the country emitted a combination of greenhouse gases equivalent to about 94 million tons of carbon dioxide, which represented around 0.32 percent of the global emissions.⁴¹ Yet, according to the Pilot 2006 Environmental Performance Index, the DPRK has a high carbon emissions per GDP.⁴² Emissions are also projected to increase in the future as a result of increased economic output and population growth.

There is some evidence of environmental degradation in the DPRK through transboundary harm originating from neighboring countries. Air quality in the DPRK is periodically affected by severe dust and sand storms that originate from the desert regions of China and Mongolia where deforestation and excessive water extraction have occurred. Furthermore, air pollutants from China, for example, have caused acid rain in the DPRK.⁴³

2.4 National Environmental Laws and Administration

Before environmental laws started to emerge in the DPRK in the late 1970s, the environment was by and large managed by Cabinet orders and Kim Il Sung's policy directives.⁴⁴ To Kim Il Sung, what was needed to build an idealistic socialist country based on the idea of *Juche* was not penalties for law breakers, but to ideologically train the masses to respect, and act in accordance with, socialist norms.⁴⁵ In several policy directives, Kim Il Sung, for example, emphasized the importance of protecting lands and forests, defined forest protection as a patriotic act, and called for an active public educational campaign on natural resource protection. Moreover, Kim Il Sing criticized industries and factories for discharging toxic pollutants into the environment.

Despite the high national priority given to environmental protection, the environmental conditions continued to deteriorate. This could have been a result of many different reasons, such as a focus on economic development and the lack of scientific understanding of how ecosystems work. The failure was interpreted by the leadership as a systemic problem of the Korean Workers' Party's authority.⁴⁶

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² D.C. Esty et al., *Pilot 2006 Environmental Performance Index* (New Haven, 2006), at 336-337.

⁴³ State of the Environment 2003, n. 13 above.

⁴⁴ See, e.g., Cabinet Decision No. 15 Control Regulations on Rivers and Streams of 1965; Cabinet Decision No. 57 Protection and Control Regulations of the Forest of 1972.

⁴⁵ Nam, n. 14 above.

⁴⁶ Ibid.

Recognizing the limits of environmental policy statements, the DPRK eventually turned to laws for better protection of their natural resources.

The first environmental legislation was the Land Law of 1977, which Kim Il Sung explained as necessary to efficiently coordinate different forms of land planning as well as to promote land protection and management.⁴⁷ In 1986, the Supreme People's Assembly passed the Law on Environmental Protection, which has since served as the principal environmental legislation in the DPRK.⁴⁸ The enactment was partly a response to the emergence of green politics and movements in the West and new environmental initiatives of international organizations.⁴⁹ Later the 1992 amendment to the Socialist Constitution inserted an environmental provision for the first time and established environmental protection as a priority over all productive practices.⁵⁰

These laws collectively have provided a legal version of the DPRK's philosophical approach to environmental problems. However, the laws were written so generally that they have provided little concrete guidance as to administrative arrangements, regulatory requirements, or enforcement procedures.⁵¹ The North Korean environmental laws have not amounted to much more than legislative recommendations or detailed policy guidelines. Nonetheless, environmental governance has started to improve as more environmental laws are promulgated and amended to include enforcement regulations and to grant environmental state organs greater powers. The DPRK is now applying the Polluter Pays Principle to enterprises and factories.⁵² A pollutant discharge permit system is in place to regulate existing operations at levels prescribed in the national discharge standards.⁵³ Since 2005, environmental impact assessments are required by law for major development projects.⁵⁴

The Cabinet guides the overall execution of environmental protection policy and is responsible for implementing environmental laws by establishing relevant administrative measures. The State Planning Commission reviews and incorporates priority projects for global environmental protection into the comprehensive national social and economic development planning process. In 1994, the National

⁴⁷ Ibid.

⁴⁸ Other relevant laws include the Law on Forestry (1992), Law on Land (1995), Law of Fishery (1995), Law on Water Resources (1997), Law on Prevention of Sea Pollution (1997), Law on Boundary Inspection of Animals and Plants (1998), Law on Conservation of Useful Animals (1998), Law on Fish Culture (1998), Law on Agriculture (1998), Law on Veterinary Inspection (1998), Law on Public Hygiene (1998), Law on Medicinal Herbs (2004), Law on Land Planning (2006), Law on Agricultural Chemicals (2006), and Law on Environment Impact Assessment (2006). English translations available at faolex.fao.org.

⁴⁹ I.S. Kim, n. 14 above, at 392-405.

⁵⁰ Socialist Constitution of the Democratic People's Republic of Korea, Article 57.

⁵¹ P. Hayes, 'Enduring Legacies: Economic Dimensions Of Restoring North Korea's Environment' (1994), available at: nautilus.org/staff-publications/enduring-legacies-economic-dimensions-of-restoring-north-koreas-environment.

⁵² State of the Environment 2003, n. 13 above.

⁵³ Environment and Climate Change Outlook, n. 2 above.

⁵⁴ Environmental Impact Assessment Law of 2005.

Coordinating Committee for Environment was founded to coordinate national activities related to global environmental issues and to serve as a national focal point to environmental conventions and international organizations.⁵⁵ The Committee is a non-standing body, which includes the Ministry of Foreign Affairs, the Ministry of Land and Environment Protection, the Academy of Sciences, the State Planning Commission, the Ministry of Finance, the Ministry of Agriculture, and other relevant parties. The Ministry of Land and Environment Protection provides scientific and policy advice and implements the state's strategies and policies. It precedes the policy-making, monitoring, and controlling activities on the land environment and management, and has responsibilities for the implementation of GEF projects.

3 International Environmental Cooperation of the DPRK

3.1 General Overview

The DPRK claims to have actively cooperated with other states and international organizations on global environmental issues.⁵⁶ Since 1948 when the establishment of the DPRK was formally declared, the DPRK acceded to 43 multilateral environmental agreements (MEAs) and five bilateral environmental agreements (BEAs) (Tables 2 and 3).⁵⁷ Most of these agreements entered into force in the DPRK since the mid-1980s (Figure 1).⁵⁸ From the mid-1990s, international organizations such as the UNEP and the UNDP, in partnership with the DPRK's National Coordinating Committee for Environment, began executing projects that aimed at building the capacity of the government for monitoring the environment and implementing international environmental obligations. For example, in 2004, the DPRK and the UNEP signed a Framework Agreement for Cooperation in Environment, which included a project with the UNDP to improve quantitative environmental assessment and monitoring, utilizing information technology, and integrating national institutions with environmental responsibilities. More recently, the United Nations and the DPRK government signed a strategic framework for

⁵⁵ Environment and Climate Change Outlook, n. 2 above.

⁵⁶ DPR Korea's Second National Communication on Climate Change (Pyongyang, 2012).

⁵⁷ The InforMEA lists 12 MEAs (www.informea.org), the ECOLEX lists 41 MEAs (excluding amendments) and four BEAs (www.ecolex.org), the FAOLEX lists five BEAs (faolex.fao.org), and the IEA Database lists 39 MEAs (excluding amendments) and one BEA (iea.uoregon.edu).

⁵⁸ There are over 700 MEAs in the world. R.B. Mitchell, 'International Environmental Agreements: A Survey of Their Features, Formation, and Effects', 28 *Annual Review of Environment and Resources* (2003), 429–461; R.E. Kim, 'The Emergent Network Structure of the Multilateral Environmental Agreement System', 23 *Global Environmental Change* (2013), 980–991. It should be noted that the absolute number of MEAs and BEAs that the DPRK signed on to cannot be used as an indicator of the extent to which the DPRK has been promoting or engaging in global environmental protection.

cooperation for the period 2011-2015. In 2014, the DPRK participated at the first UN Environment Assembly of the UNEP.⁵⁹

National environmental laws have been amended to reflect the DPRK’s increasing interest in global environmental issues. When the Environmental Protection Law was first adopted in 1986, the state was required to develop exchange and cooperation in science and technology in the field of environmental protection, but only with *friendly* countries. This provision was later modified to broaden the scope of international cooperation to *all* countries, including the United States. Furthermore, the 1986 statute was narrowly focusing on “the environment, including the air, the water, the soil and living things”, but it was later revised in 2005 to include the stratospheric ozone layer and the global climate system.⁶⁰ The terminology of the Convention on Biological Diversity (such as conservation and sustainable use of biodiversity) was also adopted through the 2005 amendment.⁶¹

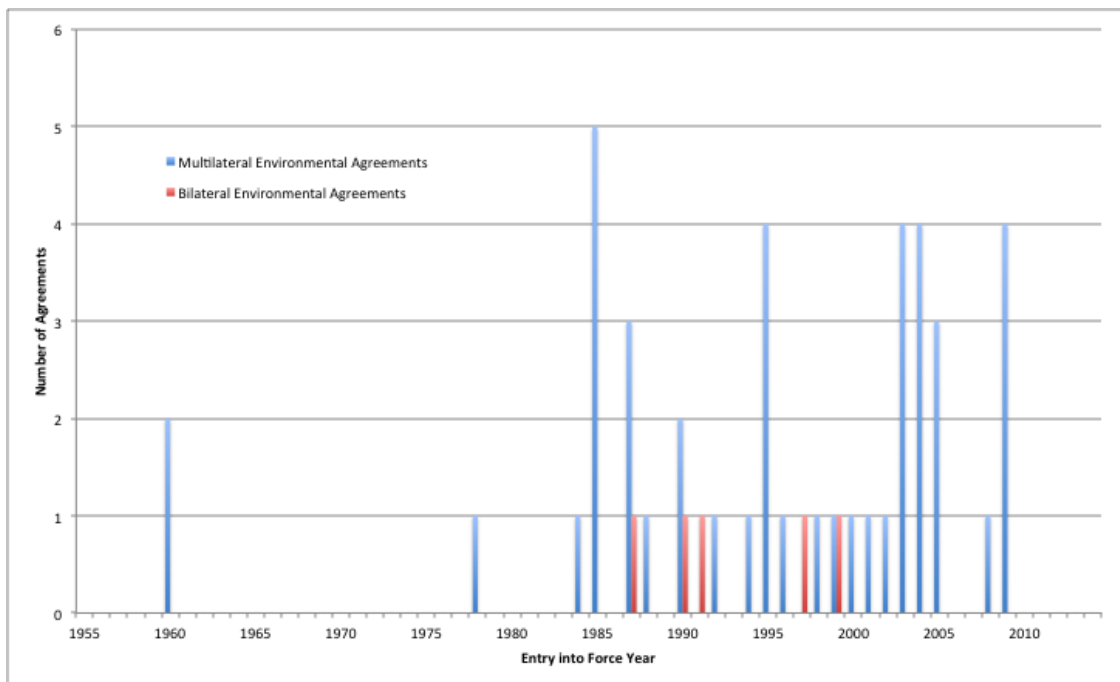


Figure 1. Number of MEAs and BEAs that entered into force in the DPRK each year.

⁵⁹ Proceedings of the United Nations Environment Assembly of the United Nations Environment Programme at its first session, UNEP/EA.1/10, 2 September 2014.

⁶⁰ Law on Environmental Protection, Article 9.

⁶¹ Ibid., Article 16.

Table 1. Environmental projects in the DPRK supported by international organizations.⁶²

Year	Activities	Cooperating organization
1995	Ozone layer protection projects	UNIDO, UNEP
1998	Preparation of biodiversity strategy	UNDP, WWF
1999	Asia Least-Cost GHGs Abatement Strategy	GEF, ESCAP, UNDP
2000	Preparation of first communication under the UNFCCC	UNEP, UNFCCC
2002	Project for biodiversity protection in Mount Myohyang	UNDP, WWF
2003	Capacity-building for the State of Environment report preparation	UNDP, UNEP
2006	National action plan for land degradation/desertification and drought protection (2006-2010)	UNEP
2006	Strengthening environmental monitoring and information technologies towards sustainable decision-making	UNDP, UNEP
2008	National implementation plan for POPs management	UNITAR
2010	PCB management plan	UNITAR

3.2 Multilateral Cooperation

3.2.1 Ozone Depletion

In 1995, the DPRK acceded to both the Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer. The DPRK prepared a Country Program Report in 1997 and set up a National Ozone Unit in 1998.

In order to comply with the ozone agreements, the DPRK ceased production of methyl bromide in 1995, CFC-11, CFC-12 and CFC-113 in 2003, and carbon tetrachloride in 2005. The DPRK implemented a national phase-out project from 2006 to 2010 and successfully eliminated the use of CFCs in the service sector. The DPRK has since focused on freezing the production of HCFCs by 2013 and reducing their consumption by 2015.⁶³

The DPRK government reports that the production and consumption of ozone depleting substances have been effectively controlled, and credits the success to its centrally planned economy.⁶⁴

3.2.2 Climate Change

The United Nations Framework Convention on Climate Change and its Kyoto Protocol entered into force in the DPRK in 1995 and 2005, respectively. The DPRK is a non-Annex I party with no binding obligation to reduce greenhouse gas emissions. In the negotiations, the DPRK forms part of the Group of 77 and China.

⁶² Environment and Climate Change Outlook, n. 2 above, at 14.

⁶³ Ibid.

⁶⁴ Ibid.

The DPRK intends to develop renewable energy resources including solar, hydropower, wind and tidal energy to contribute to its commitment of reducing emissions under the climate treaty. The climate regime offers capacity-building opportunities for the DPRK's energy sector through the Clean Development Mechanism. The DPRK established a Designated National Authority in 2008 to approve the process for Clean Development Mechanism projects. The DPRK currently has six verified projects which consist of developing hydropower installations in partnership with a Czech company called Topič Energo. All six projects were registered in 2012.

The DPRK has identified significant constraints, gaps, and financial and capacity building needs with respect to implementing the climate treaty. The weaknesses include insufficient national policy coordination; ineffective national policy and plan on climate change; inadequate integration of climate change concerns into national laws and policies; and the lack of understanding on climate change among policymakers, decision-makers, and relevant stakeholders.⁶⁵

3.2.3 Hazardous Wastes

The DPRK joined the Stockholm Convention on Persistent Organic Pollutants in 2002 and prepared its first National Implementation Plan in 2008. In the Plan, the government specified a strategy and action plan, institutional framework, education and public awareness activities for the phase-out of toxic agricultural chemicals such as dichlorodiphenyltrichloroethane (DDT), hexachlorobenzene (HCB), and polychlorinated biphenyls (PCBs).⁶⁶

It has been reported by the government that, even in the absence of a regulatory framework for addressing the production and use of persistent organic pollutants (POPs), their production and use has been significantly reduced. The consumer demand for POPs has not decreased due largely to the lack of substitutes. The network for monitoring toxic chemicals has been established, but without sufficient capacity to cope with and fulfill its task.⁶⁷

The government encourages organic farming and promotes research and development of organic fertilizers and pesticides that are less harmful to the environment and human health. National research institutions such as the Academy of Agricultural Science are developing complex microbial fertilizers, Hookbosan fertilizer (an organic fertilizer), and other agricultural chemicals.⁶⁸

⁶⁵ DPRK's First National Communication under the Framework Convention on Climate Change (Pyongyang, 2000).

⁶⁶ National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (Pyongyang, 2008).

⁶⁷ Ibid.

⁶⁸ Environment and Climate Change Outlook, n. 2 above.

The DPRK joined the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade in 2004 and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal in 2008. It was noted in 2012 that the waste import licensing system should be expanded and the legislative and institutional framework strengthened to fulfill the DPRK's commitment to the Basel Convention.⁶⁹ The government has taken nascent steps in addressing waste treatment. However, waste recycling is at a rudimentary stage, with large amounts of household sewage and industrial waste released without proper treatment. In Pyongyang, for example, the discharge of untreated household wastes averages 300,000-350,000 tons per year, exacerbating soil contamination and other environmental pollution.⁷⁰

In 2009, the DPRK launched a Strategic Approach to International Chemicals Management Project with the United Nations Institute for Training and Research with a view to develop a comprehensive assessment of the legal, institutional, administrative, and technical aspects of chemicals management, along with developing a better understanding of the nature and extent of chemical availability and use in the country. This would include a thorough assessment of the existing capacity of different agencies and the creation of a National Chemicals Management Database.⁷¹

3.2.4 Biodiversity Conservation

The Convention on Biological Diversity entered into force in 1995 in the DPRK. The DPRK developed the 1998 National Biodiversity Strategy and Action Plan (with support from the GEF), which aimed to establish the protected area network system and improve its management; to recover ecosystems damaged by natural disasters and implement the biodiversity conservation plan in concert with the land use plan; to increase bio-resources and establish the system for their sustainable use; to reinforce laws and regulations on biodiversity conservation; to intensify the scientific research on biodiversity conservation; and to promote training for experts and government officials on biodiversity.

Through the international cooperation, access to and transfer of advanced technologies, technical and scientific cooperation, expert training and inter-governmental exchange should be promoted in accordance with the requirements of the Articles 16 and 18 of the Convention on Biological Diversity.”⁷² The DPRK plans to further enhance cooperation with other states, international organizations,

⁶⁹ Ibid.

⁷⁰ Strategic Framework for Cooperation between the United Nations and the Government of the DPRK 2011-2015.

⁷¹ Environment and Climate Change Outlook, n. 2 above.

⁷² Fourth National Report of DPR Korea to the Convention on Biological Diversity (Pyongyang, 2012).

and non-governmental organizations in the field of the conservation and sustainable use of biodiversity.⁷³

The General Plan for Land Management under the Land Law is relevant to biodiversity conservation. It aims to increase the size and diversity of protected areas while also preventing the loss of biodiversity in non-protected areas.⁷⁴ At present, about 7.27 percent of the DPRK territory is protected under law.⁷⁵

The DPRK plans to join the Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat. In 1997, the government carried out a general survey of wetlands,⁷⁶ and is currently completing a more detailed investigation in order to meet the requirements of the Ramsar Convention.⁷⁷

3.2.5 Land Degradation

In 2004, the DPRK joined United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD), and prepared a National Action Plan. The Plan has considered and identified priority issues for the international cooperation in combating land degradation. Three overarching objectives were highlighted: (1) to create enabling environment at central governance level and capacity building of local land management; (2) to promote capacity building projects, transfer, demonstration and replication of best technologies and practices, and increase their synergistic effects; and (3) to harmonize the national land combating issues with the implementation of global environmental objectives such as the Millennium Development Goals.⁷⁸

Table 2. List of MEAs entered into force in the DPRK.⁷⁹

Entry into Force	Treaty Year	Agreement Name
1960	1959	Agreement Concerning Cooperation in the Field of Veterinary Science
1960	1959	Agreement Concerning Cooperation in the Quarantine of Plants and Their Protection Against Pests and Diseases
1978	1960	Statutes of the Intergovernmental Oceanographic Commission

⁷³ Third National Report (DPR Korea) (Pyongyang, 2005).

⁷⁴ Environment and Climate Change Outlook, n. 2 above.

⁷⁵ National Biodiversity Strategy and Action Plan of DPR Korea, n. 15 above.

⁷⁶ The coastal wetlands of the DPRK provide a critical link in the seasonal migration of many bird species along the East Asian–Australasian Flyway.

⁷⁷ Environment and Climate Change Outlook, n. 2 above.

⁷⁸ National Action Plan for Land Degradation/Desertification and Drought Protection, 2006-2010 (Pyongyang, 2006).

⁷⁹ MEAs that were signed but not ratified: United Nations Convention on the Law of the Sea signed 1982; Convention on Early Notification of a Nuclear Accident signed 1986; Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency signed 1986; Protocol on Environmental Protection to the Antarctic Treaty signed 1991.

1984	1977	Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques
1985	1972	Convention on the International Regulations for Preventing Collisions at Sea
1985	1978	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers
1985	1978	Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974
1985	1978	Protocol to the International Convention for the Prevention of Pollution From Ships
1985	1988	Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974
1987	1959	Antarctic Treaty
1987	1976	Agreement Establishing the International Fund for Agricultural Development
1987	1985	Agreement for the Establishment of the Intergovernmental Organization for Marketing Information and Technical Advisory Services for Fishery Products in the Asia and Pacific Region
1988	1973	International Convention for the Prevention of Pollution from Ships (MARPOL) - Annex V (Optional): Garbage
1990	1972	International Convention for Safe Containers
1990	1988	Agreement on the Network of Aquaculture Centers in Asia and the Pacific
1992	1978	International Convention for the Prevention of Pollution from Ships, 1973 - Annex III: Hazardous substances carried in packaged form
1994	1994	Instrument for the Establishment of the Restructured Global Environment Facility
1995	1985	Vienna Convention for the Protection of the Ozone Layer
1995	1987	Montreal Protocol on Substances that Deplete the Ozone Layer
1995	1992	Convention on Biological Diversity
1995	1992	United Nations Framework Convention on Climate Change
1996	1956	Plant Protection Agreement for the Asia and Pacific Region
1998	1972	Convention Concerning the Protection of the World Cultural and Natural Heritage
1999	1999	Revised Statutes of the Intergovernmental Oceanographic Commission
2000	1967	Convention on the International Hydrographic Organization
2001	1974	International Convention for the Safety of Life at Sea
2002	1977	Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure
2003	1951	International Plant Protection Convention
2003	1978	International Convention for the Prevention of Pollution from Ships - Annex IV: Sewage
2003	1979	International Plant Protection Convention (1979 Revised Text)
2003	2000	Cartagena Protocol on Biosafety to the Convention on Biological Diversity
2004	1994	Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
2004	1998	Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
2004	2001	International Treaty on Plant Genetic Resources for Food and Agriculture
2004	2001	Stockholm Convention on Persistent Organic Pollutants
2005	1997	International Plant Protection Convention (1997 Revised Text)
2005	1997	Kyoto Protocol to the United Nations Framework Convention on Climate Change
2005	2003	World Health Organization Framework Convention on Tobacco Control
2008	1989	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
2009	1973	Agreement for the Establishment of a Regional Animal Production and

		Health Commission for Asia and the Pacific
2009	1975	Convention on Registration of Objects Launched into Outer Space
2009	2001	International Convention on Civil Liability for Bunker Oil Pollution Damage
2009	2001	International Convention on the Control of Harmful Anti-Fouling Systems on Ships

3.3 Regional Cooperation

The DPRK cooperates on a number of issues in Northeast Asia with five neighboring countries, China, Japan, Mongolia, the Republic of Korea, and the Russian Federation. The DPRK is a founding member of the North-East Asian Subregional Programme for Environmental Cooperation, which was established in 1993 as a follow-up to the 1992 United Nations Conference on Environment and Development. The DPRK is a member of the East Asian Biosphere Reserve Network established in 1995, which supports the Man and the Biosphere Programme of the United Nations Educational, Scientific and Cultural Organization. The DPRK is a member of the North East Asian Crane Site Network, which was established in 1997 based on the Asia-Pacific Migratory Waterbird Protection Strategy.

The DPRK is also participating in the Tumen River Area Development Programme since 1995, which is a regional economic program facilitated by the UNDP, signed between China, the Russian Federation, the DPRK, the ROK, and Mongolia.⁸⁰ The DPRK has contributed to regional efforts to address this transboundary environmental issue including participating in ministerial meetings in Beijing in 2000 on the control on dust and sand storms in Northeast Asia.⁸¹

The DPRK is an observer in the Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region.

3.4 Bilateral Cooperation

3.4.1 Russian Federation

Four of five BEAs that the DPRK signed are with the Russian Federation. Three of them concern cooperation on the protection of agricultural, forest, and fishery resources, and one was on the issue of delimitation of boundaries with Russia, which included a provision stating that “[t]he economic activities of one Contracting Party

⁸⁰ S. Nam, ‘Ecosystem Governance in a Cross-border Area: Building a Tuman River Transboundary Biosphere Reserve’, 7 *China Environment Series* (2005), 83–88.

⁸¹ Environment and Climate Change Outlook, n. 2 above.

must not have a harmful effect on the other Party's environment".⁸² The DPRK has also cooperated with the Russian Federation on the conservation of Amur tigers, albeit no BEA was signed.

3.4.2 China

A key issue area of bilateral environmental cooperation with China has been the conservation of Mount Baekdu (or Paektu or Changbai). The Changbaishan Biosphere Reserves on the Chinese side was designated in 1979, and the Baekdusan Biosphere Reserve of the DPRK was established in 1989. However, recent reports indicate that the reserve on the DPRK side has been badly degraded.⁸³ It is estimated that 50 percent of the total primary forest area within the Baekdusan Biosphere Reserve and 75 percent of primary forest landscape in the core area of the reserve had been logged by 2007.⁸⁴ Tang et al. suggest that "staff and personnel of various government conservation agencies did not have the required capacity and vision to implement international protocols and treaties".⁸⁵

3.4.3 Republic of Korea

No BEA has been concluded between the DPRK and the ROK. However, the June 15th North–South Joint Declaration of 2000 proclaims that "[t]he South and the North have agreed to consolidate mutual trust by promoting balanced development of the national economy through economic cooperation and by stimulating cooperation and exchanges in civic, cultural, sports, health, environmental and all other fields".⁸⁶ Later, this Declaration was upheld by the Peace Declaration of the 2007 Inter-Korean Summit.

In 2004, a council for environmental cooperation between the two Koreas was formed, and in 2007, the UNEP and the ROK signed an agreement to establish a trust fund for tackling forest depletion, air pollution, water pollution, land degradation, and biodiversity loss in the DRPK. The ROK made an initial contribution of 4.4 million US dollars drawn from the Ministry of Environment's budget and the Ministry of Unification's South-North Cooperation Fund. The trust fund was the first venture of its kind on environmental cooperation between the two

⁸² Agreement between the Government of the Union of Soviet Socialist Republics and the Government of the Democratic People's Republic of Korea Concerning the Regime of the Soviet-Korean State Frontier of 1990, Article 24(2)

⁸³ H.R. Na, 'Nationalism as a Factor for an International Environmental Regime: Korea and the East Asian Biosphere Reserve Network (EABRN)', 6 *East Asian Science, Technology and Society* (2012), 83–99; L. Tang et al., 'Forest Degradation Deepens around and within Protected Areas in East Asia', 143 *Biological Conservation* (2010), 1295–1298.

⁸⁴ Tang et al., *ibid.*

⁸⁵ Tang et al., *ibid.*, at 1298.

⁸⁶ North–South Joint Declaration of 2000, Article 4.

Koreas. However, the fund soon became obsolete when the conservative South Korean President Lee Myung-bak took office in 2008. The Inter-Korean Health, Medical and Environment Protection and Cooperation Committee, which was established in 2007 under the progressive Roh Moo-hyun government, was likewise abolished by Lee soon after its inaugural meeting.

There is some degree of bilateral cooperation involving non-state actors.⁸⁷ For example, the Korean Federation for Environmental Movement (a South Korean NGO) and the Environmental Protection Agency of the DPRK signed an agreement on inter-Korean environmental cooperation in 2002.⁸⁸ In 2013, the Green Asia Organization was established in the form of a public-private partnership by 46 individuals from various organizations in the two Koreas, including the Climate Change Center, the Forest for Peace, the Seoul Metropolitan Government, Korea University, and Pyongyang University of Science and Technology.

Table 3. List of BEAs that the DPRK signed.

Year	Agreement Name
1987	Agreement on cooperation in the field of plant protection and plant quarantine between Hungary and the Popular Democratic Republic of Korea
1990	Agreement between the Government of the Union of Soviet Socialist republics and the Government of the Democratic People's Republic of Korea concerning the regime of the Soviet-Korean State frontier of 1990
1997	Agreement between the Russian Federation and Democratic People's Republic of Korea on cooperation in the sphere of quarantine and plant protection
1999	Agreement between the Government of the Russian Federation and the Government of Democratic People's Republic of Korea on cooperation in the sphere of forestry
2012	Agreement between the Government of the Russian Federation and the Government of Democratic People's Republic of Korea on cooperation in the sphere of prevention, stopping and liquidation of illegal, unreported and unregulated fisheries and catch of live aquatic marine resources

4 Discussions

4.1 Why Has the DPRK Cooperated on Certain International Environmental Issues?

Carefully nurtured cooperative relationships have developed over the past two decades between the DPRK government, neighboring countries, international organizations, and NGOs.⁸⁹ Why has the DPRK cooperated, to the extent it has, on a number of international environmental issues? Any sensible answer to this question

⁸⁷ K.H. Moon and D.K. Park, 'The Role and Activities of NGOs in Reforestation in the Northeast Asian Region', 201 *Forest Ecology and Management* (2004), 75–81.

⁸⁸ Organisation for Economic Co-operation and Development, *OECD Environmental Performance Reviews: Korea* (Paris, 2006)

⁸⁹ Habib, n. 3 above.

will require more in-depth study involving fieldwork. However, this report offers some preliminary insights into possible contributing factors by observing which agreements the DPRK has signed on to, which projects it has implemented, and how.

First, the genuine concern over own natural resource management, which is directly related to agricultural productivity, seems to have driven the DPRK to cooperate environmentally with the international community. The DPRK suffered heavily from floods and droughts in the 1990s, the impact of which, as the leadership acknowledged, was exacerbated by inadequate natural resource management practices. Therefore, the DPRK's core state survival interests might have favored cooperation with certain international institutions such as the climate regime, which aims to mitigate the causes of such climatic disasters and assist developing countries to adapt to such natural hazards.⁹⁰

Second, the desire to benefit from technical and financial support, which some international environmental regimes provide to developing countries, could have been a factor. The DPRK seems to have been most active in those MEAs that offer such support. For example, the climate regime contains a number of compelling possibilities for the DPRK, particularly through the Clean Development Mechanism, including opportunities for foreign direct investment and technology transfer to upgrade the North Korean energy sector. The GEF funded the development of, for example, the first National Biodiversity Strategy and Action Plan (1998) and the National Communication with the United Nations Framework Convention on Climate Change (2000). Between 1991 and 2012, the GEF provided over six million US dollars in financial support for implementation of the climate treaty.

Third, the DPRK seems to have used environmental issues as channels of cooperative engagement with other countries and international organizations. The DPRK leadership has managed to keep many of these ecological issues as technical and apolitical. For example, the DPRK has kept them nuclear and environmental issues separate and accepted external assistance even at the height of international tensions due to the nuclear tests.⁹¹

4.2 How Can the DPRK's Environmental Performance Be Improved?

4.2.1 Challenges

What are the hindering factors for more effective implementation of international environmental obligations? One needs to identify constraints in order to enhance the DPRK's international environmental cooperation.

⁹⁰ Ibid.

⁹¹ Hayes, n. 51 above.

First, the anthropocentric focus on protecting the environment to the extent that workers have favorable working conditions may have resulted in cherry-picking of certain international environmental obligations. For example, it is conceivable that the DPRK “may find it difficult to employ the concept of natural biodiversity, or the need to preserve it”.⁹² This is because biodiversity is often misunderstood as lacking instrumental values. The relatively small number of biodiversity-related MEAs that the DPRK has so far acceded to may support this view.

Second, the DPRK lacks in technical capacity. The weak technical capacity is widely noted by international organizations. Key aims of the Strategic Framework for Cooperation between the United Nations and the DPRK (2011-2015) were indeed to improve national capacities in environmental protection and management of wastes and pollutants; to improve national capacities in disaster management and strategies for adaptation and mitigation to climate change; and improve local and community management of natural resources. The DPRK’s national reporting documents to the Rio Conventions strongly emphasize capacity-building to address the weaknesses. Environmental monitoring systems are insufficient. The DPRK reported that “data available for air pollution assessment are very limited, while most studies relating to air pollution have been confined to Pyongyang”.⁹³ Furthermore, the existing water quality monitoring program is limited and is unable to provide accurate information on the quality of water in different systems across the country.⁹⁴

Third, the DPRK lacks in financial capacity. With respect to implementing the Stockholm Convention, for example, the international resources have been identified in technical and financial cooperation with related international organizations and NGOs, and bilateral cooperation between nations. For the period of 2009-2025, the financial resources requirements for incremental costs have been estimated at 119.1 million US dollars.⁹⁵ The DPRK acknowledges that “sufficient funds for biodiversity conservation have not been provided, due to severe difficulties including the maintenance of balance between demand and supply of food and the food safety”.⁹⁶ The DPRK reported that “it is necessary to increase the Government concern and fund”,⁹⁷ but at the same time, the “international organizations would have to increase the international technical and financial assistance to promote [environmental] projects in developing countries”. More specifically, the DPRK

⁹² Ibid.

⁹³ State of the Environment 2003, n. 13 above.

⁹⁴ Environment and Climate Change Outlook, n. 2 above.

⁹⁵ The Democratic People’s Republic of Korea: National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (Pyongyang, 2008).

⁹⁶ Second National Report of DPR Korea (Pyongyang, 2005).

⁹⁷ National Biodiversity Strategy and Action Plan of the Democratic People’s Republic of Korea, n. 23 above.

argues that “the technical and financial support from the international organizations including GEF should be expanded”.⁹⁸

The need for more funds leads to the fourth obstacle, the DPRK’s nuclear program. In the mid 1990s, international organizations began implementing environmental projects in the DPRK (Table 3). However, a series of nuclear and missile tests since 2006 have made the donors reluctant to help the DPRK regime and therefore only few basic humanitarian aid projects are currently operational. For example, the Strategic Framework for Cooperation between the United Nations and the Government of the DPRK 2011-2015 has not been adequately implemented because of the lack of financial assistance from donors.

4.2.2 Opportunities

Future efforts on inter-Korean environmental cooperation should consider targeting the following two areas. First, ecosystems within the demilitarized zone or DMZ should be protected as, for example, a UNESCO transboundary biosphere reserve. One has to bear in mind though that the idea of transforming the DMZ into a peace park has not appealed to the DPRK leadership.⁹⁹ There might be at least two reasons at play here. The peace park would logically require an official end to the Korean War, which could in turn consolidate and perpetuate the two-state system.¹⁰⁰ The DPRK does not want this. Furthermore, the DPRK leadership may have been repelled by the proposal simply because it came from the current conservative government of the South, which sides with the United States in its policy approach toward the North.

Second, the conservation of Mount Baekdu and the Baekdudaegan should be promoted through a formal agreement between the two Koreas. The Baekdudaegan is a series of forested mountain ranges that runs through most of the length of the Korean Peninsula, from Mount Baekdu in the north to Mount Jiri in the south. This mountain system has an important place in the spirit of the Korean people, and in traditional *pungsujiri* (the Korean version of *feng shui* or geomancy) philosophy and practices. Furthermore, considering that “inter-Korean collaboration for natural resources [stem] from unification nationalism”,¹⁰¹ the Baekdudaegan is a strategic choice that would appeal to the people of both Koreas. The ROK National Assembly passed the Baekdudaegan Protection Act in 2003 to create of a landscape-scale

⁹⁸ Second National Report of DPR Korea, n. 96 above; National Biodiversity Strategy and Action Plan of DPR Korea, n. 15 above.

⁹⁹ L.M. Brady, ‘Life in the DMZ: Turning a Diplomatic Failure into an Environmental Success’, 32 *Diplomatic History* (2008), 585–611; A.H. Westing, ‘Towards Environmental Sustainability and Reduced Tensions on the Korean Peninsula’, 52 *Environment: Science and Policy for Sustainable Development* (2010), 20–23.

¹⁰⁰ Na, n. 83 above.

¹⁰¹ Ibid.

ecological corridor along the entire length of the mountain system in the South.¹⁰² The DPRK could follow the ROK's approach and consider extending the ecological corridor all the way to Mount Baekdu.

5 Conclusion

This report has made a preliminary attempt at examining which international environmental obligations the DPRK committed to, how it implemented them, and why. Although the preliminary findings of this report will need to be further scrutinized with more data, a number of conclusions can be drawn from the exercise.

The DPRK has been increasing its effort to participate in global environmental affairs. Since the 1980s, it has acceded to a number of international environmental agreements and cooperated with other countries and international organizations in the field of environmental protection. National laws were amended to reflect on the international community's increasing concern over global environmental change. However, there is a general lack of reliable data or environmental monitoring systems that can produce such data. Furthermore, the quality of implementation measures undertaken remains unclear.

For decades, the DPRK has expressed its genuine desire for sustainable management of its natural resources (especially the land) for agricultural self-sufficiency. However, one can only speculate, in the absence of empirical data, the reasons as to why the DPRK has begun to cooperate internationally, to the extent it has, on select environmental issue areas. Understanding the why question from the perspective of the DPRK leadership is an essential requirement for those countries and international organizations willing to engage with the country on the environmental front.

Environmental issues, being relatively neutral medium for dialogue, present some constructive opportunities for building trust between the DPRK and the rest of the world.¹⁰³ However, it seems from the analysis that there is a dilemma in promoting environmental protection in the DPRK for the purpose of establishing international peace and security. Environmental protection in developing countries like the DPRK requires assistance from the developed world, which is however reluctant to provide aid unless the DPRK gives up its nuclear program first. Although divergent political interests may converge around the universal value of sustainable development, peace and security may be prerequisites for sustainability in certain geopolitical contexts.

¹⁰² R.E. Kim, *Legal Brief on the Baekdudaegan Protection Act, 2003* (International Development Law Organization, 2015).

¹⁰³ Habib, n. 3 above.