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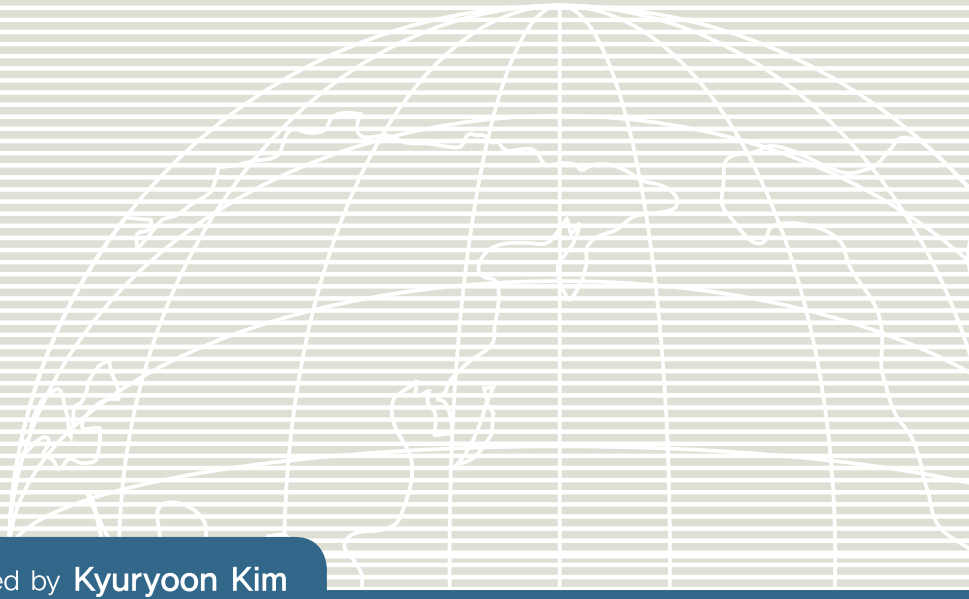

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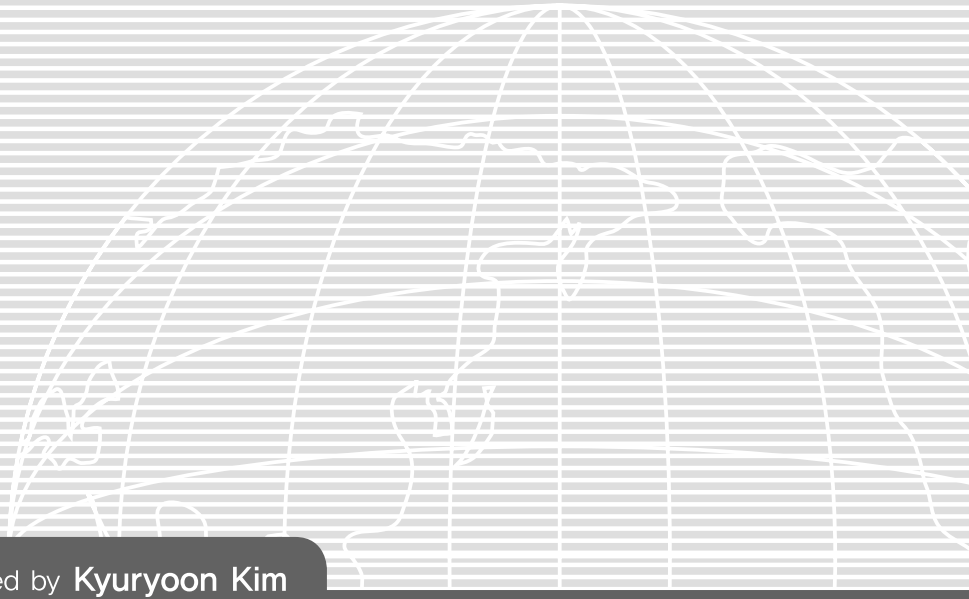

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Korea Institute for National Unification (KINU)

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New Linkages of Northeast Asian Regional Cooperation

The Analyses, comments and other opinions contained in the monograph are those of the authors and do not necessarily represent the views of the Korea Institute for National Unification.

CONTENTS

New Linkages of Northeast Asian Regional Cooperation

CONTENTS OF TABLES

CONTENTS OF FIGURES

Preface

Since the advent of the European Union, state efforts to institutionalize cooperation at the regional level have increased worldwide. As economic interdependence deepens and the necessity for regional integration is raised, during the process of globalization, vigorous discussion on economic cooperation is underway now more than any other time. This global stream, also known as 'new regionalism,' is not the exception in Northeast Asia, which is formed around South Korea, China, Japan, and Russia.

Unlike past times, intra-regional trade and investment in the Northeast Asia region is rapidly increasing on the basis of dynamic economic growth, and consequently, interdependence is deepening day after day. Despite the absence of an institutional consultative body in Northeast Asia, the excellent complementary character and competitiveness of the economic sector and the intimate trade structure are essential factors that promote regional cooperation. Moreover, the geopolitical advantage of geographical closeness and the sharing of historical traditions and the Asian identity shed more light on the possibility of Northeast Asian regional cooperation.

These positive factors are producing various arguments in favor of Northeast Asian regional cooperation, and are arousing

expectations on regional cooperation. But despite many discussions and arguments, concrete institutional outcomes for economic or security cooperation are insignificant in Northeast Asia. It is because of the existence of diverse political ideologies and social political systems, historical problems, confrontations between regional powers Japan and China, and the global strategy of the U.S., the world's sole hegemonic state, in Northeast Asia are making it hard to find a point of contact of regional cooperation. That sympathy towards its need is sufficient but the strategy to push it forward is insufficient in the current state of Northeast Asian regional cooperation.

In recognition of this problem, "New Linkages of Northeast Asian Regional Cooperation" is an attempt to provide 'a new composition' that can promote regional cooperation in Northeast Asia. The Korea Institute for National Unification (KINU) noted that rather than depending only on the role of the state, enlarging the voluntary role of the private sector is needed to promote Northeast Asian regional cooperation. To share this understanding, joint research has been preceded with scholars from South Korea, China, Japan, and Russia, the leading states of Northeast Asian regional cooperation. The 'more flexible regional cooperation'

asserted in "New Linkages of Northeast Asian Regional Cooperation" is the result of this joint research.

The reason KINU is paying attention to Northeast Asian regional cooperation is, in fact, not Northeast Asian regional cooperation itself, but rather the expectations that this will generate, plus the positive effects it will have on inter-Korean cooperation. If Northeast Asian regional cooperation is accelerated, it can bring changes to inter-Korean relations that have been thought of as 'the missing link' of Northeast Asian regional cooperation. It will also provide an opportunity to give momentum to inter-Korea cooperation. By all means, I hope the outcome of this research becomes a base to Northeast regional cooperation as well as the development of inter-Korean cooperation.

Last but not least, I am deeply grateful to the researchers of KINU, whose best efforts ensured that this book would be produced for the scholars from South Korea, China, Japan, and Russia.

Bong-Jo Rhee
President
Korea Institute for National Unification

I

The New Composition of Northeast Asian Regional Cooperation

Kyuryoon Kim
(Korea Institute for National Unification, KINU)

1. Introduction

Since the second World War, nations of the world have put their efforts into developing and maintaining peaceful relationships with neighboring states. This effort, on the one hand, develops bilateral relations between states, and has been leaded by many frontiers that tried to form constructive and cooperative multilateral relations. Consequently, although almost all international relations depend on bilateral relations, it is also true that they are managed by worldwide international and multilateral organizations including the UN. We call this worldwide expansion of multilateral regionalism the 'new regionalism,'[1] and especially it is East Asia, in particular Northeast Asia - essentially South Korea, China, and Japan - that has been paid attention by the new regionalism since the mid-1990s.

In fact, multilateral efforts to accelerate regional cooperation started in Europe, and as a result the integration of Europe is in its final phase. After the second World War, Europe took to the heart the hopes of European states they had to possess independent influence and the necessity of improvement in economic capabilities to accomplish all that was at hand amongst the encouragement of the U.S., defense against Soviet threat, and the rising bipolar system. That is, under the bipolar system centered upon the U.S. and the Soviet Union, they sympathized with each other that with the powers of individual European states, it is hard to display relevant influence at the world stage as it did in the past. During

[1] – About the 'new regionalism,' refer to Hettne, B., Inotai, A., and Sunkel, O. (eds.), *Globalization and the New Regionalism* (Basingstoke: Macmillian, 1999); Shaun Breslin, "Theorising East Asian regionalism(s): New regionalism and Asia's Future(s)," Melissa G. Curley and Nicholas Thomas (eds.), *Advancing East Asian Regionalism* (London and New York: Routledge), pp. 26-51.

the initial phase of the European Union the area of cooperation was limited to specific economic areas such as coal and steel, the cooperative body of Europe continuously expanded its territory to new and various tasks afterwards. At the end of the 20th century, the responsibility of EU expanded to currency policy, military defense, and protection of human rights, which are thought to be the essence of state sovereignty, and after the demolition of the Iron Curtain, European integration that was limited to Western Europe has now indeed appeared as a European community with pan-European character.

Efforts to seek regional cooperation have also been ongoing continuously in other regions as well. On a global level, on the basis of 1995 when the WTO was launched, almost all member states have joined at least one agreement associated with regional trade and economy.[2] From the development of the EU down, regional cooperative bodies are in its boom worldwide. The form of cooperation isn't limited to international organizations taking global form as small scale regionalism between neighboring states is on the rise, and rather than aiming economic associations or security associations with unitary purpose, institutions that search various common interests of regional states are increasing in number.

In Asia, Southeast Asian states attempted multilateral cooperation earlier than other Asia sub-regions by establishing ASEAN. On the contrary, in the Northeast Asia region, discussions about regionalism after the end of the Cold War arose arisen. It is because the interdependence between Northeast Asian regional states has increased as the Russian federation, a former socialist state, has

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[2] – Kyuryoon Kim, "Promoting flexible regional cooperation through diverse communication channels," *Unified Korea* (August 2006), p. 88 (in Korean).

accelerated its incorporation to the market economy system, and China has succeeded in reforming and opening its economy, while North Korea, though limited in scope, has shown signs of opening its economy. Accordingly individual Asian states are trying to accelerate their foreign sectors, particularly exports, to develop their economy. As their interdependence increases, Northeast Asian states are coordinating economic cooperation issues between states through bilateral consulting channels, thus showing great interest in forming a multilateral conference body to effectively manage the skyrocketing degree of interdependence.[3] Thanks to this economic interdependence, individual Asian states after the Cold War have sympathized to the need of coordinating economic problems as well as the necessity of multilateral cooperation on the security side, continuing their efforts on this matter.

In the case of South Korea, not only in the security and economic sides, but also to improve inter-Korean relationships, regional cooperation in Northeast Asia holds important meaning. It is so because regional multilateral cooperation can have affirmative affects on the development of inter-Korean cooperation as it not only works as a damper or a complementary mechanism to inter-Korean bilateral cooperation, but also can use compressing mechanisms through North Korea's traditional allies, China and Russia. On the other hand, as North Korea is viewed as a 'missing link' of Northeast Asian regional cooperation, the improvement of relations between the South and North will raise the driving force of regional cooperation.

Despite the sympathy developed, a formal regional organiza-

3 – Kyuryoon Kim, "Trends in the development of Asian regional cooperation and the Policy direction of South Korea," *KINU Policy Study series* (Seoul: Korea Institute for National Unification, 2006), p. 2 (in Korean).

tion aiming at only regional states is missing in Northeast Asia. After the Cold War, the existence of various political ideologies and social-political systems, historical issues, conflict between regional powers Japan and China, and the global strategy of the U.S., the world's only hegemonic power, makes it difficult for regional cooperation to find a point of contact.

Therefore in this paper, I would like to discuss a 'new composition' that can promote regional cooperation in Northeast Asia. First, I will examine the development of the theory of regionalism, especially the relationship between economic and security cooperation. And then, I will move on the promoting factors as well as the hindering factors to Northeast Asian regional cooperation, and based on the analysis, I would like to explain the 'new cooperation' to deepen interdependence in Northeast Asia.

2. The Development of Regionalism Theory: The Relationship between Economic and Security Cooperation

Regionalism theory is a European product that developed as the European integration process started in Western Europe attracted the academic interest of researchers. Observing the incremental integration process of Europe, theorists of regionalism predicted that integration at the lower sphere would stimulate integration at the higher sphere and ultimately form a new mechanism that ensures peace and order in Europe. Based on this thought, functionalist theory saw that increased interchange; cooperation and communication between states in non-political areas such as economic and social areas would deepen interdependence between states. In the end, they thought this expansion of interde-

pendence would secure international peace. Also, they argued that more active interchange in non-political areas, as in functionalism, would ultimately bring forth interest moving to the political area and the integration sphere, which unifies political and non-political fields, would expand. David Mitrany saw that as the national welfare issue is becoming an important political problem in the modern social welfare society, technical cooperation or interdependent relationship between states to realize this matter will derive common benefit, and the first non-political technical common benefit will set off spillover effects and thus ultimately aim at political integration.[4]

Neo-functionalism, on the other hand, aimed at supra-national decision-making systems, recognized ultimately the process of searching the unification of political systems as integration. In particular, neo-functionalist integrations theorists have suggested an optimistic prospect that a political community will be formed through the progressive role of supra-national organizations. But as the process of European integration paralyzed after the late 1960s, integration theory receded from academic interest until the EU provided the opportunity of supra-national integration by adopting the Single European Act in 1986.[5] Afterwards, as Keohane and Nye understood integration issues within interdependent relations, research related to integrations was advanced from the interdependent viewpoint rather than the integration theory view. But as the discussion on European integration vitalized after the mid-1980s, academic interest on regionalism began to be recon-

4 – David Mitrany, *A Working Peace System* (Chicago: Quadrange Books, 1943), p. 38.

5 – Haas, who provided the neo-functionalist integration theory, came to admit the limits of regional integration theory. Ernst B. Haas, *The Obsolescence of Integration Theory* (CA: University of California, Berkeley, 1975), p. 1.

figured. However the major issues of integration are less towards about high politics areas, such as security and national survival, but rather about low politics areas such as wealth and increase of welfare. That is, how to manage inter-state relations among regional states and put together the integration process with economic growth in a world of expanding and deepening economic interdependence has been raised as a major concern.[6]

Unlike this liberal viewpoint, the realist view of international peace doesn't appear as a 'foreseeable' phenomena which is increased in proportion to the increase in inter-state trade and the deepening of interdependence, but emphasizes that the history of international peace has a certain property in which the forces of peace can be maximized or modified at a node where the power of states are in balance. The possibility of regional cooperation set off by factors like economic cooperation can't be denied in itself, but it only functions as a partial factor that makes international peace.

On the international relations side, the discussion on linkage between economic and security cooperation is related to the question when seeking inter-state cooperation or regional integration, how economy and security mutually effect each other. This question has been discussed over the criticism against the functionalist argument that cooperation in the non-political area will develop into cooperation in the security area, and the controversy over the liberalist argument that the deepening of economic interdependence among regional states contributes to regional peace by reducing intra-regional conflict,[7] but each discussion is still running above parallel lines as ever. In particular, regarding the cir-

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[6] – Jong-chul Park *et. al.*, *The linking of Northeast Asian economic-security cooperation: Emphasis on the forming of cooperative bodies around the 4 major areas* (Seoul: Korea Institute for National Unification, 2006), pp. 12-14 (in Korean).

[7] – *Ibid.*, p. 28 (in Korean).

cumstances Northeast Asia is facing, where major powers are concentrated in the region and conflicting factors continue to exist among regional states despite the increasing interdependence in the region, any specific argument among the diverse discussions about the link between economic and security cooperation can be judged proper. Consequently, examining cases that come under the three approaches, economic preference, security preference, and economic-security simultaneous promoting strategy, is needed.

First of all, APEC can be a case that is advancing cooperation while putting emphasis on the economic side. APEC started as an economic association for trade and investment liberation in the Asia-Pacific region, but has begun to discuss security related issues as a cooperation agenda after the 9/11 terrorist attack. APEC is a case where cooperation in security issues occurred by a particular event when cooperation in economic issues have not seen practical progress yet. Thus it doesn't show the functionalist pattern, which thinks progress in economic cooperation leads to the development of security cooperation. The link between economic and security cooperation in APEC has been made through the logical conversion that regional security cooperation is needed not as an independent issue but for vitalizing economic cooperation.

Unlike APEC, ASEAN is a regional cooperative body, which came to existence as need for a regional association to counter regional security threats were on the rise. In the midst of the formation of the Cold War system internationally after the second World War, the Chinese communization in 1949, followed by the outbreak of the Korean War in 1950, and the security threat by the communization of the Indochina peninsula mounted, and even more, as the intra-regional dispute and discord around territorial and racial issues increased, common awareness has been formed between Southeast Asian states that intra-regional dispute and dis-

cord is exhaustive and self-destructing.[8] The start of ASEAN came with a strong inherent security characteristic trying to secure safety within the region. But after the Cold War, as security threats were incrementally countered in Southeast Asia, there came the problem of economic development and prosperity. Southeast Asian states that united for security cooperation expanded economic cooperation around ASEAN, and the strengthening economic cooperation of ASEAN naturally promoted the expansion of security cooperation. The ASEAN Regional Forum (ARF), which has been regularized since 1994, and the discussion of security cooperation in ASEAN, such as the adoption of Southeast Asian Nuclear Free Zone Treaty (1995) as well as the Anti-terror Declaration (2001), was made on the basis of such economic cooperation, and is recently expanding and developing towards debate over establishing a multilateral peace-keeping force.

Finally, the case that the linkage of economy and security are considered on the basis of simultaneous promotion of both is the so-called bible of regional association, the integration process of the European Union (EU). The EU after the second World War, has promoted both sides at the same time on the basis of their cognition of the correlation between economic and security cooperation. Europe followed security and economic cooperation in two ways, namely, while promoting regional security that prevents conflict between members through economic cooperation, which at the same time progressively searched for external security that contains external states militarily by alliance with the U.S. The linkage of economic and security cooperation came to pursue consistency

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[8] –Sheldon W. Simon, "ASEAN Security in the 1990s," *Asian Survey*, Vol. 29, No. 6 (1989), p. 581; Michael Antolik, *ASEAN and the Diplomacy of Accommodation* (New York: M. E. Sharpe Inc., 1990), p. 156.

within a single institutional framework, as the outcome of economic cooperation became bigger and the relationship with external allies changed in security cooperation as they entered the 1990s, and as a result enabled the creation of the EU through the Maastricht Treaty (Treaty of the European Union) in 1991. The link between economic and security cooperation in Europe is usually pushed forward in ways that consider security within the economic cooperation framework. The regulation on exporting strategic resources and technology in the trade area is a practical case where the economic cooperation area came to possess a sense of security, and the case such as the satellite development project shows that the increase in economic cooperation promotes expansion of cooperation into various industrial fields and naturally expands its range to an area which has security implications.

As we have observed above, it is hard to find any case regarding the link between economic and security cooperation that exactly fits to one of the theories among functionalist, neo-functionalist, realist, or liberalist theory. Depending on the internal and external circumstances that affect each regional organization, diverse approaches appear. But it is worth noting that all three cases above show cooperation in non-political areas such as economic cooperation have a tendency toward strengthening security cooperation. Northeast Asia is a region where security threats within the region are seldom reduced as new security threats such as the posture review of American forces stationed abroad, the deepening of nationalism in China and Japan, and the North Korean nuclear crisis have recently appeared, besides the traditional conflicting factors like the diversity of political ideology and historical issues. Especially the presence of two regional powers, Japan and China, is an impending factor when seeking security cooperation in Northeast Asia. Because security issues have a possibility of dis-

sent strongly expressed in regards to the sensitivity of national sovereignty, the asymmetry of state power, policy implementation measures, and setting relations with external actors, in case of promoting the link between economic and security cooperation, would be better to use an incremental approach that chooses to cooperate in security issues with less sensitivity rather than using an economic cooperation framework.

3. Promoting and Hindering Factors of Northeast Asian Regional Cooperation

A regional organization consisting of only regional states is not yet present in Northeast Asia, but it doesn't mean movements toward regional cooperation is absent from the region. Even in East Asia, including Northeast Asia, developments of regionalism have started to appear since the mid-1990s, and the Northeast Asian regional states are also actively participating in East Asian regional organization. The rise of regionalism in the regions international politics is being materialized by regional economic cooperation such as the APEC and ASEAN+3 Summit, and establishment of various regional Free Trade Areas (FTAs) in economic terms, and discussions like the establishment of the Asian Monetary Fund are occasionally asserted. On the security side, it is materialized through the development of security cooperation and dialogue conferences such as the ARF at the government-level, the Northeast Asia Cooperation Dialogue (NEACD) and the Council for Security Cooperation in Asia-Pacific (CSCAP) at the non-governmental level.

As regionalism enters East Asia, it is the effect of the economic growth of regional states as well as the large increase in impor-

tance and influence of the East Asia region itself in the post-Cold War era that made the regionalism debate unfold actively between Northeast Asia regional states. South Korea, China, and Japan, the major states of Northeast Asia, are already taking much weight in the world economy, and the importance of Far Eastern Russia is also highlighted as a major energy producing state of oil and natural gas. Therefore, if these states form one large market through regional cooperation, it will have tremendous effect in terms of raising economic efficiency or increasing bargaining power on the international stage.

Especially, most of the factors needed for economic activity such as resources, technology, capital and markets of Northeast Asian states have strong supplementary character and competence. Japan possesses capital and high technology, South Korea can provide capital and the experience of development, and China has cheap labor and abundant natural resources. Also Russia is a treasure house of energy resources closest in geographical terms to South Korea, China, and Japan, which are all energy net-importing states. Consequently, economic cooperation between Northeast Asian states can have stronger synergy effects than any other region. The mutual supplementary economic relationship will serve as a strong mechanism that promotes regional cooperation between regional states.

Second, trade and investment between regional states that have been rapidly expanded and deepened despite the absence of an institutional and political conference body is also promoting Northeast Asian regional cooperation. In 2004, China became our largest trading partner, and Japan was ranked in 3rd place after the U.S. To Japan, China is second to the U.S., and South Korea is the 3rd trading partner. To China, Japan is second to the U.S. and South Korea is ranked in 4th place after Hong Kong.[9] This tight

trading structure requires the need of economic integration and regional cooperation. In particular the need for regional states to respond together to the imbalance of trade between advanced states and underdeveloped states and environmental problems as well as illegal immigration resulting from increasing economic mutual influence has been raised. To solve this problem it not only needs setting laws and a system but also it is urgent to provide a place for the exchange of opinions.

The third promoting factor is the benefit of geographical closeness. Northeast Asia has all the states within the adjacent area where one economic sphere can be formed geographically, so it is suitable to push forward regional cooperation. The mutual influence between geographically divided economic actors has become easier because of the development of science civilization, but still geographical closeness is one of the most important variables that promote regional cooperation.

In this regard, to further facilitate Northeast Asian regional cooperation, active interchange and cooperation between South and North Korea is needed. The Korean peninsula is geographically in touch with China and Russia, but because of the division of South and North Korea, South Korea is substantially in a position similar to that of an island. That is, the division and discord between the two Koreas is a hindering factor to Northeast Asian regional cooperation. In addition to this, we have to eliminate the remaining foundations of political conflict between regional states. In particular, the diverse political ideology and social·political system advocated by regional states is acting as a hindering factor to

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9 – Yeong-jong Choi, "Theory of Northeast Asian economic cooperation and its plan of action," *East Asian International Politics Society*, Vol. 10, No. 1 (2007), p. 272 (in Korean).

regional cooperation. Also, the presence of divided states within the region, such as South and North Korea, as well as China, and Taiwan, is also a factor that has to be overcome to develop regional cooperation. Recently the North Korean nuclear crisis, which has become a big security issue in the international society, is also a task calling for prior settlement.

Next, the conflict and the possibility of pursuing hegemony between China and Japan, global powers and regional states at the same time, is the largest obstacle to Northeast Asian regional cooperation. If China and Japan pursue hegemonic competition within the region, so far from regional cooperation, it will court regional anxiety. In regards to this, historical issues of the past, such as Japan's pursuit of the Great East Asia co-prosperity sphere, are also a hindering factor to promoting regional cooperation.

4. New Cooperation Composition for Flexible Regional Cooperation

Despite the fact that Northeast Asia has many promoting factors that can foster regional cooperation, it isn't showing visible results because of the hindering factors connoted together. Especially, with regards to the hindering factors to regional cooperation, which are political and security factors, as we observed in the case of promoting links between economic and security cooperation, we need to push forward an incremental approach that chooses to cooperate on security issues with less sensitivity rather than using an economic cooperation framework.

For this purpose, in this paper I would like to suggest a cooperation promoting strategy through cooperation in each area by selecting areas where political/military spin-offs can be expected

within the economic cooperation framework. Especially, in deepening the degree of interdependence in Northeast Asia, the need to increase the voluntary role of the private sector rather than depending solely on the role of the state will be considered. In this context, as another form of the new cooperation plan to promote Northeast Asian regional cooperation, I would like to first discuss regional cooperation at the local government-level.

A. Northeast Asian Regional Cooperation at the Local Government-level

One of the phenomena that reflects the qualitative change in Northeast Asian international relations in the post-Cold War era is that cities have risen to the surface as an international actor. As scholars from various fields like economy, management, and geography have argued, world economy in the future will be lead by a small group of massive cities that perform advanced functions, and this trend is slowly showing itself also in Asia.[10] Until now, the cities of the Northeast Asia region (especially coastal cities) have risen significantly in connection with the export-driven development strategy of each state, and economic cooperation between base-cities in the region have also increased. It is beyond doubt that trans-border cooperation between cities not only improves the competence of the city itself as well as the state but also plays as an

[10] – Refer to John Dunning, "Globalizaton, technological change, and the spatial organization of economic activity," in AD Chandler Jr., P. Hagstrom, and O. Solvell eds., *The Dynamic Firm: The Role of Technology, Organization, and Regions* (Oxford: Oxford University Press, 1998), pp. 289-314; Allen J. Scott, "Regional motors of the golbal economy," *Futures 28* (1997) pp. 391-411; Kenichi Ohmae, "Putting global logic first," Kenichi Ohmae ed., *The Evolving Global Economy* (Boston: Harvard Business Review Book, 1995).

accelerator of Northeast Asian economic cooperation.

But in this research, regarding Northeast Asian regional cooperation, interest in the role of the local government exists because the interchange cooperation between local governments can be a way to overcome hindering factors of Northeast Asian cooperation. As we have seen above, it is the political, security matters such as the variety of political ideologies, historical issues, posture review of American troops stationed abroad, deepening of nationalism, and the North Korean nuclear crisis are the hindering factors that influence the formation of conference bodies in Northeast Asia. These kinds of problems are sharply divided along national interests and are sensitive issues both home and abroad, thus when discord occurs it is very hard for the countries concerned to continue interchange cooperation. However, local governments that are relatively free on foreign affairs and security issues compared to central governments, have the advantage of being able to continue interchange cooperation unless the discord goes whole hog.

This is possible because the range of interchange cooperation that a local government can autonomously carry out is limited to areas other than foreign affairs and security. That is, basically the foreign affairs and security area is an inherent business of the central government. The area where the local government can autonomously promote interchange cooperation has no choice but to be limited to sisterhood exchange that aims for friendship or cooperation in the non-political area that aims for educational, medical, industrial, or humanitarian assistance. Accordingly, although the discords between central governments rise to a certain level, it is possible to partially continue cooperation between local governments that have strong characters of private exchange. Continuing this non-political and private-level interchange coop-

eration under crises enables dialogue channels to persist, thus preventing discord from getting into full swing. Also between political-ideologically different states, non-political, humanitarian exchange between local governments can be accepted to some degrees. Accordingly, regional cooperation among lower units can be a motive that inspires regional cooperation between states. Moreover, if this continues in the long-term, it can raise the understanding between citizens, and this mutual understanding can eventually be the base for Northeast Asian regional cooperation, thus cooperation at the local government-level serves a positive role.

Meanwhile, cooperation between local governments in Northeast Asian regional cooperation played a positive role in the technical side as well. Before attempting extensive cooperation projects at the central government-level, an exhibition cooperation project can be made through cooperation between local governments. If the cooperation project is expanded after plans to supplement flaws and to maximize its effect have been provided through this, risks can be reduced and efficiency can be raised. Thus cooperation at the local government-level can be a way to secure the stability of Northeast Asian regional cooperation.

Of course, steering Northeast Asian economic cooperation through economic cooperation between regional cities is also an important role of the local government-level cooperation. But in terms of the formation of a regional community, which seeks diverse common interests beyond economic cooperation, we need to take note of the proper function of such inter-local governmental cooperation.

B. Regional Cooperation in Various Fields[11]

When pushing forward the connection between economic and security cooperation in the Northeast Asia region, health·medical care, environment, energy, and transportation can be mentioned as fields that can expect political/military spin-offs within an economic cooperation framework.

First, cooperation in health and medical care fields can be pursued. Human security, discussed in earnest after the post-Cold War, is a concept in terms of individual human rights and welfare insisting problems such as human rights, drugs, terror, piracy, poverty, human trafficking, and health/disease that are directly associated with individual safety have to be dealt with in the security area besides traditional security around military security. As these issues occasionally fuel conflict in border areas as well as their negative spin-offs not recognizing borders, they are rising as an important subject of interstate cooperation. But in the Northeast Asian case, human rights issues are difficult to subject to cooperation as they are recognized by China and North Korea as matters of the regime. However in the case of China, North Korea, and South Korea sharing borders, other issues can be subject to conflict at any time, thus constituting a cooperation system that can resolve this is urgently needed. Especially, when it comes to health and medical care, owing to the long-closed living conditions in North Korea, epidemics such as measles, which have disappeared from civilized nations, are reappearing, and if these diseases spill outside with the opening up of borders, it could cause serious

[11] This chapter modified some parts of "Ways to link inter-Korean cooperation and Northeast Asian cooperation," the 2007 research paper issued by the Korea Institute for National Unification (KINU) in Korean.

problems in South Korea and China by sharing borders. Accordingly, if an association is formed around the health/medical care field, a space to discuss other issues of the human security field can be secured.

Next, in the environmental area, air pollution problems like yellow sand and acid rain, oil discharging and unauthorized maritime abandonment of nuclear waste, and problems of the quality of water can be subject to cooperation. With regards to problems related to yellow sand and acid rain, there is already a consultative body to do a fact finding survey and carry out research on its resolutions between South Korea, China, and Japan, but as its damage is increasing every year, more progressive cooperation is needed in this area. Oil discharging and unauthorized maritime abandonment of nuclear waste, or water pollution are also desperate for regional cooperation as these problems do not confine damage to the state of origin. The event when Russia abandoned nuclear waste in the East Sea without permission, and the instance when there was friction over water pollution in Heilong Jiang between China and Russia in 2006, show how environmental problems are important cooperation issues in Northeast Asia.

Energy problems are actually a matter of life and death not only in Northeast Asia, but also worldwide. This is the reason behind China's aggressive diplomatic activity towards South America, Africa, and Central Asia in 2006. China, the world's second largest oil importing state, already surpassing Japan in 2003, is making every possible effort to resolve energy problems. Energy problems are not an economic issue anymore as it is raised as a security issue since energy shortage created by the rapid increase in oil use is not simply a matter of resource shortage but a situation that can bring crisis of growth power. Accordingly, the stable supply of oil and natural gas, and cooperation on the development

of alternative energy between Northeast Asian states, is more important than ever. Especially as abundant natural resource-possessing Russia is near the region, energy cooperation in Northeast Asia is an area with large synergy effects.

Finally cooperation in the transportation field is also very important in the ways that it constitutes the infrastructure of Northeast Asian regional cooperation. There exists land, maritime, and aerial transportation networks, but with regards to Northeast Asian regional cooperation, land transportation network, and cooperation in the railway area in particular have important meaning. Currently there are the inter-Korean railway reconnection project and the Northeast Asian railway connection project, and both are significant in terms of restoring the transportation network that links the Eurasia continent. Especially the inter-Korean railway reconnection project has importance as a link between economic and security cooperation in terms of creating a peace regime in Northeast Asia as well as on the Korean peninsula as it not only mitigates the military tension in the Korean peninsula, but also incurs North Korea's reform and opening, involving her as a member of the international society.

Although there are differences in degrees, various forms of contact and cooperation are underway in Northeast Asia now, and as it is relatively non-military, while bringing common regional benefit, there is the advantage of easily forming an association. And as subordinate norms, regimes, and procedures are needed to form an actual association and carry it out in each area, it can contribute to the forming of the infrastructure for the construction of a Northeast Asian association. Also, as the linking process of each area not only considers the traditional security factors such as political trust building and easing military tensions, but also non-traditional security factors like mutual disaster prevention, it will better real-

ize the security cooperation in Northeast Asia that seems remote. Last but not least, the areas have the advantage of being relatively easy to secure the participation of North Korea. When drawing up Northeast Asian cooperation, the difficulty of inducing the participation of North Korea was a problem. Especially with regards to the viewpoint of South Korea, North Korea's participation is needed to enjoy the advantage of a peninsula state in Northeast Asian cooperation. But most of all, if the driving force of inter-Korean cooperation is obtained through Northeast Asian regional cooperation, it can be a very big advantage in terms of killing two birds with one stone. Consequently these areas will bring supporting effect in terms of military/security cooperation in Northeast Asia, and especially to major states like South Korea, it might be used as a practical field of cooperation that can explain the positive effects of regional cooperation to other states in Northeast Asia.

5. Conclusion: The Structure of This Book

In this paper, I analyzed in what form Northeast Asian cooperation is connected and promoted and together put into shape the direction the connection will be pushed forward to deepen regional interdependence henceforth. In fact, when promoting regional cooperation, it will be appropriate to think of a natural process in which cooperation in one area will naturally connect to cooperation in another area rather than connecting all security and economic issues intentionally. A visible consultative body has not yet been introduced in the Northeast Asia region. At this current point I would like to make clear that the accumulation of experience of promoting Northeast Asian regional cooperation multilaterally by deducing an actual cooperation issue is important. That is, by

pushing forward regional cooperation with priority to environment energy, transportation, and the health/medical care area where economic cooperation as shown above can naturally promote security cooperation, it is important to prepare for regional cooperation in Northeast Asia that will be driven forward in full-scale henceforth. Especially by increasing local government-level effort and the voluntary role of private sectors, a more flexible regional cooperation can be promoted through various forms of dialogue channels.

In this context, KINU have sought the currents of Northeast Asian regional cooperation in the health/medical care area, environment area, and energy area and the direction of its development jointly with academics from South Korea, Japan, China, and Russia. This kind of research composition grew out of the fact that Japan, as an advanced state in the region, has the most developed system in the health/medical care area; China has many environmental problems along the passing phase of development; and Russia as an energy power can play a leading role in each area of Northeast Asian regional cooperation. Also, with regards to the fact that the connection of transport networks, including railways and roads between South and North Korea, will play an essential role in connecting the Northeast Asian transportation network, research by Korean scholars on the connection of transportation networks between the two Koreas have been promoted.

Prior to this, as a way of carrying out Northeast Asian regional cooperation, we have examined the currents and promoting plan of regional cooperation at the local government-level of South Korea and Japan. It is rational to observe the currents of local government diplomacy of the four states since we have examined South Korea and Japan, China and Russia in connection to each field. But as China and Russia are still maintaining a centralized

political regime, the autonomy of local governments has not been secured as much as South Korea and Japan. Thus we examined the role of local governments in Northeast Asian regional cooperation through the case of Busan metropolitan city of Korea and the international interchange cooperation of many local governments of Japan.

In fact, the development of regional cooperation, as observed above, is advanced in connection with various aspects, in this research we are trying to find a way to simultaneously promote the developmental trend of Northeast Asian regional cooperation in liaison with development of cooperation between South and North Korea. I would like to substitute the conclusion with hope of the unification of the Korean peninsula being advanced more smoothly and accomplished in a relatively shorter period of time if the promotion of Northeast Asian regional cooperation built on new thought taking various connection concepts into consideration actually bears fruit.

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II

Regional Cooperation in Northeast Asia and the Role of Local Regions

- Emphasis in Northeast Asian Cooperation Policy of Busan Megalopolis -

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1. Approach to Sub-regional Units and Internationalization of Localities

After the mid-1990s, as debate over regionalism became active worldwide, regional cooperation has been enlivened since the mid-1990s in East Asia, which includes Northeast Asia. Especially, given the economic growth of intra-regional states, lively discussions about economic cooperation are under way among Northeast Asian regional states. But the Northeast Asia region, unlike Europe after the Great War, has considerable variations and diversity in regime type, level of income, and culture between states, thus there are many obstacles for economic cooperation to reach the integration phase. In particular, political and military issues are inhibiting factors to economic cooperation in this region. Consequently, specific economic partnership in the Northeast Asia region has not yet been realized.

Likewise, it is true the Northeast Asian regional cooperation is yet in its initial phase and has with it various difficulties, but as regional states are responding to the awareness of its needs, discussions of ways to crank up cooperation are also being made actively. In this paper, among various debates, I would like to examine ways to vitalize Northeast Asian cooperation through cooperation between local governments. In the Busan Exhibition & Convention Center (BEXCO) hall in December 2001, an international conference on "Evaluation and Prospect of Northeast Asian Regional Cooperation" was held by the UNDP. In this conference, Won-bae Kim, a senior researcher at Korea Research Institute for Human Settlements (KRIHS), stressed the importance of 'international cooperation among sub-regional units' in his paper "Review of International Cooperation and Cooperative Regional Development in Northeast Asia" regarding participation of local govern-

ments in specific and practical regional cooperation in Northeast Asia.[1] This concept is a crucial approach that prevents the side effect of inter-state cooperation in Northeast Asia ending in a vague and ideal gesture, developing it substantially and practically.

Therefore the purpose of this paper is to use internationalization of sub-regional units as a basic approach to inquire into localized Northeast Asian international cooperation through the Busan megalopolis case and the role of the Association of Northeast Asian Regional Governments. First, I analyze the city's basic standpoint to understand the Northeast Asian cooperation strategy of the Busan megalopolis. Then, I arrange international exchange and economic cooperation as cases. Finally, I analyze the 'Association of Northeast Asian Regional Governments,' an organization which Busan is actively taking part in after its participation in 2000, in an attempt to understand comprehensively.

2. Basic Standpoint of Busan Megalopolis as a Local Government

A. Geopolitical Background

First, if we take a look at the geographical location of the Busan megalopolis, the eastern end is 129° 18′ 13 east longitude (Hyoam-ri, Jangahn-eup), the western end is 128° 45′ 54 east longitude (Mibaek-do, Cheonga-dong), the southern end is 34° 52′ 50 north latitude (Namhyungjae-do, Dadae-dong), and the northern end is 35° 23′ 36 (Myunglae-ri, Jangahn-eup) north latitude. Therefore, it can be seen as belonging to the middle-latitude of the

[1] –http://www.bdi.re.kr/publication/pub_view.asp?bbs=B_pub01&num=55.

Northern hemisphere and the middle-longitude of the Eastern hemisphere. Located in the southeast corner of the Korean peninsula, it is the gateway to the continent via the peninsula at the rear and a gateway to the ocean from the continent vice versa.

<Figure II-1> The Geopolitical Location of Busan

Examining in greater detail, it is a port with great conditions in terms of geopolitical location and a point of strategic importance that links the continent and the ocean in terms of international location. In particular, for geopolitical analysis, it is the so-called gateway in strategic international relations, that is, it functions as a barrier of the peninsula (the Korean peninsula) to advance into land.[2] Accordingly, in economic terms, we can see it is placed at a point of strategic importance as the center of physical distribution, which always connects the continent and the ocean. At the same

[2] –Deok-soon Im, *Geopolitics* (Seoul: Bubmunsa, 1999), p. 55 (in Korean).

time, it is situated in a position that can play a pragmatic as well as crucial role in creating various relationships between the central governments and regional governments within Northeast Asia in international relations.

B. The Sub-regional Unit Approach Method

Using the benefits of its geopolitical location to its full extent, the Busan megalopolis chose the subregional unit approach instead of the central government-led extensive cooperation policy between the Northeast Asian regional states. Busan is concentrating in two ways: while actively promoting the strengthening of cooperation between suburban areas and cities in the Northeast Asia region through international organizations, it is strengthening cooperation in a more comprehensive manner with cities that have prior relationships.

For concrete practice, Busan joined the 'Association of Northeast Asian Regional Governments' in 2000 to pursue cooperative relations through establishing relations between suburban areas and cities within the region.[3] From an economic cooperation standpoint, the city is assessed as the starting point of the new silk road of the 21st century that links the Eurasian continent to the Pacific, and the ultimate purpose is to develop Busan into a center of Northeast Asian trade with unlimited potential. In Northeast Asian international cooperation, it is making efforts to develop a stage of international cooperation by holding various important international events, and by standing in a fixed position on the stage.[4]

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[3] –http://www.neargov.org/app/RequestProcessor?event=SiteRegionMain.
[4] –http://www.neargov.org/app/RequestProcessor?event=SiteRegionSub-

3. Localized Northeast Asian International Exchange of Busan Megalopolis

On the basis of this general position, Busan is laying the cornerstone of international exchange through vigorously connecting itself with the following Northeast Asian regional cities.

A. Vladivostok

Vladivostok is the center of the Russian region's scientific community, with 15 research institutes and the Far Eastern division of the Russian Academy of Science. As mayor Young-hwan Kim, former mayor of Busan, and Evgeny Blinov, former mayor of Vladivostok, signed the sister city agreement on the 30th of June 1992, the exchange relationship between the twin cities were established. After the alliance the Consulate General of the Russian Federation in Busan was installed on the 3rd of September 1993. Since opening direct flights between Busan and Vladivostok in 1994, direct flights for cargo and passengers have opened in 1995 and are also under operation. Noteworthy, according to The Vladivostok News on June 2002, is that the Minister of Railway Transport Gennady Fadeyev said if Russia and North Korea attract 3 billion dollars of investment, they can link the Trans-Siberia Railway (TSR) from Vladivostok to the Busan port.[5] If the TSR is extended from Vladivostok to Busan port in this way, the time of transporting goods from South Korea and other Asian countries in containers to Europe will be cut in half, and will save costs up to five times the current level than using the present sea routes. Thus, the alliance and

Main.Click&nation=kr&region=017&typeMain=overview&typeSub=intro.

[5] – http://www.bdi.re.kr/publication/pub_view.asp?bbs=B_pub02&num=168.

cooperation between Vladivostok and Busan port can be a subregional unit cooperation program that consolidates the crucial cooperative relations in both sea routes and railway transportation fields.

B. Shanghai

Cooperation between Busan and Shanghai started on the 24th of August 1993, when Mun-hwa Jeong, former mayor of Busan, and Ju Hwang, former mayor of Shanghai, signed the sister city agreement in Shanghai. The Busan Trade Office (BTO) opened in Shanghai on the 8th of July 1997, and it has provided much help to Busan commercial and industrial personnel making inroads into Shanghai. At the same time, they are running a variety of programs for groups of inspectors thus helping Chinese industrial inspection parties to participate in industrial conventions in Busan. Since 2004, the BTO in Shanghai has been operating a desk-office, equipped with an enterprise incubator facility that can be critically utilized when small-scale businesses in Busan make inroads into Shanghai.

On the other hand, the Shanghai-Busan-Fukuoka tourism belt project commenced operation in 2004.[6] But according to a field survey research of Shanghai port in 2005 by the Busan Development Institute, Busan port is leading Shanghai significantly in load exchange cargos and information communication but lags behind in physical distribution infrastructure and investing environment of tourism and finance.[7] Thus, by cooperating with Shanghai port, Busan port needs to go beyond tourism and raise the competitiveness of its port industry.

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[6] – http://www.bdi.re.kr/news/View.asp?bbs=B_news05&idx=95.
[7] – http://www.bdi.re.kr/news/View.asp?bbs=B_news03&idx=118.

C. Fukuoka

On the 24th of October 1989, as Sang-young Ahn, former mayor of Busan, and Takashi Kuwahara, former mayor of Fukuoka, signed an agreement for 'City of Administration Interchange' at the city of Fukuoka, the exchange between both cities started to become active. Also, according to the agreement on mutual dispatching of civil servants on the 27th of September 1990, Busan and Fukuoka are dispatching one servant each every two years. In particular, including the joint participation in the Asia-Pacific city summit meeting and the opening of the courtesy convention on tourism, exchange in various areas such as administration, culture, sports, and economy is lively.

D. Shimonoseki

Exchange and cooperation between Busan and Shimonoseki started as Young-soo Park, the mayor of Busan at the time, and Igawa Nakazawa, the mayor of Shimonoseki at the time, concluded a sister city agreement on the 11th of October 1976, during their terms of office, in Busan. Both cities, according to the agreement on mutual dispatching of civil servants on the 8th of April 1992, Busan and Shimonoseki are dispatching one servant each in every two years.

4. Localized Northeast Asian Economic Cooperation of Busan Megalopolis

A. Harbor Physical Distribution

Busan port is located at a point of vital importance for maritime transportation connecting the east and west, in other words, linking the North American routes that have the greatest cargo traffic among the world's three infra-routes, with the Far Eastern routes. In addition, Northeast Asia, where Busan port is situated, is growing as the essential center of harbor physical distribution by taking over 25.9% of the world quantity of goods transported by sea since 2005. Here, Busan port is promoting construction of a second new port to play the role of mutual gateway between the continent and the ocean, and continuously maintaining a harbor that handles quantities of goods transported in containers, third most in the world.[8] In this manner, not only by taking off to a world-class physical distribution harbor through fundamental potential of harbor physical distribution and the construction of a new port, but also simultaneously having a massive Northeast Asian economic area at the rear, it possesses superior conditions as a harbor physical distribution city.

For Busan port to be reborn as an hub-city of Northeast Asian harbors' physical distribution despite having these conditions of location, economic cooperation by sub-regional units is needed. For the development of the Busan harbor, extension of the load exchange cargos are needed more than anything because load exchange cargos are created in the harbor versus harbor dimension, not in the state-versus-state dimension. Thus, regional coop-

[8] –http://busannp.com/service?_s_idx=0&_s_cnt=1.

eration by sub-regional units through the linking of suburbs and cities within the Northeast Asia region exactly matches Busan's cooperative strategy in Northeast Asia.

B. Busan-Jinhae Free Economic Zone (BJFEZ)

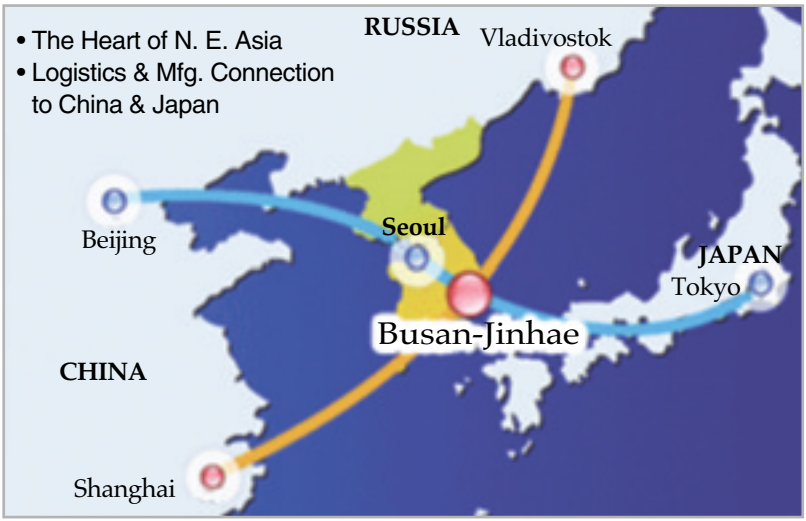
Having the Gangseo district and part of Jinhae area as FEZ, Busan is attracting foreign corporations to advance itself. Especially, foreign enterprises that make good points of importance in Busan, the center of high technology industry and Northeast Asian physical distribution, can occupy the large Northeast Asian market in the rear and are able to make direct linkage by subregional units, which makes Busan inevitably a very attractive area to invest in.

The BJFEZ Authority has stated the necessity of the FEZ as follows. "Along the flow of internationalization of the world economy, the importance of business hubs, which link major cities, and the need to occupy quantity of goods transferred are urgently on the rise. By appointing Busan-Jinhae area as a FEZ, we should develop the designated area as a strongpoint of maritime physical distribution hub centering on the new port, and in liaison with this development a realization plan to maximize the spin-offs of developing a Northeast Asian business hub through switching over to a new industrial structure."[9]

The necessity of setting down such an area is underway by formulating a vigorous development plan and promoting it together with the establishment of the zone authority, having a practical development plan of sub-regional linkage as the map below.

9 – http://www.bjfez.go.kr/.

<Figure II-2> Map of the Busan Jinhae Free Economic Zone and Northeast Asian Sub-regional Linkage[10]



In fact, BJFEZ is the hub of Northeast Asia that has, within a three-hour flight radius, 20% of world's GNP and 25% of world population.[11] This area is divided into the New Port area, Myeongji area, Jisa area, Dudong area, and Ungdong area, and its direction of development is set as the international physical distribution hub, knowledge-based research strongpoint and Southeast industry cluster support hub, and international business support and maritime hub.

Specific content of specialization development is set down as first, developing the New Port area into a strongpoint of physical distribution, international business, and maritime as a central area of FEZ; second, constructing the Myeongji area into an international

[10] – *Ibid*.
[11] – *Ibid*.

business district, a foreign national residence, school and hospital for foreigners, and a high-tech components·material supply base; third, fostering Jisa area as a high-tech industry and R&D center; fourth, not only fostering Dudong area as a mechatronics industry and professional education/R&D center, but also constructing the area as a place for public facilities, education, and residence; and finally, the fifth, fostering Ungdong area as a physical distribution and leisure/recreation strongpoint.[12]

5. Analysis of the Role of 'The Association of Northeast Asian Regional Governments'

A. History and Basic Principles

(1) History

The plan for an association of Northeast Asian Regional Governments started at the Northeast Asian Regional Convention with local leaders from China, Japan, Korea, and Russia in Shimane (Matsue) of Japan in 1993. The 2nd Convention in Hyogo (Izushi) of Japan in 1994 and the 3rd Convention in Khaberovsk of Russia in 1995 clarified the necessity to establish a permanent organization for Northeast Asia's regional governments, and related local governments put active preparation work forward.

In the 1996 Convention in Gyeongsangbuk-do (Kyeongju) of Korea, 29 governments from four countries participated and the Association of Northeast Asia Regional Governments was organized. All members agreed on enacting the "Charter of Associa-

[12] – *Ibid.*

tion" and became an official international organization.

The 2004 Annual Meeting in Heilongjiang of China decided to establish a secretariat in Gyeongsangbuk-do (Pohang) of Korea and opened a secretariat in Pohang in May 2005.

The 6th NEAR Annual Meeting was held in Busan Metropolitan City of Korea in September 2006 and 23 members from 5 countries (China, Japan, Korea, Russia, and Mongolia) participated. They established the NEAR emblem, created the Sub-Committee on Science and Technology, approved 27 new members, and at the same time changed the coordinator of Sub-Committee on Cross-border Cooperation, seeking to diversify in environmental fields, etc.[13]

(2) Basic Principles and Organization

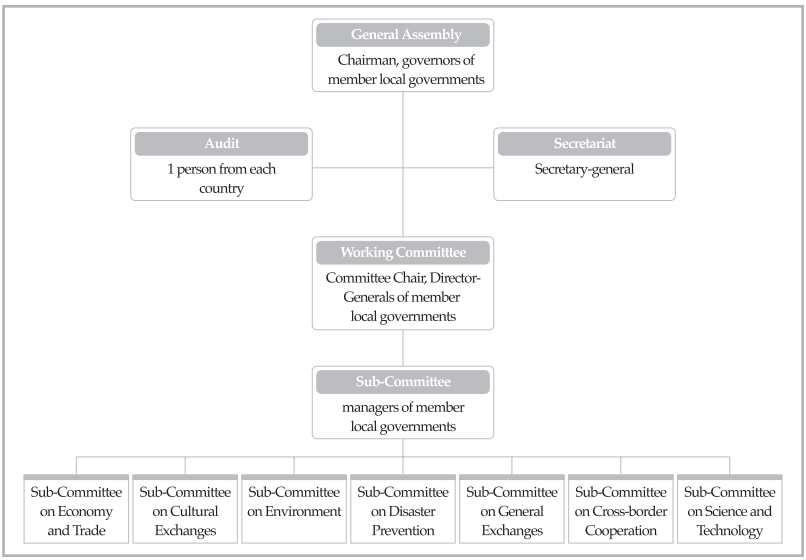
The basic principle of NEAR is "promoting exchanges and cooperation in the spirit of reciprocity and equity among the regional governments located in Northeast Asia and seeking joint development of the region as well as contributing to world peace."

Of course the basic principles consist of ideal phrases used in international society, however, practically, diversification of cooperation issues and concrete activities have been made continuously (Organizational chart).[14]

By analyzing the organizational structure above, one can see that by having sub-committees under the working committee, a concrete system that can maximizes the process and effect of cooperation all the more by each issue has been built. Especially, the characters of sub-committees are very diverse and concrete. For

[13] – http://www.neargov.org/app/RequestProcessor?event=SiteNearHistory.
[14] – http://www.neargov.org/app/RequestProcessor?event=SiteNearOrg.

<Figure II-3> Organizational Chart of NEAR



example, other than comprehensive fields such as economy·commerce and cultural exchange, concrete and realistic fields like environment, prevention of disasters, general exchanges, etc. are also included. In particular, the system for cooperation in practical areas such as cross-border cooperation and science and technology cooperation suited for the characteristic of Northeast Asia is distinctive.[15]

But still in substance, as data related to joint cooperation are not yet fully put in order, the system might become little more than a mere name. It is not an overstatement to say that this kind of problem depends on how vigorous the coordinator local governments of each sub-committee are working.

[15] –http://www.neargov.org/app/RequestProcessor?event=SiteNearMajorSubCommitteHomepageMain.Click&CD=06.

B. Member Local Governments

65 local governments from 6 countries, South Korea, North Korea, China, Japan, Russia, and Mongolia, are members of NEAR.[16] Busan metropolitan city, Chungcheongbuk-do, Chungcheongnam-do, Gangwon-do, Gyeonggi-do, Gyeongsangbuk-do, Gyeongsangnam-do, Jeju-do, Jeollabuk-do, and Jeollanam-do of Korea; Aomiri, Fukui, Hoyo, Ishikawa, Kyoto, Niigata, Shimane, Tottori, Toyama, and Yamagata of Japan; Heilongjiang, Shandong, Henan, and Yoneung of China; and Amur, Chita, Irkutsk, Kamchatka, Khaberovsk, Buryatia, Sakha, and Sakhalin of Russia are participating. Also Selenge and

<Figure II-4> Northeast Asian Regional Governments

[16] – http://www.neargov.org/app/RequestProcessor?event=SiteNearMemberMap.

Tove of Mongolia are accepted as members, and Hamgyeongbuk-do and Rasun of North Korea are participating.

The number of member local governments is important in quantitative terms but whether it is constituted of members with close relationships that are mutually supplementary or like the old saying "without the lips, teeth are achingly cold" thus forming an active exchange is more important. The current task insists that concentrating on maximizing the character and efficiency of interchange is most important rather than concentrating on expanding its membership.

C. Major Role

NEAR consists of the general assembly, secretariat, working committee, and sub-committees. The General Assembly is the supreme agreement organization of the association, which is comprised of the chairmen of each member organization, and is held every two years. One person, representing the association, holds the position of chairman and the leader of a regional government to host an annual meeting becomes the chairman for a year until the next annual meeting, which makes the chairman's term of office into two years.

The secretariat proceeds with operations such as the Northeast Asian commercial interchange project, Northeast Asian friendly relations exchange project, holding the Northeast Asia economic forum, promoting NEAR working-level workshops, making foreign NEAR flyers, opening the Northeast Asian traditional culture festival, strengthening the basis of collaboration in the secretariat, holding the 6th Shandong working committee, and running the international training office.

The working committee nominates 6 items as its function in

regards to Chapter 11 of the Constitution. That is, project planning and discussion about individual projects, auditing the yearly report and account report, coordination of dissent among members, determination about sub-committee (organization, functions and operations; newly-established in September 1998), determination of issues by the General Assembly, and working on other issues considered to be necessary.

Sub-committees support to smoothly pursue individual projects or tasks proposed by the association, and review and discuss other individual projects proposed by regional authorities participating in the applicable sub-committee. Each sub-committee reports the state of affairs and the result of performances to the working committee.[17]

Analysis on major roles is of course taking note of the organic linkage of each organism within the organization. The greatest problem of this organization is the division of labor between the secretariat and the working committee. It isn't just the secretariat that drafts all the plans but the working committee can also set up project plans, thus the binding power and hierarchic relationship appears vague. Moreover, interests continuously play an important role in a group of local governments from various countries and a consistent business plan crucially preserves balance. Therefore, objective projects to maximize interest between local governments and sustain reciprocal and equal relationships must be planned and put forward.

[17] – http://www.neargov.org/app/RequestProcessor?event=SiteNearMajorGeneralAssembly.

6. Conclusion

Busan metropolitan city is forming a network where the cooperation strategy of sub-regional units is an axis, and links suburbs and cities of China, Russia, Mongolia, Japan, and North Korea.

It can reach inter-regional cooperation connecting east-west and south-north politically in a freer atmosphere than the central government. Meanwhile, economically, as a physical distribution hub from all directions and a gateway between the continent and the ocean, it contains a basic development strategy that encourages economic interchange between sub-regions within regions. As cooperative relations in sub-regional units also have concrete and practical effects in environment, health, and energy cooperation other than this political and economic cooperation, it will play a big role in constituting a Northeast Asian cooperative body henceforth.

At the same time, local governmental international organizations such as NEAR are playing an important role in strengthening and materializing cooperation systems of sub-regional units. This will draw constant attention from local governments and enforce much influence politically and economically by no means inferior to international organizations formed between states.

Undoubtedly, in a strong centralized society such as North Korea, the role of local government will be hardly connected to action in international society, as Hamgyeongbuk-do and Rasun participate in NEAR as mentioned above, a certain level of cooperative relation between sub-regional units can be possible.

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<http://www.bjfez.go.kr>.
<http://busannp.com>.
<http://www.neargov.org>.

III

The Role of Japanese Local Governments in Regional Cooperation in Northeast Asia

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1. Introduction

There have been a number of discussions about regional cooperation in Northeast Asia to date. For the most part, international organizations and central governments are main actors in carrying out projects related to regional cooperation in Northeast Asia such as the Tumen River Area Development Program (TRADP).

However, when you scrutinize the cooperation activities between Japan and other states, or among local governments in Northeast Asia, you can figure out that local governments play a significant role in cooperation projects given the number of programs and their ripple effects.

In the period of building hard-infrastructure, that is, roads, railroads, and dams, people laid weight on the large-scale infrastructure development led by a central government. Moreover, given diplomatic influence on the large-scale infrastructure development, financial supply, and the know-how of the development, it seems appropriate that a central government assumes the development. In recent years, however, new types of developments have emerged focusing on human development or human security; that is to say, they aim at improving the living environment. From this point of view, it is imperative to adopt the projects aimed at eliminating or managing the threats to the humans such as poverty, conflicts, mines, immigrants, drugs, epidemics, and environmental damage.

Local governments usually carry out the tasks closely related to the well being of people in Japan. Japan's successful industrialization and modernization have caused serious problems in society such as pollution, change in civil society caused by migration from rural areas to urban areas. The Japanese government (the State) either supplied funds to deal with the problems or tried to solve

the problems by itself. Nevertheless, it is undeniable that Japanese local governments have made a huge effort to figure out and deal with the problems on the spot.

When and if international cooperation projects for the living environments increase in the foreseeable future, Japan could provide human resources, experience, and the know-how of Japanese local governments. With this viewpoint, in this paper, I will examine the role of Japanese local governments in regional cooperation in Northeast Asia by looking at the history of Japanese local governments focusing on institutional international exchange, cases in international cooperation, etc.

2. The Legal Status of Japan's Local Government and Its Capacity for International Exchange

A. History of Local Administration in Japan

The modern institute of local government in Japan dates back to Japan's Constitution established in 1947. The Meiji Constitution had no stipulations regarding local self-government; control of local areas was centralized with the national government having authority over the local governments.

After the second World War, regarding the revision of the Meiji Constitution, almost all the members of the Constitutional Problems Investigation Committee (Matsumoto Committee) thought that revisions to only certain parts of the Meiji Constitution would be sufficient, and did not study the inclusion in the constitutional revisions of a stipulation regarding local self-government, as it had not existed in the Meiji Constitution.

On the other hand, immediately following its formation in

October 1945, the Government Section at General Headquarters of Supreme Commander for the Allied Powers (GHQ) began its study of the Japanese system of local self-government. In brief, the study called for shifting authority from the center to local areas, and direct elections for prefectural governors and mayors of cities, towns, and villages. According to "GHQ Draft," the people shall elect the governors of prefectures, mayors of cities and towns, local assembly members, and local senior officials by direct popular vote (Article 86); the inhabitants of metropolitan areas, cities and towns shall be secure in their right to manage their property, affairs and government and to frame their own charters within the law as established by the Diet (Article 87); the Diet shall pass no local or special act applicable to a metropolitan area, city or town without the consent of a majority of the electorate of the community (Article 88).[1]

Mainichi Daily News got a scoop on the Constitutional Problems Investigation Committee Draft on February 1, in 1946. Not only Mainichi Daily News but also other news agencies criticized the draft in that it was just the result of minor revision of the Meiji Constitution. GHQ thought that there was little probability that Japanese governments could revise the Constitution in the right way. So it decided to prepare a draft.

As a result, the rewritten proposal was a compromise between GHQ, who strongly supported local self-government, and Japan, who leaned toward rule by a central government.

And then, the Japanese government was writing the Constitution draft based on the GHQ draft, clarifying that it was not a "charter" but a "regulation" that the inhabitants should have the

[1] For further information on the establishment of Japan's Constitution, see http://www.ndl.go.jp/constitution/ronten/06ronten.html.

right to enact. And it was stipulated, "local public entities, rather than people," shall have the right to frame their own regulations.

During the deliberations on "Bill for Revision of the Imperial Constitution" in the House of Representatives and the House of Peers, heated debates did not develop and the Chapter on Local Self-Government was passed as written in the draft.

Because the stipulations of local self-government as newly set out in the Constitution of Japan, laws were enacted to establish various systems of local self-government but the pre-war structure continued to allow the central government to get involved in local administration due to lack of experience in local government.

B. The Role of the Local Government System in Japan

Japanese local governments play a pivotal role in areas that are closely related to living conditions for residents. Japanese local governments undertake a variety of services, such as welfare, public hygiene, education, environmental protection, fire fighting, first aid, etc.

The Local Autonomy Law affords local authorities legal validity. As the law states "the task of a local public body shall be to promote the welfare of its residents, for which purpose it shall carry out a wide range of tasks in the autonomous and comprehensive performance of local public administration."(Articles 1-2), local governments carry out ordinary tasks with the principle of local autonomy. That is to say, the purpose of local autonomy is that each local government shall perform its affairs, and promote the safety and welfare of citizens by itself.[2] Yet, Japanese local autono-

[2] – Based on the GHQ draft, the Japanese government prepared the draft of the Constitution of Japan of its own will. It does mean that local government

my was just enacted concerning local governments in the process of establishing the Constitution of Japan not based on strong demands from people but based on the GHQ draft, as mentioned above. As a result, the State had local public bodies, such as the chief of the local public entity, carry out the affairs of the national government in the name of the Delegated Administrative Affairs (機關委任事務). The relationship between the State and local public bodies has changed in accordance with the principle of local autonomy. That is, Japan promoted decentralization and accomplished the decentralization reform by reducing the control of the central government over the local government, 1st decentralization. The Delegated Administrative Affairs was abolished in 1999.

C. The Relationship between the State and Local Government

When it comes to the relationship between the State and local government, it is noticeable that Japan went through two momentous changes; one is that Japanese local autonomy was enacted in the process of establishing the Constitution of Japan, and the other one is that the decentralization and reforms of local governments happened in 1999(地方分權の推進を圖るための關係法律の整理等に關する法律).

The decentralization reform is called the third reform since Meiji Restoration, and the post-war reform. The decentralization

system was not imposed on Japan. Nevertheless, it is not undeniable that Japanese local government system did not fully reflect the spirit; the concept of local self-government carved in the Constitution of Japan in that Japan did not have experience of taking the initiative to establish a self-governing body through a set of legal procedures, and nor such mechanism exist at that time.

reform is aimed at making sure that a local public body can carry out a wide range of tasks in the autonomous and comprehensive performance of local public administration by promoting local government's financial independence and decentralizing regulations. In this light, the relationship between the State and local public bodies became an equal partnership, at least nominally.

According to Local Autonomy Law, Article 1-2-2, the role of the State is chiefly to attend to matters concerning basic rules on national activities or local autonomy that should be standardized nationally; or matters regarding policies and programs to be implemented on a national level, whereas administrative matters close to the people belong to local public bodies. However, it should not be ignored that anti-local autonomy cases have happened; for example, the State annexed several local governments by force.

It is certain that the Japanese local administration system has been revised in the way of equal partnership with the State since the decentralization reform. Yet, Japan is faced with a transition period with the pre-war notion still alive.

D. Theoretical Basis for Local Governments' International Exchange

Up to now, I indicated that the relationship between the State and local public bodies became an equal partnership in principle, and that local public body carries out a variety of tasks reflecting its resident's demands. Next, I will examine the theoretical background for local governments' international exchange, as stated below.

The strong majority of theories of Japanese public law argue that when it comes to international exchange, local governments

are not allowed to deal with it.[3] Moreover, according to the Blue Book the role of local governments is limited to "an overseas information activity" and 'cultural exchange,' whereas the State carries out diplomacy for the most part.

In the meantime, taking a look at Local Autonomy Law, you cannot find any specific provision concerning the role of the State as to diplomacy. For this reason, international activities by local governments do not go against current laws.

The Japanese local governments' overseas activities are considered either "complementary diplomacy" or "counteraction diplomacy" in Japan. The complementary diplomacy aims at supplementing the State's foreign policy, whereas the latter focuses on changing in the opposite way or turning down the State's foreign policy.

As mentioned above, "the complementary diplomacy" cases consist of overseas information activities on the Japanese localities, the introduction of Japan Exchange and Teaching (JET) programs,[4] international student exchange, cultural exchange, and tourism promotion by local governments.

"The counteraction diplomacy" concludes "Nuclear Free Local Authorities," and "Nuclear Free Kobe Formula,"[5] according to

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3 – Masami Hagai, Hiroshi Otsu, "The challenge of local government diplomacy: From local independence to the formation of the international exchange right" (Tokyo: Yushindo, 1994), p. 40 (in Japanese).

4 – "The Japan Exchange and Teaching Programme" was launched in 1987 for the purpose of promoting both international student exchange at the level of locality and foreign language education in junior high school as well as high school in Japan. Japanese local governments, Ministry of Foreign Affairs, Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports, Science and Technology, and Council of Local Authorities for International Relations (CLAIR) have cooperated for the programme.

which, any warship entering the port must submit non-nuclear certification that the ship is not carrying nuclear weapons. As to "Nuclear Free Kobe Formula," the Ministry of Foreign Affairs maintains that because the local authority's rights are limited to appropriately managing the port, therefore the State has the right to decide whether foreign warships may enter the port, and the intervention of the local authority in the decision is not allowed.

When it comes to regional cooperation in Northeast Asia, local governments' activities are mainly based on the strategy of activating localities. To date, while local governments have tilted toward "complementary diplomacy" to avoid conflicting with the State, as regional cooperation in Northeast Asia deepens, new types of local governments' international exchange emerge, which go beyond the pre-existing international exchange patterns.

3. Changes in the Japanese Local Governments' International Exchanges

A. Sister City Exchange

Sister city exchange is the most prevailing and oldest type of local governments' international exchanges. The city of Nagasiki established a sister city relationship with Saint Paul in the U.S. in December of 1955 for the first time. Over 1,500 of Japanese local governments are dedicated to sister city programs to date.

Although the sister city exchanges contain a variety of activi-

5 – Based on the Kobe formula-resolution on the rejection of the visit of nuclear-armed warships into Kobe port adopted on March 18 in 1975, the Kobe City Assembly requires every warship entering Kobe Port to submit certificates stating that it carries no nuclear weapons.

ties, they mainly refer to a reciprocal visit by a group of representatives, reciprocal exchange led by citizens, international university exchange, or sport exchange.

In addition, there are a number of exchange activities; cooperation and the sharing of best practices by dispatching members of staff to foreign cities, exchanges between the municipal assembly, and business-to-business meetings. When it comes to larger cities, sister cities have shared ideas regarding municipal services; for example, sharing the management knowledge of water supply service, urban engineering, environment, swapping animals between zoos, swapping plants between botanical gardens, and academic exchange between universities.

In recent years, relatively larger cities have made an effort to promote economic developments via "the sister city exchange." Furthermore, the cities tend to choose foreign cities, which are expected to provide economic benefit to them. The City of Osaka and Shanghai Municipality, for example, signed the Osaka-Shanghai Economic Exchange Promotion Agreement, and also held the Osaka-Shanghai Economic Exchange Summit for the purpose of facilitating economic exchanges in 2005.

B. Sister City Exchange Subsidized by the Ministry of Foreign Affairs of Japan

The sister city exchange, which chiefly focuses on a friendship exchange, faced a turning point when the Ministry of Foreign Affairs of Japan started to provide subsidy for inducing overseas "industrial trainees" since the year 1971. "The industrial trainee program was sought for the purpose that foreign trainees from developing countries or quasi-developing countries could contribute to the economic development and prosperity in their moth-

er countries by acquiring skills." For this program, Japanese local governments either recruited trainees from their sister cities, or drafted a trainee program together with their sister cities.[6]

You may take the industrial trainee program for an international exchange led by the State in that the State funded the program. However you must not ignore the fact that each local government projected its own features on the program. Besides, each local governments recruited trainees were based on its own "sister city exchange." Japanese local governments also experienced setting up and managing specific training programs. Taking into account these reasons, it is noticeable that Japanese local governments leaped to a higher level of the sister city exchange compared to the past. Even though the industrial trainee program, subsidized by the State, terminated in 2003, a number of Japanese local governments keep up the program by themselves.

C. Local Government-Requested Official Development Assistance (ODA)

As decentralization and economic globalization deepen, and personnel exchanges are activated, the number of Japanese local governments taking part in international exchange programs is on the increase. In addition, the State, who pays attention to human resource development based on regional characteristics, strongly supports international exchange and cooperation programs undertaken by local governments.

The Japanese government revised "Japan's Official Development Assistance Charter" in 2003. The basic policies of the charter

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[6] – There are also cases that the local governments recruited ethnic Japanese trainees from South America where Japanese had already settled.

are as follows: (1) supporting self-help efforts of developing countries, (2) perspective of "human security," (3) assurance of fairness, (4) utilization of Japan's experience and expertise, and (5) partnership and collaboration with the international community.

Looking at "(4) utilization of Japan's experience and expertise," the charter says, "Japan will also utilize its advanced technologies, know-how, human resources, and institutions." It indicates that the State but also NGO, volunteer work, and local governments should play a certain role.

Japanese local governments have carried out a variety of services for local residents; such as water supply and drainage, waste management, public hygiene, maternal and child health, social welfare, education, environmental protection, and transportation. The State does not have the appropriate know-how, or human resources to address these tasks. Therefore, they believe that the State should cooperate with local governments in providing services for local residents.

Against this background, the State initiated local government-requested technical cooperation, which was aimed at meeting the demands from foreign countries offices, with the help of the overseas Japan International Cooperation Agency (JICA). The agency is able to supply useful information to the State after examining the kinds of tailored services Japanese local governments can provide for foreign countries.

The local government-requested technical cooperation involves taking in industrial trainees, dispatching experts, investigation into projects, and workshops for cooperation among local governments. Japanese local governments provide the knowledge for addressing social problems or the method of promoting local economy to foreign countries through ODA.

4. Japanese Governments' International Exchange Cases

A. "Sister City Exchange" Cases

In many cases, "sister city exchange" was born after more than two cities had developed international exchanges. After that, there increasingly occurred many cases that municipal cities sought for reasonable partner cities for the sake of "sister city exchange." In this section I am willing to introduce "sister city exchange" cases focusing on the procedure and contents of "sister city exchange" carried out by Japanese local governments.

(1) Sister City Exchange between Niigata City and Khabarovsk City

Since the normalization of diplomatic relations in 1956, the Mayor of Niigata city visited Khabarovsk to consult on exchange activities between both sides in 1962. Right after the former Soviet Union ambassador visited the City of Nagata in 1963, Niigata and Khabarovsk started to exchange juvenile pictures and engravings of each other. And then a series of leading people from various fields paid visits to both sides. In 1964 Niigata suffered from an earthquake, Khabarovsk sent relief timbers to Niigata. As a result, the relationship between two cities became stronger. In 1965 Niigata and Khabarovsk signed a sister-city agreement. That was a marked event in the midst of the Cold War.

According to the air services agreements between Japan and the Soviet Union reached in March 1971, Niigata and Khabarovsk opened air routes in June of 1971. During the Cold War, for most cases, Niigata residents visited Khabarovsk in the name of resi-

dents exchange. After the former Soviet Union collapsed, both Niigata and Khabarovsk residents visited each other in a reciprocal way.

Since the joint environment conference held by Niigata, Harbin and Khabarovsk in Khabarovsk in July of 2001, each city has held an environment conference every three years in its city.

(2) "Friendship City Exchange" between Niigata City and Harbin City

In December of 1979, Niigata signed a sister city agreement with Harbin, Heilongjiang Province. In December of 1981, the Association of Niigata-Harbin Friendship was established, and both cities started to promote citizens-exchange. However, on the whole, Japanese citizens visited Harbin since it was hard for Chinese citizens to come and go across the borderline to Japan at that time. When Chinese citizens visited Niigata, the Japanese side assumed the whole cost for a long time.

In July of 1982, Niigata Citizen Hospital took in medical trainees from The First Hospital in Harbin. In July of 1985, representatives of Niigata, specialized in water supply technology, visited Harbin. In September of 1985, representatives of Harbin, specialized in T'ai chi ch'uan visited Niigata.

In April of 1986, Niigata City, the Association of Japan-China Friendship, and economic organizations established the "Association Promoting Niigata-Harbin Economic Technique Exchange," It is important to note that Chinese government started to become involved in international exchanges with Japan after Deng Xiaoping made his southern tour of China.

In September of 1989, "Harbin Niigata Friendship Garden" was built in Harbin in honor of the 10th anniversary of the Friendship

City Agreement. Niigata City provided technology and certain parts of costs for the garden, and Niigata citizens collected funds for the construction. In August of 1994, Niigata City held an exhibition of goods made in Harbin, a photo exhibition, and an investment seminar in honor of the 15th anniversary of Friendship City Agreement.

After the Harbin Environmental inspection mission paid a visit to Niigata in March of 1995, an environmental exchange was launched. Since Niigata City participated in "China Harbin Fair for Trade and Economic Cooperation" in June of 1997, Harbin has allotted a booth introducing Niigata City during the Fair every year. In the meantime, regular airline routes were opened between Niigata and Harbin in June of 1998. Load Factor (L/F) rate has been good enough to maintain, and Niigata, on the basis September 2007, operates the Niigata-Harbin route four times a week

The "Wings of Friendship Exchange" made a visit to Harbin City in July of 1999 in honor of the 20th anniversary of Friendship City Agreement, and Friendship Exchange of Harbin City visited Niiggata City in November of 1999. Since the joint environment conference held by Niigata, Harbin and Khabarovsk in Khabarovsk in July of 2001, each city has held an environment conference every three years in its city.

Niigata City constructed Lilac Road in Niigata, for which Harbin City provided construction materials such as saplings in April of 2002. There occurred the 25th anniversary in 2004. In addition, Niigata and Harbin have held a number of events; for example, the Friendship Exchange of Harbin City visited Niiggata City, the representatives of Niigatat City Assmebly visited Harbin, Niigata provided a budget for tending the "Harbin Niigata Friendship Garden," and Niigata held photo exhibitions. In July of 2005, Niigata held an investment relation in Harbin so that China could

invest in Japan. The event drew public attention because it shed new light on China-Japan economic cooperation.

(3) Friendship Exchange between Niigata Prefecture and Heilongjiang Province

Friendship exchange between Niigata Prefecture and Heilongjiang Province had been sustained even before China's Reformation and Open Policy.

The Group of Friendship-Visiting China, headed by the Niigata Prefecture Governor, paid a visit to China in 1974, and again in 1978. Niigata Prefecture sent representatives of Niigata to "the Export Goods Trade Association of China Heilongjiang Province" in 1981.

Against the background of sister city affiliation with Harbin City of Heilongjiang Province in December 1979, Niigata Prefecture Assembly adopted Resolution of Facilitating Friendly Exchange with Heilongjiang Province. Subsequently, Friendly Affiliation was realized between Niigata Prefecture and Heilongjiang Province in August of 1983.

The third Group of Friendship-Visiting China, headed by Niigata Prefecture Governor, paid a visit to China, and the Group of Friendship-Visiting Japan, headed by the Governor of Heilongjiang Province made a visit to Japan in 1983. And then Niigata Prefecture and Heilongjiang Province reached a Friendly Affiliation Agreement with the planting of a commemorative tree on August 5, 1983.

The representatives of Heilongjiang Provincial People's Congress Standing Committee have been visiting Japan since 1984. The Group of Visiting China from Niigata Prefecture has visited China since 1985. Niigata Prefecture began taking in students from

Heilongjiang Province in 1984. After 1985, Niigata Prefecture began taking in trainees; for example, doctors from Heilongjiang Province.

There have been a variety of personnel exchanges, such as administration officers, and doctors from National Hospital, between Niigata Prefecture and Heilongjiang Province for a long time. Chinese, who were trained in Japan as trainees, have worked for Heilongjiang Province. A Program of Friendly Exchange among young people of Niigata Prefecture and Heilongjiang Province began in 1986.

In 1988 both sides held the 5th anniversary of Friendship Niigata Prefecture and Heilongjiang Province. Also, citizens exchange occurred through organizing the Group of Visiting; "Wings of Friendship."

Niigata Prefecture and Heilongjiang Province have regularly held the Conference on Promotion of Economic Exchanges between them, which includes opinion exchange programs in the field of economy.

In 1990, representatives of Heilongjiang Province people's government, headed by the Governor of Heilongjiang Province, made a visit to Niigata Prefecture. Since 1990, both sides have held regular Niigata Prefecture-Heilongjiang Province meetings. In 1991 Niigata Prefecture and Heilongjiang Province began a program of sports exchange and a program of educational exchange between them.

In 1992, they began a program of mutually dispatching fishery researchers for exchange, thereby mutual cooperation was launched in the field of fishery. In 1993, a program of Heilongjiang Provincial international exchange and a program of inviting lecturers of Chinese to Niigata Prefecture began on a basis of JET programs. In the same year, Niigata Prefecture surveyed the investment envi-

ronment in Heilongjiang Province.

In 1994, Niigata held a conference on New Water Route, East Water Silk Road: direct route from Heilongjiang Province to Japan via Heilong River and Amur River in Niigata Prefecture, and began a program of dispatching representatives of high school students between both sides. Besides, the representatives of Northeast Asian local governments and the representatives of province women visited Niigata.

In 1995, the representatives of Visiting China were dispatched to China. Niigata Prefecture and Heilongjiang Province decided to mutually display their goods at the permanent exhibition on both sides; that is, Harbin City and Sanjo City respectively. Also, the first ship, Dong-bin (同濱) entered Niigata port and Naoetus port (直江津港) via "East Water Silk Road."

In 1996, Niigata dispatched a technology cooperation supervision team to Heilongjiang Province. In 1997, Niigata and Heilongjiang opened air routes.

In 1998, Niigata and Heilongjiang cooperated for a Joint Research Project Aimed at Selecting Chinese-Grown Soybeans Suitable for Processing and began taking in trainees of environmental technology. They also began an exchange program in the field of environmental technology as well as holding an event in honor of 15th anniversary of Friendly Affiliation along with opening regular air routes between Niigata and Heilongjiang.

In 1999, the Group of Friendship-Visiting Japan visited Niigata, and Niigata and Heilongjiang held a conference on environmental conservation. In 2000, Niigata transferred to Heilongjiang Province technology for analysis of hazardous chemicals in Sungari River.

When the Group of Friendship-Visiting China, headed by Niigata Prefecture Governor, visited Heilongjiang Province, the Governor of Hirayama held talks with the Secretary of Heilongjiang Provin-

cial Committee in 2001. At the same time, the Economic Research Institute for Northeast Asia (ERINA) led the project of surveying international exchange programs. And both sides tried to establish networks among students studying abroad

The Technical Cooperation for Grassroots Projects (TCGP) was introduced in 2002, and terminated in March of 2005.

In 2003, Niigata and Heilongjiang held an event in honor of 20th anniversary of Friendly Affiliation, and they exchanged memoranda containing reciprocal visits, etc. Niigata Prefecture also provided funds for preventing Severe Acute Respiratory Syndrome (SARS) to Heilongjiang Province. In 2004, Heilongjiang Province donated thousands of winter clothes to the victims of the Chuetsu Earthquake, Niigata.

On the basis of the year 2006, the major regular exchange programs between Niigata and Heilongjiang are as follows:

1. Periodical meetings of administration personnel between Niigata Prefecture and Heilongjiang Province
2. Program of taking in students and trainees from Heilongjiang Province
3. Conference on Promotion of Economic Exchanges Between Niigata Prefecture and Heilongjiang Province
4. Program of dispatching prefectural government employees for training
5. Program of sports exchange between Niigata Prefecture and Heilongjiang Province
6. Program of educational exchange between Niigata Prefecture and Heilongjiang Province
7. Program of mutually dispatching fishery researchers for exchange
8. Program of inviting lecturers of Chinese to Niigata Prefectur-

al Women's Junior College
9. Program of exchange in the field of environmental technology
10. Program of exchange with Heilongjiang Provincial People's Congress Standing Committee

A variety of cooperation projects with Heilongjiang Province, as part of the Technical Cooperation for Grassroots Projects (TCGP), have continued since 2002

(4) Friendship-City Exchange between Sakaiminato City in Tottori Prefecture and Wonsan in North Korea

Since the period of Japanese imperialism, there have been sea routes between Sakaiminato City and Wonsan, and both sides have traded goods. The city of Sakaiminato in Tottori established a sisterhood relationship with Wonsan in May 1992, based on their fishery connections. Since then, the Group of Visiting North Korea, including the Mayor of Sakaiminato City, visited Wonsan three times. Representatives of the City of Wonsan also visited Sakaiminato three times. Sakaiminato and Wonsan hold a joint exhibition of paintings. Wonsan Opera Troupe performed in Sakaiminato. After the Japan-North Korea Summit talks in September of 2002, both sides ended official Exchange Activities. Nevertheless, both sides continued economic exchanges; for instance North Korean crabbing boats frequently called at Sakaiminato port, while Sakaiminato City's crabbing boats operated in North Korean waters.

After the North Korean nuclear test on October 9, 2006, the Japanese government imposed economic sanctions on North Korea; thereby, Japan banned North Korean ships from entering its ports. As Sakaiminato City already declared itself a Nuclear Free

City, it terminated Friendly Affiliation with Wonsan to protest the nuclear test (although it admitted that Wonsan had nothing to do with the test) on October 13, 2006.

In retrospect, cooperation between Sakaiminato and Wonsan indicates that local governments can attain Friendly Affiliation Cooperation with other cities without normalization of diplomatic relations for the sake of developing regional economy by means of fishery and trading ports. It also indicates that the situation at the state level affects friendly affiliation at the local level. Finally, it shows how local governments react in cases where foreign policy goes against that of the State.

B. Cases of Local Government-Requested Technical Cooperation

In performing the local government-requested technical cooperation, Japanese local governments provide developing countries with the know-how of improving living conditions for residents. In this section, I introduce the way in which Japanese local governments transfer their know-how concentrating on the cases of local government-requested technical cooperation (http://www.jica.go.jp/partner/partnership/case.html).

(1) Niigata-Harbin, Heilongjiang Medical Technology Cooperation Project

Partner: Niigata Prefecture
Period: April 2005 ~ March 2008
Summary: The project provides Heilongjiang Province with the technology that Japanese hospitals, which are advanced in Western medicine, use to treat malignant blood diseases,

and Niigata Prefecture obtains information about new treatment technology using traditional Chinese medicine, a field in which Heilongjiang Province excels. In addition, the project aims not only to improve the medical technology of both Japan and China, but also to expand technical cooperation over nursery, pathology analysis, and fundamental research.

Details: On the Japanese side, implementing organizations for the project are Niigata Prefectural Cancer Center Hospital, Niigata University School of Medicine, and Niigata Citizen Hospital. On the Chinese side, implementing organizations for the project are Heilongjiang Provincial Hospital, First Hospital of Harbin Medical University, and Harbin Hematological malignancies Research Center. In 2005, Niigata Prefecture took in three trainees from Heilongjiang Province for two months, and dispatched four medical experts for six days. Niigata Prefecture is expected to perform the same project in 2006-2007.

(2) Niigata-Heilongjiang Afforestation Technology Development Project in Nenjiang Basin Desertification Area

Partner: Niigata Prefecture

Period: April 2005 ~ March 2008

Summary: On account of reckless logging, soil erosion, sediment, and cold and dry climate, Desertification prevails in Nenjiang Basin located in the plain of northeastern China. Nenjiang River is connected to the Sea of Japan via Sungari River and Amur River. Thus, we should make an effort to cooperate in the field of afforestation technology

and forest management to conserve marine environment in the Sea of Japan; thereby we could both exploit forest resources, and increase agricultural productivity.

Details: On the Japanese side, the main actors for the project are Niigata Prefecture Japan-China Friendship Association (NPO), Niigata Prefecture External Science and Technology Exchange Association, and Niigata Prefectural Agricultural and Forestry College, and Niigata Prefectural Forest Research Institute. On the Chinese side, the main actors for the project are the Forest and Agriculture Department of Heilongjiang Provincial People's Government, and Heilongjiang Provincial Research Institute of Protection Forest. In 2005, Niigata Prefecture took in five trainees from Heilongjiang Province for seven days, and dispatched three experts for a week. In 2006, Niigata Prefecture took in three trainees from Heilongjiang Province for two months, and dispatched six experts for seven days. Niigata Prefecture is expected to perform the same project in 2007.

(3) Maternal and Child Health Handbook Project in Indonesia

Partner: Saitama Prefecture

Period: October 1, 1998 ~ September 30, 2003

Summary: As the infant mortality and maternal mortality rates were high in Indonesia, the project was adopted to improve the situation, particularly in western Sumatra and north Sulawesi.

Details: Saitama Prefecture held the "Saitama Public Health Summit" with the WHO in 1991; thereafter, implementing

international technology cooperation in the field of health and hygiene. JICA implemented "the Primary Health Care Project in Nepal." It contacted the Kingdom of Nepal. Finally, Saitama Prefecture and Nepal entered into partnership. Head of the Saitama Prefectural Department of Health and Welfare became a committee member. Saitama Prefectural government dispatched staff, including doctors and nurses, to Napal. Additionally, Saitama Prefectural Public Health Center and hospitals took in trainees from Napal.

(4) Primary Health Care Technical Training Center Project in China

Partner: Kochi Prefecture

Period: August 1, 1999 ~ July 31, 2004

Summary: The project aimed at improving the level of Primary Health Care (PHC) in rural villages. Kochi Prefecture implemented the project to enhance the training techniques for human resources education at the Anhui Province PHC Technical Training Center and establish a training organization by providing teaching materials, drafting and carrying out training plans, etc.

Details: As Kochi Prefecture had an affiliation with Anhui Province, JICA contacted Kochi Prefecture to enter partnership with Anhui Province. The head of Kochi Prefectural Government International Exchange Division along with the head of Kochi Prefecture Health and Social Affairs Division became the members of Support Committee.

(5) Maternal and Child Health Project in Mongolia

Partner: Chiba Prefecture

Period: October 1, 1997 ~ September 30, 2002

Summary: Iodine Deficiency Disorder (IDD) was acknowledged as a serious problem in Mongolia. The project was aiming at the self management of the Expanded Program on Immunization and bringing IDD under control in Mongolia by training medical workers, enlightening Mongolian people, teaching salters to manufacture appropriate iodized salt, developing laboratory, etc.

Details: Chiba Prefecture has provided iodine for Mongolia for free. The director of Health and Welfare Department of Chiba Prefecture became a committee member. Chiba Prefecture dispatched its staff (Chiba Serum Institute) to Mongolia, and took in trainees from Mongolia.

(6) Model Project for Restoring the Water Environment of Lake Tai in China

Partner: Ishikawa Prefecture

Period: May 15, 2001 ~ May 14, 2006

Summary: The project aimed at establishing a sanitation system in Tai Lake in order to protect and restore the quality of water resources, Tai Lake which has served as main water resources for around 35 million of people in commercial and industrial cities such as Shanghai, Wuxi.

Details: Ishikawa Prefecture has maintained exchange activities with Jiangsu Province since Japan-China Friendship representatives of the youth in 1976. It has implemented a variety of cooperation programs with Jiangsu Province;

for example, Environmental Conservation Seminar, Wastewater Control Technology Review. Additionally, Ishikawa Prefectural Public Health Center took in trainees. Ishikawa Prefecture dispatched the former director of Ishikawa Prefectural institute of Public Health and Environmental Science as chief adviser. Ishikawa Prefectural institute of Public Health and Environmental Science also took in trainees.

(7) Public Participation in Regional Development in Malawi

Partner: Oita Prefecture

Period: December 17, 1998 (workshop)
February 18 ~ 28, 1999 (planning programs)

Summary: The agenda aimed at exchange opinions for the purpose of applying Public Participation in Regional Development in Oita Prefecture to Malawi. Around eighty participants took part in the workshop; Oita Prefectural staff, Malawi's acting ambassador to Japan, three trainees from Malawi, JICA Kyushu Center, NGOs, etc. They exchanged opinions over cooperation specifically. The project-planning group was dispatched to Malawi. After that workshop, Oita Prefecture dispatched experts, and took in trainees from Malawi.

Details: After the project-planning group introduced Public Participation in Regional Development in Oita Prefecture to Malawi's government in March of 1997, Banda, Minister of Agriculture and Irrigation, visited Japan. Right after he asked Oita Prefecture and JICA for the project, the project began.

5. Problems and Tasks Regarding Local Governments' International Exchange

A. Problems in Local Governments' International Exchange

(1) Problems Regarding the Legal Basis of Local Governments' International Exchange-Conflicts with the State

The problems in Japanese local governments' international exchange are related to how much autonomy should be granted to local authorities with regard to "local governments' international exchange." As mentioned above, you cannot find any specific provision limiting the role of local administration as to diplomacy. Nevertheless, the Ministry of Foreign affairs of Japan assumes that the State will undertake diplomacy; thereby, it sets limits to local governments' activities. Moreover, most academic scholars assert that local governments should not carry out diplomacy. Therefore, local governments try to make sure that their activities do not go against the State's foreign policy.

In the meantime, however, there are cases where local administration tried to reduce tension during the Cold War by means of continuing exchanges; for example, a sister city exchange between Niigata City and Khabarovsk City. Furthermore, Sakaiminato City in Tottori prefecture realized "sister city exchange" with the country without normalization of diplomatic relations for the sake of developing regional economy.

These cases indicate that the State could not prohibit "sister city exchange" due to lack of the legal basis for limiting the activities, even though the exchange activities went against the State's policy.

As mentioned above, however, the relationship between Japan and North Korea, Friendly Affiliation with Wonsan, was terminated at last.

(2) Issues on Local Governments' Affairs - Tax Input and Returns

While local administration implements international exchange activities, it spends budgets in activities that do not directly contribute to improving living conditions for residents. It is not clear whether Japan reaps the benefits when it spends funds by taking in trainees and students from developing countries. For this reason, a lot of residents believe that local administration wastes its budget in carrying out international exchange activities. That is to say, residents may argue that international exchange activities or local governments' exchange activities do not belong to local governments' affairs.

Many local governments, particularly large-sized governments, contribute to living conditions for residents of partner cities by means of transferring their knowledge. In recent years, the State more often than not enters the partnership with local governments in order to implement international exchange programs because it considers this kind of activity important factors in ODA.

B. Future Task

The Japanese local governments' overseas activities are considered complementary diplomacy aiming at supplementing the State's foreign policy because the spirits of centralized rule have influence on local governments' policy. As local administration heavily relies on subsidies and grants from the State, it is hard for

local governments go against the State policy. In case that the State does not tolerate local governments' overseas activities, local governments should spend budgets by themselves. It is likely that local governments are faced with residents who complain about the situation, and public opinion opposing the scenario, according to which an unfavorable result might occur. Therefore, it seems difficult for local administration to carry out international exchange activities without strong internal support. A future task is to establish a theoretical and practical basis for decentralization by acknowledging that local governments' policy of developing regional economy can be easily transferred to overseas countries in today's globalized world.

6. Conclusion

With regard to Japanese local government's international exchange, the types, cases, and problems of international exchange, as well as institutional issues, have all been examined. It is apparent that local government's experiences and know-how will be more important than before in the sense that the ODA has already accepted them. The more the State considers aid policy important, based on human security, the more the State will request partnership with local governments in implementing aid policy. The idea that the relationship between the State and local public bodies is an equal partnership spreads from one person to another.

Besides, the State has no choice but to rely on the role of local administration in implementing aid policy for the purpose of maximizing national interests. However, there is no social consensus on whether local governments should pursue counteraction diplomacy against the State's foreign policy considering that the majority of

Japanese people believe that the State should assume diplomacy.

As a result, the role of Japanese local governments is presently limited to transferring the knowledge of administration, which is directly related to services for residents, and taking in overseas trainees.

Nevertheless, it is also important for Japanese local governments and neighboring countries to cooperate for international exchange activities that the State cannot perform.

It is likely that the role of Japan in developing economy, and improving living conditions of residents in Northeast Asia will be greater than ever before. While it is true that the State will be playing a pivotal role in contributing to Northeast Asia, we should be aware that the more Japanese local governments make an effort to contribute to the countries in Northeast Asia, the more likely it will be that we can help them solve their problems.

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IV

Japanese Perspectives on Northeast Asian Economic and Security Cooperation with an Emphasis on the Health and Medical Cooperation

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1. Introduction

Japan received about 5 billion dollars of Official Development Assistance (ODA) between 1946 and 1951 from U.S. "Government Appropriation for Relief in Occupied Area (GARIOA)" and "Economic Rehabilitation in Occupied Area Fund (EROA)." Moreover, daily commodities, food, etc. were received from Canada, Mexico, dust, Brazil, Argentina, Peru, etc.

The onerous fund from the World Bank, which was multilateral aid, was used in 1953, and the object of important national projects, such as Tokaido Shinkansen, Tomei Expressway, and the fourth plant of the Kurobe River, was built. These funds were cleared off in 1990. That is, Japan was a country in the position of receiving assistance until about 40-50 years before.

The first ODA granted from Japan was that to Burma in 1954, which was based on "Japan, the Burma peace treaty, and compensation/economic assistance agreement." ODA of Japan in the 1950s had the strong character from war reparations. Entering the 1960s, Japan experienced high economic growth and came to provide the developing countries in the world centering on Asia with ODA.

Japan was also troubled by the spread of infection, such as a once high infant death rate and tuberculosis. However, Japan reduced the infant death rate to the lowest level in the world within a short period and also conquered tuberculosis for the most part, and has become the leading country in the world at this moment where many people live to an advanced age.

In the past 60 years, Japan has recovered from the disaster of war and has experience acting as a world leading economic power and a country where many people live to an advanced age. In the meantime, Japan has experienced problems, such as health impair-

ment by the delay of anti-pollution measures and a source-of-revenue shortage for medical health accompanying the expansion and aging offering such Japan's experience, combining with the actual condition of a place is required at the moment.

In this paper, the author surveys the contents of the international cooperation in the medical care field of Japan first. Next, the author introduces the example of contents of a concrete project. Finally, the author makes some brief proposals about the contents and the direction of possible cooperation in the medical care field in Northeast Asia.

2. Japan's International Cooperation on the Health and Medical Sector

A. The Policy of the International Cooperation in the Medical Care Field of the Japanese Government

It has been indicated that international cooperation of Japan has the large weight on the cooperation in the infrastructure using ODA. However, in recent years the importance of international cooperation in the medical care field has come been pointed out. The Japanese government announced "mid-term policy about Official Development Assistance" in 1999. The Japanese government revised the "Official Development Assistance Charter" in 2003. The Japanese government has expressed the importance of co-operative thinking in the medical care field as part of the measure against poverty.

The Japanese government has released basic policy when performing Official Development Assistance (ODA) through the document the "Official Development Assistance Charter" determined

by the cabinet meeting. In this section the author describes the policy of the Japanese government about the international cooperation in the medical care field specified in the charter.

The present charter was revised on August 29, 2003 by a Cabinet decision. In this revision, the Japanese government decided to consider the following five points as important in Official Development Assistance; (1) self-reliance support of a developing country, (2) the viewpoint of "human security," (3) reservation of fairness, (4) utilization of the experience of Japan in a practical way, and (5) cooperation and tie-up with international society.

In this basic policy, it is raised as an important issue relevant to the medical care field that the viewpoint of "human security" was introduced. That is, Japan sets it as an important target to carry out ODA, which turned the cultivation of individuals' ability to capability strengthening the community that led. In the process of the enforcement of international cooperation, an individual is dignified in all stages — it is requested that protection of an individual and cooperation for capability strengthening should be given.

Moreover, the importance of the capacity building program to train people who can run such a system is also emphasized increasingly.

From the viewpoint of securing fairness, it is necessary to take into consideration the gap between the rich and the poor and regional gap of the target country. The viewpoint about the improvement of female status should be also emphasized. It is also declared in the charter that to have cooperation with local governments, NPOs, etc.

There is the following as a project currently being undertaken that Japan should apply the experience of its own country internationally now, "The Global Issues Initiative about population and AIDS," "an international parasitic measure (so-called Hashimoto

initiative)," and the "Okinawa precautions-against-infectious-disease initiative."

B. The Main Field of the International Cooperation in the Medical Care Field of Japan

The Japan International Cooperation Agency (JICA) undertakes many of international cooperation programs in the medical care field of Japan. The international cooperation in the medical care field, which JICA is performing, is divided into the following four fields.

(1) Precautions Against Infectious Disease

In a developing country, infection is in an expansion tendency. For example, AIDS has notably expanded in many Africa nations. 65% (25 million people) of persons with AIDS (39 million people) and 74% (2,300,000 people) of the AIDS deceased (3,100,000 people) are concentrated in Africa. According to the World Health Organization (WHO), those who die of the three major infections of AIDS, tuberculosis, and malaria are estimated to reach 7 to 8 million in a developing country.

The Japanese government expressed to carry out "Hashimoto initiative international parasitic measure" (named after Prime Minister Hashimoto at that time) in 1998 to prevent expansion of such infections. It also expressed internationally advocating the "Okinawa precautions-against-infectious-disease initiative" in 2000 in which Japan took the lead to fight against a parasite and an infectious disease.

(2) Maternal and Child Health, Reproductive Health

In a developing country, the health of a woman or a child is also a serious problem. 500,000 or more women lose their life in the world every year owing to pregnancy or childbirth, 99% of these cases occur in developing countries.

In order to improve female health, the improvement of health (reproductive health) covering the whole life about a sex and reproduction is important. The health stated here means not only physical health but also "being in a completely good state mentally and socially." In international cooperation of Japan, based on such a point of view, the problem of gender is also put into a view.

Illustratively, the project, which promotes safe childbirth and family planning, is carried out in Vietnam or Myanmar. In Cambodia, support of the maternal-and-child-health field, which tackles in the health improvement of a mother and a child, has been offered for many years.

(3) Health Systems Development and Revival

In order to perform continuous health improvement of mother and child and strengthening of precautions against infectious disease, a local health system, which provides health service, needs to be improved. Even in the developing country, change that has great influence on the quality and the ease of using of health services, such as decentralization and expansion of a health insurance system, has been progressing quickly recently. International cooperation of Japan is also advancing support corresponding to such a trend.

JICA is carrying out the following projects.

- The "Pakistan health management information system" for an improvement of a medical care information system;
- The "Tanzania Moratoria state health-care-administration strengthening" for health-care-administration capability strengthening of a local self-governing body level;
- "Improvement in the western Kenya area health and medical service" for strengthening of suitable service offer and patient referral system to which the level of the health institution responded.

(4) Health Personnel Training

In many developing countries, it has the following problems; the pursuers of medical care are insufficient. The quality of the service is low. JICA is supporting training of the medical care pursuer united with the situation of each country.

Production of a nursing education model, which introduced a concept new for the country "nursing of a patient basis," is performed in Uzbekistan. In Laos, formulation of the structure, which employs cultivation of a good nurse and a nursing art efficiently, is performed. In Saudi Arabia, nurse training of its own country, etc. is undertaken to breakaway dependence to a foreign nurse.

C. The Method of the International Cooperation in the Medical Care Field of Japan

As the method of the international cooperation in the medical care field of Japan, the following four techniques are foundations.

(1) Development Studies

Development Studies is cooperation for making a required development project, in order to advance social maintenance of a developing country. When a developing country carries out a public development project, JICA makes a study, instead of the government of a developing country, to verify whether the project can be carried out and which kind of project is desirable. The study contains investigation on technology, costs, organization and management, environment, economy, and financial evaluation.

The fact-finding team consisting of a private consultant with the know-how for research is dispatched. It produces a plan of the highly urgent development project with the person in charge of a partner country. In the process, the methods required to compile a search procedure and a report, etc. are taught to the person in charge of the partner country. The final report contains the proposal for enforcement of the plan, together with alternatives and the conditions for enforcement.

(2) Technical Cooperation Project

A "technical cooperation project" may involve the dispatching of experts from Japan to provide technical support, and an invitation of personnel from developing countries for training, or the provision of necessary equipment. It has deliberations with the partner country repeatedly, and a plan is made. The purpose of technical cooperation is to develop talented people required to build structure and a system so that the developing country may perform an economic activity by itself.

Many technical cooperation projects have the "participated type" technique in which residents of the project region can partic-

ipate in its management and evaluation. These days, in the information-and-communication-technology (IT) field, there are many cases that know-how required for the technical cooperation of a developing country is accumulated in Japanese private enterprises, universities, NGOs, etc. Therefore, since the 2002 fiscal year, JICA introduced the system that makes a contract of the whole management of a project with a private sector in order to utilize talented people and know-how, in a private sector.

(3) Grant Aid

The cooperation by ODA, which is performed bilaterally and does not ask for payment, is with grant aid and technical cooperation.

It is grant aid to mainly offer cooperation in hardware, and "supply of facility and equipment," such as medical equipment, education-and-training equipment, etc in a field of medical treatment, water supply, rural development, or transportation. It also supplies "construction of institutions" such as a hospital, a school, and roads. In the case where large-scale infrastructure support is needed, onerous financial support (yen loan), which asks for payment, is performed.

(4) Volunteer Dispatch

There is a system of dispatching a volunteer in an ODA program of Japan. In early stages, dispatch (an average of two years) overseas of a youth was performed under the name of "Japan Overseas Cooperation Volunteers (JOCV)." Then, the system of the "senior overseas volunteer" for people after retirement was founded.

As activity in the medical care field, the following talented peo-

ple are dispatched to the developing country in the world; a nurse, nursing educator, a maternity nurse, and health professionals — a teacher, a clinical laboratory technologist, an occupational therapist, and physiotherapy — a teacher, food evaluation, and medical equipment maintenance.

(5) Youth Training

Youth training is a program that brings up the talented people who invite a young person from a developing country to Japan, and bears the future production of a country. The young person of the developing country stays in Japan for 18 days, and the training, which raises the knowledge and technology of each special field of study, is given to him/her. This training also serves as an opportunity for the citizens and local self-governing body of Japanese citizens to participate in international cooperation thus taking advantage of the special features of the area. Even after the young person of the developing country goes back, there are many examples which Japanese staff and cooperative relation with citizens follow. It is also a cover that Japanese staff visit a developing country. This training has led also to the international cooperation at the grass-roots level.

3. Examples of Japan's Cooperation in the Health and Medical Sector

In this chapter, Japan introduces some examples of international cooperation projects in the medical care field, which are currently on line.

A. Project for Surveillance and Control for Vaccine-Preventable Diseases[1]

China, which holds more than 1,300 million people, is the country with the world's largest population. China is a country that has varicosity in geographical features and a climate that ranges from subtropical wet areas to the sub arctic zone and a desert. It is about 26 times as large as Japan. Thus, it is the birthplace of various challenges due to having a vast territory, various climates and geographical features, and huge population. Unfortunately, there are also many persons infected by disease. When we see infections that can be prevented by a vaccination, the newly infected patients (about 790,000 people per year) due to tuberculosis in China occupies 70% of the newly infected persons in the West Pacific Ocean area, which includes Japan. The number of cases of symptoms of the measles in China (annually about 60,000 cases) comprises more than half of the area. Moreover, the hepatitis B infected persons result in about 30% of the whole world number of cases with about 130 million people. Furthermore, it was also the discovery place for the first person infected with SARS, which has threatened the world in recent years, as well as avian flu. When movements of people and goods activate, infection also spreads easily across borders. In the West Pacific Ocean area including Japan, Chinese precautions against infectious disease are big subjects.

This project will undertake the following program between November 2006 and October 2011 (for five years) in five provinces (Jiangxi, Sichuan, Gansu, Ningxia, and Xinjiang Uygur Autonomous Region) in the China Midwest. 1) By improvement in the surveil-

[1]–Information derived from JICA webpage http://www.jica.go.jp/evaluation/before/2006/chi_03.html.

lance level for grasping an infectious development-of-symptoms trend correctly and quickly, and improvement of 2 vaccination programs, aimed at rate-of-incidence reduction of poliomyelitis (polio)-free maintenance which is object 4 disease and measles, hepatitis B, and Japanese encephalitis, and aim at a healthy improvement of a child.

Project target:
The levels of surveillance and the quality of vaccination service in a target province have improved.
[Index]

- (Poliomyelitis) According to "2003 - 2010 national poliomyelitis extermination maintenance action plan," the juvenile vaccination in a target province farm village part attains and maintains 90% or more of a survey inoculation rate.
- (Measles) According to "the whole country 2006-2012 measles extermination action plan," the juvenile vaccination in a target province attains and maintains 95% or more of a survey inoculation rate. (Notes: Since the plan concerned is at the draft stage where it is asking for the public opinion, it will reset the numerical target after planned decision.)
- (Hepatitis B) According to "2006-2010 national hepatitis B prevention plan," the three newborn infant hepatitis B virus vaccine inoculations in target provinces attains and maintains about 90% of the survey inoculation rate. 2) Attain and maintain 90% or more of the rate of less than 24 hours after-the-birth vaccine initial vaccinations of the labor by hospitalization in a target province.
- (Japanese encephalitis) According to "a Japanese encephalitis prevention duplicate system instruction opinion," the technical knowledge of laboratory diagnosis improves in the Cen-

ter for Disease Control and Prevention (CDC) of a target province (where Japanese encephalitis is prevalent).

B. Chinese Rehabilitation Professional Training Project[2]

- Beginning of the Project: November 1, 2001
- Outline of the project
  - ▸ Request background

    China has said that labor and the transportation disasters increase rapidly because of the increase in rapid economic development, industrial facilities, and traffic, plus the number of physically handicapped persons, which have reached about 60 million. The Chinese Medical Division enacted "Regulations concerning the general hospital rehabilitation medical management." The installation of the rehabilitation department and the arrangement of the physical therapist and the occupational therapist were obligated for a large-scale general hospital. However, the lack of rehabilitation engaging people is remarkable, and the promotion of the lecturer formation where rehabilitation engaging a person's training, and personnel development are borne as a pressing need. The Chinese Rehabilitation Research Center was established as an integrated organization that bears clinical research, and the education of the rehabilitation field in the cooperation of the Chinese Welfare for the Disabled Fund Association (*the antecedent of the handicapped person federation) and the Japanese government (reaching technical co-

[2] Information derived from Ministry of Foreign Affairs of Japan webpage http://www-mofa.mofa.go.jp/mofaj/gaiko/oda/data/gaiyou/odaproject/asia/china/contents_03.html.

operation of the machine parts maintenance by the uncompensated financial assistance project). The base that did rehabilitation, engaging personnel development, was straightened. It is insufficient to fill the demand of rehabilitation business of China though the center has positively executed special training to the incumbents for the whole country of China with the quality and amount of education. Therefore, the center and the Chinese Handicapped Person Federation demanded the execution of the project of which the content was the establishment of the Chinese rehabilitation research center rehabilitation school from the Japanese national administration prefecture in 1997.

- Content of cooperation activity

  Through the cooperation stated below, the curriculum making, the teacher training, the educational technology and training guidance, the educational management guidance, and the creation of teaching materials are executed through the following cooperation.

  ▸ Dispatch of experts

  Specialists are dispatched in order to guide the maintenance of the curriculum, the guidance of syllabus creation, and technical guidance and the didactics of the compilation and the special subjects (physiotherapy, occupational therapy, clinical medicine, language treatment, nursing, etc.).

  ▸ Acceptance of Counterpart trainees

  Two to three people accept the person from the Chinese side related to the content of the project during the year, and training is executed in the organization related to Japan. The field for training is physiotherapy, an occupational therapy, and a rehabilitation medical treatment.

▸ Granting of machine parts

The rehabilitation education machine parts and the practice machine parts are granted.

C. Japan-China Friendship Project of Chinese Medicine Safety Evaluation Management Center

• Outline of the Project

▸ Beginning of the project: July 1, 2000

▸ Request background

The idea is that safety of medicine is not secure enough, and the influence on public health is of concern in China. Moreover, improving safety and reliability becomes a problem though China is exporting medicines manufactured domestically to many parts of the world. An original Chinese government of such a background requested the technical cooperation that hung to the establishment of the safety evaluation center to evaluate the medicine that suited the international Good Laboratory Practice (GLP) standard for the Japanese government.

▸ Content of cooperation activity

Technical guidance by the specialist dispatch and others, the workshop, the symposium, and the seminar, which train counterparts, our country is held for the following fields.

– GLP execution, management, and SOP making

– General toxicity test, genotoxicity assay, oncogenicity test (the chronic toxicity test is included), and a genital generation toxicity examination, a pathological specimen, a pathologic histology evaluation, the toxicokinetics, the toxicity test, the laboratory animal facilities, and the animal management.

– Maintenance of equipment and tools and materials necessary for safety test.

4. Future Possibility of Japan's Cooperation in Northeast Asia

Northeast Asia is a sub-region, which consists of Japan, China (three provinces of northeast, and Inner Mongolia), South Korea and North Korea, Russia (Far East and east Siberia), and Mongolia. This area is divided into the country where all the areas belong to Northeast Asia, and the country where only that part belongs to Northeast Asia.

One of the features of Northeast Asia is that it has a large variation in the economic development of regions in each country and each area. When Japan sees an object of international cooperation in the medical care field, the relation between South Korea and Russia turns into a relation as a partner who performs mutual international cooperation to the other developmental-stage country. The relation with China is that which undertakes the cooperation program, which employed the experience of the past of Japan efficiently; it turns into a relation, which performs international cooperation to other developmental-stage countries. Unlike Southeast Asia, South Asia, and African countries, Mongolia and the DPRK cannot be said to be very inferior in the situation of medical care, but they are an object that undertakes the cooperation program which employed experience of the past of Japan efficiently.

For example, according to Table 1, the infant death rate for every 1000 births in the DPRK in 1999 is 22.5 (in 1993, it was 14). This figure is a numerical value of the middle stage of the 1960s in Japan.[3] The DPRK begins a gratis medical treatment system, and

although the social system about medical care is a good one, the latest severe economic conditions show that some numerical values about medical care are getting worse when compared to the first half of the 1990s. For this reason, it can be said that there is room for Japan to perform international cooperation in a medical care sector of the DPRK.

<Table IV-1> Some Indexes on the Health and Medical Sectors of the DPRK

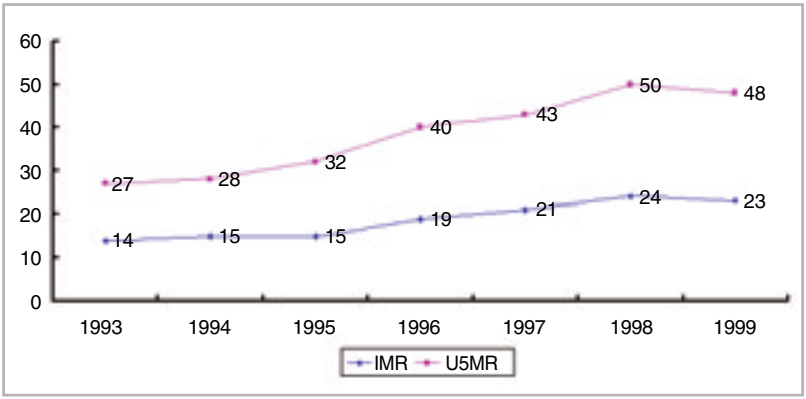
Indicator	1993	1999	Increase/ Decrease
Total population	21,213,000	22,575,000	1,541,000
Total fertility rate	2.2	2.0	-0.2
Average lifespan	73.2	66.8	-6.4
Infant mortality rate	14/1000	22.5/1000	8.4/1000
Under-five mortality rate	27/1000	48/1000	21/1000
GNP per capita	US$991	US$457 (1998)	US$ -534

Source: ERINA (2001).

One of the important fields of the international cooperation in the medical care field of Japan is infection. The first patient's discovery place of SARS, avian flu, etc. is China. The DPRK is located between China and Japan. It profits the DPRK people to strengthen the social measure to the infection in the DPRK. Moreover, it contributes to reducing Japan's exposure to such infection, and the threat to other countries in Northeast Asia. In order to take the local measure for preventing international propagation of such infection, Japan giving a technical cooperation project and grants-

3 – The infant death rate over the birth 1000 of Japan was 14.2 in 22.3 or 69 in 26.4 or 63 in 1962.

<Figure IV-1> Infant Morality Rate and Under-five Morality Rate in the DPRK



Source: ERINA (2001).

in-aid to the DPRK or Mongolian is a selection that can fully be considered.

Though the social system in a medical care sector is ready in the DPRK about maternal and child health and reproductive health, the economic conditions of the DPRK are poor. Therefore, with the index of the physique of an infant death rate or infant's part, the numerical value, which requires an improvement, appears here and there like Table 2. The international cooperation or assistance to the DPRK of Japan in this field should be promptly offered, if the bilateral relation was normalized. It is because this problem is not a problem of a regime but a problem of "human security" of the residents of the DPRK.

<Table IV-2> World Summit for Children Indicators of the DPRK (as of 2001)

World Summit for Children Indicators	
Under-five mortality rate	48/1,000
Infant mortality rate	23/1,000
Proportion of under-fives who are too thin for their age (underweight prevalence)	27.9%
Proportion of under-fives who are too short for their age (stunting prevalence)	45.2%
Proportion of under-fives who are too thin for their height (wasting prevalence)	10.4%
Use of safe drinking water (in disregard of its quality)	100.0%
Use of sanitary means of excreta disposal (in disregard of its quality)	100.0%
Children reaching grade four, primary school	100.0%
Net primary school attendance rate	99.6%
Literacy rate	100.0%
Antenatal care	97.1%
Childbirth care	96.7%
Low birth weight (below 2.5 kg)	6.4%
Iodized salt consumption	1.7%
Under five children receiving Vitamin A supplementation	97.0%
Mothers receiving Vitamin A supplementation after childbirth	20.2%
Exclusive breastfeeding rate among infants aged less than 4 months	90.7%
Proportion of infants aged 6-9 months who are receiving breast milk and complementary food	18.4%
Continued breastfeeding rate children aged 12-15 months 20-23 months	86.3% 36.5%
Coverage of 1st dose of DPT immunization for children by age one	91.0%
Coverage of measles immunization for children by age one	96.3%

World Summit for Children Indicators	
Coverage of 1st dose of polio immunization for children by age one	98.3%
Coverage of tuberculosis immunization for children by age one	81.5%
Proportion of children who received treatment during diarrhea	90.9%
Proportion of under-fives who received increased fluids and continued feeding during diarrhea	17.7%
Proportion of under-fives who were taken to an appropriate health provider while in acute respiratory infection	82.7%
Early childhood education rate among children aged 3-4	3.2%
Proportion of under-fives who received increased fluids and continued feeding during illness	17.9%
Proportion of mothers who know at least 2 signs for seeking care immediately	78.4%
Birth registration among under-fives	98.9%

Source: ERINA (2001).

5. The North-South Cooperation in the Fields of Health and Medicine

A. Health Situation in DPRK and the Significance of the North-South Cooperation

Although the international community has provided humanitarian aid to North Korea, its public health services are still not recovered. As the North Korea humanitarian situation has undergone no changes for a long time, the international community describes the situation as a complex emergency.4 It does indicate that humanitarian aid is not effective enough to help the North

Korean authorities resolve the current crisis in North Korea. Therefore, it is imperative that the international community should be engaged in providing development and rehabilitation assistance to the DPRK rather than humanitarian aid in the long term.[5]

The infant mortality rate and maternal morbidity rate are indicators of the effectiveness of health services in a country. DPRK has an infant mortality rate of 42 deaths per 1,000 population, around eight times that of South Korea (5.3), and maternal morbidity rate of 67 deaths per 100,000 live birth, about five times that of South Korea(13). The data show that there is a startling health situation gap between the North and South. When it comes to the nutrition situation, it is estimated that DPRK managed to escape from survival threats with the help of South Korea and international organizations. Nevertheless, the prevalence of stunted children aged 0-71 months in 2004 was 37.0%, the prevalence of underweight children aged 0-71 months in 2004 was 23.4%, and the prevalence of wasted children aged 0-71 months in 2004 was 7.0%.[6] It does mean that malnutrition is prevailing all over the country.

If the health level of North Korea remains well below that of South Korea, there appear to be obstacles to mutual homogeneity and social unification on the Korean peninsula. In this light, both the South Korean authorities and the North Korean authorities need to be aware that they should not delay cooperation for recovering public health services in DPRK. The North-South cooperation in the fields of health and medicine, aiming at realizing the health community on the Korean peninsula, is a starting point

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4 – UNOCHA, DPR of Korea Humanitarian Situation Report (1999).

5 – *Ibid*.

6 – Central Bureau of Statistics DPRK, *Report on the DPRK Nutrition Assessment* (2004).

toward enhancing the two Korea's competitiveness. The cooperation is significant in that it is contributable to recovering national homogeneity by improving population quality and reducing the gap in the health situation between the two Koreas. Moreover, North Korea is expected to actively carry out international exchanges and an open door policy with the North Korean nuclear issues resolved recently.

Communicable diseases like Tuberculosis are prevailing all over North Korea. The World Health Organization (WHO) and the DPRK Ministry of Public Health (MoPH) presented national health priorities for the year 2004-2008.[7] The MoPH set its first priority on tuberculosis, malaria, and HIV/AIDS, second priority on other infectious diseases (Hep. B, intestinal infectious diseases and parasitosis), third priority on non-communicable diseases (CVD, cancer, oral disease), fourth priority on Tobacco control, and fifth priority on maternal and child health, immunization. Considering that the WHO also set its first priority on control, surveillance and prevention of communicable diseases (tuberculosis, malaria, HIV/AIDS, surveillance system, public health laboratories), WHO and the

<Table IV-3> National Health Priorities in 2004-2008: Ministry of Public Health in DPRK

1. Tuberculosis, Malaria, HIV/AIDS
2. Other infectious diseases (Hep. B, intestinal infectious diseases and parasitosis)
3. Non-Communicable diseases (CVD, cancer, oral disease)
4. Tobacco control
5. Maternal and Child health, immunization
6. Food safety
7. Nutrition

7 – WHO, WHO Country Cooperation Strategy 2004~2008: DPRK (2003).

<Table IV-4> WHO Priorities in DPRK: 2004-2008

1. Control, surveillance and prevention of communicable diseases (malaria, tuberculosis, HIV/AIDS, surveillance system, public health laboratories)
2. Immunizations and vaccines
3. Promote evidence based health policies and health care (clinical guidelines, rational drug use, traditional medicine)
4. Strengthening of basic health services close to the community
5. Updating technical skills of health personnel and medical education
6. Blood safety
7. Strengthening of technical and research capacity in public health and epidemiology

MoPH shared the same opinion over health priorities in DPRK. Given the health situation in DPRK, the North-South cooperation and prevention of communicable diseases will be a basis for prosperity in and around the Korean peninsula.

As of December of 2006, eleven thousand employees (around ten thousand North Korean workers, and about nine hundred South Korean workers) are working in the Gaesung Industrial Complex. It takes more than three hours to move patients from the Gaesung Industrial Complex to hospitals in South Korea. Thus, it is imperative to prepare for increasing medical needs of workers in the Gaesung Industrial Complex through the North-South cooperation in the fields of health and medicine. The cooperation will be contributable to laying a cornerstone of the co-prosperity and co-development of the two Koreas in considering that the unstable health and hygiene problems of the DPRK would surface throughout the country when it expands international exchange activities into Northeast Asia beyond the Gaesung Industrial Complex.

B. The Goals of the North-South Cooperation in the Fields of Health and Medicine

The North Korean authorities make an effort to advance the people's health by adopting the goals and strategy of WHO. Thus, it is necessary to select realizable goals among the UN Millenium Development Goals (MDGs) as the goals of the North-South cooperation in the fields of health and medicine. That is to say, it is necessary to select "Reduce child mortality" (Goal 4), "Improve maternal health" (Goal 5), "Combat HIV/AIDS, malaria and other diseases" (Goal 6), "Ensure environmental sustainability" (Goal 7), and "Develop a Global Partnership for Development" (Goal 8) as the goals of the cooperation by the year 2015.

C. A Strategy for Promoting the North-South Cooperation in the Fields of Health and Medicine

The North and South should draw a comprehensive plan together in order to recover and develop public health services in DPRK. First of all, South Korea should make a plan to recover public health services in DPRK with North Korea after assessing the strengths and weaknesses of public health services in DPRK. And then, they need to articulate the investment strategy that is related to gradual increase in aid or economic cooperation while making specific plans for development aid based on the assessment.

In the short term, the strategy focuses on reducing the disease contraction rate and mortality rate among people in disadvantaged groups; for example, infant, child and maternity by establishing systems for control, surveillance and prevention of communicable diseases.

In the middle and long term, the strategy concentrates on

establishing the basis of medical services such as facilities, human powers, equipment, and technologies that are necessary to recover and maintain public health services in DPRK. For the purpose of supplying continuous medical resources, the strategy also focuses on developing the capacity of the DPRK and building product lines so that the North Korean authorities can manage public health services in DPRK through North-South cooperation based on a market economics perspective. When and if Japan, China, and Russia cooperate for realizing a health community in Northeast Asia, and if international organizations such as WHO, UNICEF participate in the cooperation, synergy effect will increase.

(1) Cooperation for Addressing Health Priorities in DPRK

Nevertheless, the North-South exchanges or cooperation have been implemented when they contributed to solving North Korea's economic crisis, or at least provided economic benefits to North Korea. When it comes to health problems, which have heavily damaged the North Koreans, the North have cooperated with South Korea irrespective of domestic or international political environmental change. In addition, North Korea flexibly approaches cooperation with South Korea in the fields that do not affect its regime maintenance; for example, art.

Thus, North and South Korea need to cooperate for control, surveillance and prevention of communicable diseases, such as malaria, tuberculosis, etc. It is urgent to take preventive measures against epidemics particularly at the Gaesung Industrial Complex, through which communicable diseases might spread into South Korea in that South Korean workers frequently come in contact with North Korean people at the Complex. NGOs cannot afford to establish health services for control, surveillance and prevention of

communicable diseases such like malaria prevailing on the North-South Korea border area, due to a lack of expertise and funding. North-South cooperation is required to deal with the problem.

(2) North-South Cooperation in the Field where North Korea Possesses a Competitive Advantage

North Korean authorities manifested a strong will to develop Oriental Medicine and to grow medicinal herbs. It could be a good approach to help North Korea gain sustainable momentum based on the North-South cooperation in building up medicinal herb gardens and producing health supplementary food, which North Korea possesses a competitive advantage in.

(3) Market-Oriented Health and Medical Cooperation for Sustainable Development

If North Korean authorities remain inclined to maintain public health services in a way that depends on humanitarian aid from South Korea without efforts to revise their internal systems or self-support activation, it is not likely that the two Koreas expect co-prosperity for the future because North Korea will be more reliant on South Korea. In the long term, the two Koreas should introduce a model of North-South economic cooperation so that they can cross the threshold into peace, co-prosperity, and unification on the Korean peninsula.

After making a foundation for self-supported development in the fields of health and medicine, it is necessary to leap up to the next level of the cooperation project; that is, joint investment projects, according to which equipment and raw materials are provided by a loan, for modernizing hospital facilities, medicine factories,

etc. For the purpose of both enhancing the North Korean health situation and facilitating economic development for the two Koreas, the market-oriented health and medical cooperation aims at building product organizations able to bring in financial returns by combining South Korean capital and raw materials with North Korean labor. As the health industry grows in DPRK, the South transfers technology to the North.

Initially, the two Koreas will cooperate in producing injectors, sterile sponge, toothpaste, toothbrush, crutches, etc. which require low skills, and then expand products into medical instruments and equipment. In the meantime, it is plausible that Japan, China, or international organizations may cooperate with North Korea in the name of Northeast Asian health cooperation by providing capital and technology; thereby activating exchanges and cooperation with North Korea.

(4) The North-South Health Cooperation Linked with the Environmental Field and Agricultural Field for Enhancing Efficiency

Almost 80% of infant and child mortality is attributable to acute respiratory infection and diarrhea.[8] Waterborne epidemic; for example, diarrhea is caused by water pollution, unsanitary toilets, and lack of hygiene. Constant diarrhea, complicated with malnutrition, suppresses the immune system, causes respiratory infection, and finally makes it a life-threatening disease.

In order to prevent dermatosis, food poisoning, and waterborne epidemic, it is necessary to promote a multi-disciplinary approach including the environmental hygiene field; for example,

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[8] –http://www.relief web.

drinking water development and water quality management. Besides, the rate of contracting disease increases as malnutrition, caused by food shortage, makes people vulnerable to infection by reducing immunity. In this light, it is urgent to help North Korea secure self-survival ability through agricultural development along with humanitarian food aid. In summation, it is essential to implement a comprehensive project in which health, environment and agriculture are merged together.

(5) North-South Cooperation Linked with Northeast Asian Health and Medicine for Human Security in Northeast Asia

The pattern of epidemic outbreak in DPRK is similar to that of China. Considering that HIV spreads quickly on the North Korea-China border area where more and more people come and go, it is not exaggerating to say that people are exposed to HIV/AIDS as well as sexually transmitted diseases. Health cooperation with China is required because of the possibility of a great number of people becoming infected but not identified. Given that North Koreans are vulnerable to life-threatening Severe Acute Respiratory Syndrome (SARS), avian influenza, etc. international cooperation for inspecting and managing the border area should be carried out so that not only North Korea but also its neighboring countries can respond earlier to communicable diseases through preventing new epidemic outbreaks, tracking diseases, disseminating new information for epidemiology response, and strengthening the epidemiology response ability of disinfection staff.

6. Conclusion

Northeast Asia is an area where the degree of economic development changes greatly depending on the country or areas. Therefore, if Japan tries to perform international cooperation in the medical care field in this area, you have to take the system of different cooperation for every country or area.

Northeast Asia has many countries where the social system in the medical care field was comparatively ready. However, there is a case that a social system is not fully functioning by the economic conditions of each country.

The following can be said from experience of the international cooperation in the medical care field, which Japan has so far performed. It is appropriate to carry out international cooperation about precautions against infectious disease, maternal and child health, and reproductive health through the grants-in-aid from Japan to DPRK and Mongolia.

It becomes a precondition of offering ODA to the DPRK of Japan that a bilateral pending problem is solved and bilateral relation is normalized. After this condition is fulfilled, Japan promotes modernization of the technical conditions (namely, hardware) of the medical care field of the DPRK. Simultaneously, you should participate also in establishment of the medical care system for all the residents of the DPRK to lead wholesome and cultured living positively.

Given the different levels of economic development in Northeast Asia, Japan is required to implement different cooperation programs based on countries or regions when it carries out international cooperation.

A number of Northeast Asian countries have well-established social systems in the field of medicine. However, there are many

cases where the social systems do not work well due to each country's economic situation. When it comes to international cooperation in the field of medicine, Japan has played a significant role. It is appropriate that Japan carries out international cooperation with national subsidy to North Korea and Mongolia for preventing epidemic, child and maternal health, and reproductive health.

Addressing deadlocked Japan-North Korea problems and Japan-North Korean normalization are prerequisite for Japan's Official Development Assistance (ODA). Then, Japan modernizes technical conditions, so called hardware, for the North Korean medical field. At the same time, you should participate in establishing medical systems in order to induce North Koreans into a life with sanitation and culture. The North-South cooperation in the fields of health and medicine will be successful only when it reflects the needs and thoughts of the North Korean authorities

Under the short-term and long-term plans to recover and maintain public health services in DPRK, a project providing both knowledge and technology, aiming at reducing mortality and disease contraction, and a project giving economic benefits to North Korea are likely to be relevant, effective, and sustainable.

Given recent international situations in and around the Korean peninsula, U.S.-North Korean relations and the North-South relations are expected to improve. When the exchange of activities with North Korea are activated in the field of economy, energy, environment, etc. neighboring countries; for example, China and Russia, might suffer from communicable diseases unless they cooperate to deal with epidemics derived from North Korea. Patients with SARS have yet to be detected in DPRK. However, North Korea banned the entry of foreigners into the country in the spring of 2003 in that it adjoins China along with its bad medical situation. Epidemic outbreaks in and around North Korea may be

major obstacles to Northeast Asian exchange and cooperation because they are fatal to not only the resuscitation of North Korean economy but also Northeast Asian economy. In this light, Northeast Asian countries need to create a roadmap that is expanded from the North-South cooperation into Northeast Asian health cooperation based on human security.

In the meantime, it is necessary to introduce an economic cooperation strategy, aiming at realizing mutual benefits between the two Koreas, in the filed of health industry in order to continuously carry out the cooperation for product facilities, raw materials and technical assistance. It is stable and effective to open up cooperation channels between the two Koreas in the fields where sizable funds are needed, or a multi-disciplinary approach is required; for example, agriculture, environment.

When it comes to technology cooperation, health and medical projects in DPRK will be effectively implemented if education or training programs are activated through setting up sisterhood relationships by job classification, and setting up sisterhood relationships between medical institutions for the sake of providing medical supplies and equipment.

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V

China's Standpoint towards Environmental Cooperation of Northeast Asian Countries

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1. Introduction

International cooperation on environmental issues is an important matter not only in current Chinese foreign policies but also in China's environmental protection policies as well. In particular, having the cooperation among Korea, China, and Japan as the main key point, environmental cooperation between Northeast Asian countries has become a very significant subject due to geopolitical reasons. Environmental cooperation among these three countries has already shown some successful outcomes that are good enough for Northeast Asian countries to have the concept that they are in the same "environmental community." By planning specific and active proposals, it has contributed to solving global pollution problems at an international scale. Therefore, as it plays a huge role in the expansion of the Northeast Asian environmental industry, environmental market, and the development of the economy in the region, it is evident that the cooperation is already going through a 'mature stage.'

The environmental cooperation between Korea, China and Japan has been vitalized and developed due to the nature of environmental problems; a domestic environmental problem can and will lead to regional or even international environmental problems. In other words, the identity of an ecological environmental problem is the fundamental cause. Although there are classifications of ecological environmental problems such as domestic, regional and international, which are strictly for geological reasons, the actual scope of the influence of the environmental problem is decided by its progress. For instance, desertification starts in a limited certain location but it may expand extensively without proper intervention, eventually developing into an international environmental problem. Hence, management of the ecological

environment should not be limited to a specific location but the interrelationships between each environmental system should be considered as well.

Next, it is important to consider plus and minus effects of domestic environmental problems that have originated from foreign sources. Due to the nature of environmental problems, a local environmental problem is accompanied with external properties. That is, an aggravation of a local or a national environmental situation may have negative impacts on other regions and nations. The most typical case of this external minus effect is the yellow dust storm in Northeast Asia. On the contrary, plus effect refers to a positive influence on other regions by improving a local ecological system. Preservation of various living organisms would be a good example in this case.

China currently pursues a developmental principle that will maintain the sustainable economic development and solve the environmental problem at the same time. China has set a goal to achieve the state of harmonic and sustainable development of economy and society by establishing a resource saving and environmentally friendly community. Methods of development should be converted and the quality of the development should be upgraded to achieve this goal. Moreover, as an important member of the Northeast Asian community, China aims to cooperate with countries around the area, including Korea and Japan, for the protection of the ecological environment and its sustainable development.

Therefore, this research first examines China's environmental protection strategy and the principles of international environmental cooperation, and then discusses about the environmental cooperation in Northeast Asia from China's perspective.

2. China's Environmental Protection Strategy

A. Troubled Issues in China's Environment

China, the most populated developing country in the world, has rapidly grown since the late 1970s. Because of this, unlike other developed countries, which had experienced environmental problems through several stages while they were modernizing throughout a hundred years, China has been facing all of those intensive environmental problems only within the last twenty years of its rapid economic growth period. Due to increasing conflicts between environment and economic development, problems such as insufficient resources, the vulnerable state of the ecological environment, and a shortage of environmental capacity, have progressively risen as significant matters in China's developmental process. Ultimately, it is possible to summarize the whole Chinese environmental situation as "code red." Detailed evidence of this estimation is as follows.

- "The process of China's economic development has been primitive for a long time. As a result, the entire amount of pollution emission has largely exceeded the natural environmental capacity."
- "Control over the environment could not keep up with the rate of environmental destruction. Thus, more pollution has been constantly produced while existing problems have been left unsolved."
- "Environmental accidents have occurred frequently and the number of environmental disputes have increased continuously. Environmental issues, therefore, have already become the major cause that restricts economic development and also harms the health and lifestyle of its citizens, causing social

unstableness."

– "Within twenty years, China has experienced intensive environmental problems that developed countries had experienced in several stages during the last century of modernization. This phenomenon shows the characteristics of relation, complication and condensation."

Meanwhile, an officer, Shen Guo Fang (沈國舫), from the Chinese academy of engineering (中國工程院), who is also a team leader of China's macro strategy research for environment project (中國環境宏觀戰略研究項目), has shown the seriousness of China's environmental problem by showing specific numerical evidences. According to him, during the last 50 years, ever since the birth of the People's Republic of China, GDP has grown 10 times while the consumption of mineral resources has increased by 40 times. As a result, China's production rate per resource unit is only one tenth of U.S. and one twentieth of Japan. But the emission of SO_2 and nitrogen oxidized substances released by a GDP unit is eight or nine times more than those produced by developed countries. Moreover, the pressure that China is facing on environmental issues has been intensified because of its continuous economic expansion. As a result, the environmental protection standard that had been agreed upon in the development plan happens to be ignored. In actuality, China has tightened the standard for dioxide sulfur emission and chemical oxygen demand (化學需氧量) in the 'Tenth Five-Year Plan 2001-2005 for National Economic and Social Development' but loosened it later. In 2006, China did not achieve its goal of reducing the energy level per unit GDP to four percent and reducing the emission of major pollution to two percent. This is evidently shown in 'Eleventh Five-Year Plan 2006-2010 for National Economic and Social Development.'

B. China's Strategy on Environmental Protection

(1) China's Strategy for Sustainable Development

In order to come up with a sustainable development strategy, China has started to research on the subject from the late 1980s. China's sustainable development strategy is based on two elements. First is to convert the traditional way China develops its economy. The other element is establishing the environmental protection strategy while recognizing environmental protection as a true strategy of achieving economic and social development of the region and the nation.

To execute the agreements that were from the UN environmental development meeting, China has prepared several important strategies and projects on policy research with support from World Bank, UNDP, and UNEP. The first article of <Ten Countermeasures for Chinese Environment and its Development>, an official document that was accepted in August 1992, is to pursue a 'strategy for sustainable development.' Following the strategy, China has compiled Agenda 21 and has received agreement from the government in March 1994. This document is the very first national level 'Agenda 21' in the world. In March 1996, < Report on '9·5' Plan for National Economy and Social Development and Objectives for year 2010> (關于國民經濟與社會發展"九五"計劃和2010年遠景目標綱要的報告) was adopted from the fourth meeting of the eighth period at China's National People's Congress. It suggested the necessity of fundamental conversion of the economy system and the economic developmental methodology. Two slogans, 'Developing China with science technology and education' and 'sustainable development,' have been adopted as basic strategies in this paper. Also, this 'report' has stated that executing these two strategies has

its significance not only for the next 15 years but also on achieving true modernization. It proposed that by the year 2000, the accelerated rate of environmental pollution and ecological destruction should be stopped and there should be a partial improvement in the environment of urban and rural areas. It also proposed that by the year 2010, there should be a revolutionary elevation on the aggravating ecological environment, and the environment of urban and rural areas should show distinctive improvements. Also, being a principal document in many aspects, it proposes basic goals and responsibilities regarding China's strategy for sustainable development.

To comply with the basic principles of sustainable development, Chinese government has established a strategic system for the sustainable developmental plan and also came up with measures to establish a new mechanism.

First is to establish a legal system for sustainable development by combining environmental protection and democratic legislative system. This includes three aspects; to include the principle of sustainable development in the economic legislation, to create a law on the areas of environment and resources, and to strengthen the national legislation in order to meet the standard of the international environmental agreement.

Next is adaptation to the principles of the market economy and to protect the environment by using the market mechanism. To do this, economic reformation needs to be strengthened. At the same time, the subsidies for state owned companies, which consume huge amount of resources and are economically inefficient, should be reduced or terminated. In addition, a cost system for natural resources should be established based on supply and demand, while an environmental tax should be enforced.

The third aspect is to adapt to the demand of economic devel-

opment so that public investments can be switched to the environmental protection domain and corporations will be induced to invest in environmental protection. To be able to do this, the government should play a leading role in the investment in clean energy, water resource protection, sewage treatment, public transportation in cities, and a large scaled construction of an ecological system. Also, a reasonable funding and corporational management system should be introduced so that the funding from other areas should be moved to the environmental protection area. Investment in environmental protection by the Chinese government should reach the level of 1~1.5% of GNP.

Fourthly, by adapting to the new macro adapting mechanism, a comprehensive mechanism that combines environmental and economic aspects should be established. The key point here is that government's important solutions, plans, and projects related to economy and society should all undergo environmental evaluation through a regular procedure. Also, there should be an environmental evaluation system for the government as well.

Fifth is to establish an incorruptible, highly efficient, and harmonic environmental protection administrative system which keeps pace with the government's structural reformation. More roles should be attributed to the system so that the nation can promote various environmental operations effectively.

(2) China's Environmental Protection Policy

China's environmental protection policy can be divided into three parts. First, precaution should be the main aspect and prevention and regulation should be combined afterwards (豫防爲主, 防治結合). The primary purpose of this policy is to prevent and exterminate environmental pollution and destruction during large-

scaled economic developments. To achieve this, environmental protection should be included in the national and local economy and a social development plan for long term and yearly plans. An environmental influence evaluation system should be introduced to the development construction project. Also, a system (known as the 3 simultaneous system) that designs, constructs, and uses anti-pollution facilities simultaneously with the production process.

Secondly, any entity that causes pollution should be responsible for the labor and cost of the pollution. To do this, it is necessary to claim fines from corporations or business units that produce more air and water pollution than the allowed emission standard. The collected fine should be entirely used for cleaning up the pollution that they have caused. Corporations or business units that contaminate the environment to severe degrees should be supervised to purify the pollution within a certain given period. Technological development of the corporation may be applied to the prevention and regulation of industrial pollution.

Thirdly, environmental regulations should be reinforced. The main purpose of this policy is to reinforce the environmental regulations to the government and corporations so that environmental pollution and destruction that are caused by inappropriate management can be controlled and reduced. To do this, environmental protection regulations and a standard system should be implemented and gradually improved. Also, organizations for environmental protection should be established at each government level, and national and local network for environmental examination should be established. Each level of government should execute an environmental goal responsibility system and a synthetic management evaluation system on environment should be operated on major cities.

(3) China's 'Macro' Environmental Strategy

China's environmental protection project has already stepped into a new level of full operation and is in the primary stage. At this particular point, 'a strategy to vitalize the environmental protection through scientific technology'(科技興環保) is requested to be carried out. To do this, there should be a significant historical conversion in the next three aspects. First, the era that neglects environmental protection and stresses only on the economic development should be converted to the era that puts equal importance in both economic development and environmental protection. Next, the era that environmental protection is inferior to economic development should be converted to the era of equal development in environmental protection and economy. The era that protected the environment, mainly in an administrative way, should be converted to an era that handles the environmental problem integratively by using law, economy, technology and administrative solutions synthetically.

As a result, the <China's Environmental Macro Strategic Research> project has been launched in 2007.[1] This project systemically studies issues such as confronting environmental and developmental strategic problems, means to exterminate pollution, and fundamental issues in environmental science so that harmonious environmental protection strategies and counter-plans can be induced. The <China's Environmental Macro Strategic Research> project is a superlative and comprehensive operation that includes all departments, business categories and subjects. It is constructed into five themes and four sections and will progress in four stages.

Five themes of this operation are as follow. First, it retrospects

[1] –http://www.sina.com.cn.

the journey of China's environmental strategy for the last 30 years and aggregates the lessons from past experiences. Second, it estimates the current circumstance of the Chinese environment objectively and predicts the future while analyzing the connection between changes in environmental condition and economic development. Third, it investigates and studies the causes and solutions of environmental problems that occur in the entire process of production, circulation, consumption, and trade. Fourth, it researches and studies previous cases of other countries in the world on how they have acknowledged environmental problems while they were developing, how they have handled the problems, and how they have converted the relationship of environment and economy. Fifth, it proposes suggestions including ideological views and goals that are advanced while also being practical at the same time.

In the meantime, four sections are divided as follows. First, the overall discussion part suggests an essential concept that environmental protection optimizes economic development in sustainable development. Second, environmental element protection strategy contains protection strategies for water, air, noise/vibration, solid disposals, soil, ocean, ecosystem, mineral resources, nuclear, and radiation safety. Third, major areas of environmental problems will be analyzed comprehensively and the countermeasures will be suggested as a main environmental protection strategy. Protection strategies for major areas contain an industrial pollution prevention strategy, urban environment protection strategy, rural environment protection strategy, environment and health strategy, energy and greenhouse gas reduction strategy, and earth and regional environmental strategy. Fourth, for the maintenance of strategy, macro strategic tasks and countermeasures of the strategic focus need to be submitted. This includes securing elements

such as consolidating the legal system, providing maintenance to the system, increasing the economic policies, raising the amount of investment, upgrading scientific technologies, emphasizing on education and allowing the public to participate. These four sections contain 27 specialties.

<China's Environmental Macro Strategic Research> is processed in four stages. The first stage (January~May 2007) is the preparation stage that completes the outline of the research subject and gets evaluated by experts. The second stage (June~December 2007) is for writings; Data are collected, organized, and analyzed for a rough draft of the research. The third stage (January~August 2008) is the evaluation stage where experts and fellow researchers evaluate the rough draft and submit opinions for correction. This revised research report from the first committee is re-examined by experts and fellow researchers again. The last, fourth stage (September~December 2008), is the stage where various and comprehensive opinions are collected from experts and then the report can be finally revised and completed.

A report based on these four steps will be released to the public after it goes through the ratification process in early 2009. This research will eventually suggest China's ideas on environmental protection macro strategy, strategic principles, strategic goals, strategic responsibilities, and the priority of the strategy. Therefore, this research may contribute to China in dealing with the relation between economic development and environmental protection. It may also become the foundation for China's construction of a resource saving and environmentally friendly society.

3. China's Principles and Standpoint towards International Environmental Problems

A. A Principle that Induces Harmony between Environmental Protection and Economic Development

A fine ecological environment with sustainable natural resources serves as a basis for economic development and social advance. At the same time, a pathway to solve environmental problems can only be found while society and its economy develop in a sustainable manner. Environmental protection itself is not the ultimate goal. The final goal of human kind is to make it possible for the human race to enjoy beautiful lives in a fair environment. It is not right to abandon economic and social development just because they have caused some environmental problems. Environmental protection and sustainable development, short-term profits and long-term profits, and also local interest and overall interest should all be equally pursued. Environmental and economic conditions should be developed both harmoniously and in a sustainable manner at the same rate according to each nation's own situation.

B. Principles of Demand in Developing Countries

A nation determines a path of improving the environment depending on its adaptation ability of economic, social, and cultural conditions. In cases of developing countries, poverty and deterioration are not the fundamental reasons for degradation of the environment. Environmental problems in developing countries worsen due to the fact that these countries adopt environmentally harmful and outdated technologies that were provided by developed countries. This destruction of developmental path creates a

vicious cycle between development and environmental protection. China proposes that a certain level of economic development becomes a fundamental solution to breaking the vicious cycle as it allows the country to exterminate poverty so that it is possible to protect the environment and to actively participate in international environmental protection cooperation. It is not realistic to ask developing countries to protect the environment while they are enduring the pain of poverty and starvation. In this regard, international environmental cooperation, such as cooperation between South and North Korea, should be discussed based on the principle of equity. Also, a new international economic regulation system that is beneficial to many countries, especially for developing countries to actualize sustainable developmental goals, should be established.

Meanwhile, many developing countries experience severe environmental problems such as land degradation, desertification, flooding, drought, water pollution, water shortages, and famine of ocean resources, soil erosion, and forest destruction. These environmental problems have already restricted the economic development of developing countries, and are major causes of environmental problems on earth. The Chinese government suggests that these problems are more realistic and urgent than climate change and destruction of the ozone layer in some aspects, and need to be solved preferentially.

C. A Principle of Responsibility that is Communal but Differentiating

Protecting the ecological environment of the earth is a common responsibility of human kind. However, it is necessary to clearly point out a major responsibility-taker who is responsible for the

deterioration of the environment, and a major duty-taker who should be in charge of the regulation of the ecological environment. Ever since the industrial revolution, developed countries have used the environment and its resources during the process of modernization without considering the results of their actions. An environmental problem, such as the continuously expanding greenhouse effect, is a result of accumulated acts of developed countries. As a result, developing countries are the victims here. Developed countries remain as major consumers of limited resources and still are contaminators of the environment even until today. Therefore, a principle of responsibility that is communal but differentiating, should be abided in international environmental protection cooperation. Developed countries have responsibilities and should be role models in environmental protection and also should contribute more towards international cooperation.

Therefore, developed countries should provide extra funds to developing countries to help them to participate more actively in international environmental protection cooperation. In addition, developed countries should supplement the economic losses of developing countries, which are caused by their practice of the responsibilities of international laws. China asserts that 'sufficiency' of the fund should be emphasized. Providing a small amount of funds is only for the effect of advertisement in symbolic ways, and it does not do anything to solve the real matter.

At the same time, China argues that there should be an emphasis on the 'additional funding.' Environmental funds should not be counted as a part of distribution of any existing development supporting fund. Expanding the amount of environmental protection funding by reducing the amount for the development-aiding fund will obviously harm the economic developments of developing countries and eventually weaken the environmental protection

abilities of these countries.

Next, advanced technologies that are necessary to exterminate pollution should be provided to developing countries with privileges and non-commercial conditions. China argues that such technologies should not be considered as a regular product and should not be dealt with under the principles of market economy. To be responsible for the common interest of the human race, transfer of such technologies to developing countries should be regarded as an appropriate contribution for the common project of mankind.

D. Principles of Respecting Sovereignty and Non-intervention

International environment protection cooperation should be based on the principles of equality of sovereign states. Each country in the world has its own situations and different economic model. Therefore, each nation must choose the developmental process based on its own economic and social developmental reality and protect its own environment and actively participate in international environmental cooperation. Hence, developed countries should not make environmental protection requests as collateral conditions of economic aid. Moreover, developed countries should not interfere with internal administration or should not enforce their own social and economic values by using environmental protection as an excuse.

E. Principles of Extensive and Effective Participation of Developing Countries

In the field of international environments, abnormal phenomena such as lack of participation and insufficient influence of devel-

oping countries exist. The international community should change this situation by inducing measures to make sure the participation of developing countries can be sufficiently influenced. It is a fact of evidence that it is impossible to protect and regulate the global environment with no participation from developing countries that hold the majority of the world's population. If developed countries help developing countries to participate in international cooperation by stepping forward with active, constructive, and realistic attitudes, developing countries will be able to create a bright future for generations to come.

4. China's Standpoint towards the Environmental Protection Cooperation in Northeast Asian Countries

Cooperation for environmental protection in Northeast Asia is a regional international environmental cooperation. As it has been stated above, China's standpoint is constructed under the big frame of China's environmental protection cooperation and principles of the international environmental problem. Regional environmental protection cooperation of Northeast Asia, however, has its own characteristics as a part of international environmental cooperation.

A. Current Situation of Environmental Protection Cooperation in Northeast Asia and China's Standpoint

(1) Constructing the Cooperative Frame Among Environmental Protection Multinationals

Currently, multinational environmental protection organiza-

tions in Northeast Asia are Northeast Asia Sub-regional Programme for Environment Cooperation (NEASPEC) and Tripartite Environment Ministers Meeting (TEMM) between South Korea, China, and Japan.

NEASPEC is a regional environmental protection cooperative mechanism that six countries, South Korea, China, Japan, North Korea, Russia, and Mongolia, have participated in following a suggestion of APEC in 1993. NEASPEC holds a meeting annually under the theme of exchange and cooperation for environmental and developmental problems in Northeast Asia. The first meeting was held in 1993 with the participation of the six countries mentioned above. The purpose of the meeting was to support 'regional strategies for environmental protection and sustainable development in the Asian Pacific region' that were passed at APEC and to establish Northeast Asia's agenda for the 21st century.

This council was held twelve times during the past 14 years until 2007. The first meeting launched the 'Northeast Asia Programme for Environment Cooperation (NEAPEC)' and NEASPEC has become the decision-making organization for the plan. The structure of NEAPEC was finally confirmed at the third meeting. Budget funding and a trust fund were established at the fourth meeting, and the fifth meeting made a definite decision on fund supporting between two or multination. The 12th meeting, that was held in Beijing in 2007, appealed to construct a 'new economical society' and passed four projects such as nature protection plans for Northeast Asia, technical support for thermal power plants to prevent air pollution, companionship for ecological efficiency, and prevention of yellow dust storms.

At the 12th NEASPEC meeting, the Chinese government had suggested following three proposals to take an enormous step forward in Northeast Asian environmental cooperation. First is to

deeply improve the cooperation by using superior positions. That is, six countries should continue to develop their potential based on their previous achievements so that they can deeply improve cooperation in the areas that can practically benefit the people. At the same time, as environmental cooperation in Northeast Asia is a part of global environmental cooperation, principles and goals of international environmental cooperation should be considered sufficiently and should contribute to global environmental cooperation. Secondly, a source of funds should be expanded. The operation of environmental cooperative mechanism in Northeast Asia is based on human power, material power, and financial power. Ever since the birth of the environmental cooperative mechanism, NEASPEC, main sources of funds were donations from each country and projective investments of related financial organizations. Ever since the establishment of a core fund in 2001, the source of funds has been secured and the overall amount of collected funds has already reached seven hundred and seventy thousand dollars in the financial year of 2005~2006. Stressing that the funds should be increased continuously, China has donated fifty thousand dollars in 2007 again. Thirdly, major issues should be suggested and the projects should be carried out. Ever since the administration of an environmental cooperative mechanism in Northeast Asia, cooperative projects such as technologies for clean fuels and management for diversity for living organisms have been deployed and supported by each participating country. Projects such as prevention of air pollution by thermal power plants and prevention of yellow dust storms were evaluated in the 12th meeting, and it was appealed to construct a 'new economical society' with the concept of ecologically efficient companionship. China has agreed on such related project cooperation and claims that these contents should be abided.

In the meantime, an environment meeting by cabinet ministers of three countries, China, Japan, and Korea, is an annual council that is held in each country in turns. It was started by the suggestion at the first summit talk of Korea, China, and Japan in 1999 to launch an environmental cooperation and discussions. This council seeks for ways to solve communally regional environmental problems and find ways to accelerate sustainable development in the region. As a significant regional environmental cooperative mechanism, this meeting has cooperated and shared opinions on various topics such as cooperation on yellow dust storm monitoring, a monitoring network for acid rain in Northeast Asia, environmental education networks in three countries, plans for development on environmental human resources, protection of ecology of China's northwestern area, protection of fresh water resources, and environmental protection industries. It has achieved some positive results so far.

At the eighth three-nation environment meeting of ministers in December 2006, the Chinese government proposed five suggestions as follows. First, the actual task group mechanism should be strengthened. Also, the decisions of the meeting should be executed, and there should be no communication barrier under the frame of the meeting. In particular, a determined actual group meeting mechanism should be constructed. Secondly, communication between other cooperative mechanisms should be consolidated within the area and the influence of cooperation among three countries should be expanded while cooperation between these three countries and other Asian countries should be promoted. Thirdly, diverse cooperation such as evaluation on environmental tasks, construction of environmental organizations, construction of related legislation and technologies should be strengthened and advanced. Fourthly, negotiations regarding multinational or

regional major environmental problems should be intensified. At the same time, it should contribute to sustainable development within the area by solving problems and putting emphasis on the connections between countries.

Fifthly, participation of science technology circles, universities, research organizations, corporations, and non-governmental organizations in the three countries should be absorbed so that the environmental cooperation of the three countries can be vitalized.

(2) Strategies for Three Nations' Cooperative Actions Among Korea, China, and Japan

The accepted <Three Nations' Strategies for Cooperative Actions among Korea, China, and Japan> from the committees of Korea, China, and Japan on November 27, 2004 has agreed on environmental cooperation as follows.

First, the three countries should continue to have three nation environmental ministers councils and should evaluate the projects that were discussed in the meetings, and extend these projects to various environmental cooperative activities among the three countries. The three countries also should vitalize the environmental protection cooperation under the frame of diverse environmental cooperation such as a monitoring network for acid rain in Northeast Asia, plans for environmental cooperation in Northeast Asia, companionship in forest conservation in Asia, and prevention and extinction of yellow dust storms. Secondly, the three countries should continue 'Meeting for periodic wind prediction in East Asia.' Seasonal forecasters in weather casting departments, research organizations, researchers from universities, and other experts should participate jointly so that season forecasts can be better utilized in social and economic development. Thirdly, the

three countries should establish administrative work groups to deal with the exchange of statistical results of the three countries in the first place. The observation system in Northeast Asia and the ocean should be intensified and observation network functions should be strengthened throughout this system. Fourthly, with step forwarding cooperation, the three countries should construct a circulating society that would adapt well in East Asia/Southeast Asia by the method of 'saving, retrieval, recycle.' Lastly, the three countries should intensify cooperation under the frame of 'companionship in East Asian ocean management,' and should promote sustainable development of East Asian oceans by applying <Strategies for Sustainable Development in the East Asian Ocean> that was adapted in the council for sustainable development in East Asian Ocean in December 2003.

(3) Environmental Cooperation between China and Japan, and Korea and China

(A) Environmental Cooperation between Korea and China

China and Korea are neighboring countries with the yellow sea in between them. Economy and trade between the two countries have developed rapidly ever since the Korea-China amity in 1990. Also, relationships in the areas of science and culture are expanding gradually. Environmental cooperation between Korea and China is developing based on this background. In 1993, a year after the amity, foreign ministers of Korea and China have agreed on <Agreement on Environmental Cooperation between Korean Government and Government of People's Republic of China>. The protocol includes the exchange of environmental information, technology, experience, hosting workshops about common interests, and the collaborative countermoves towards Asian and global

environmental issues.

The main issue of environmental cooperation between Korea and China is about comprehensive regulation on pollution and the development of environmental industries in the two countries. It includes diffusion of air pollution (SO_2) from China to Korea, contamination of the two countries' communal yellow sea, and illegal transfer of disposals from Korea to China. Development in environmental industries is also a communal matter of concern. Since the 1990s, Korea has already pointed out the environmental industry as an important axis in the development of national economy, and has executed developmental strategies focusing on exports. Meanwhile, in China, the pressure for the growth of the environmental industry has greatly increased recently so that the demands for environmental facilities, technologies, and products are rapidly increasing. Exchanges in the environmental industry in two countries has operated frequently after the late 1990s, and cooperation on environmental industry is processed in diverse forms such as reciprocal visits, hosting workshops, investments in projects and mainly focused on information exchange.

(B) Environmental cooperation between China and Japan

Environmental cooperation between China and Japan is more vitalized than the one between China and other countries in every aspect including size, content, and range. The main reasons are as follows. First, the flow of Japanese government funds on China's economic area has been switched to the fundamental facilities area after 1980s. The flow has also been switched to the social development area that includes environmental protection since the 1990s. Solutions in environmental areas such as international transportation issues of environmental pollution materials, emission of waste gas that causes global warming, and environmental standard

issues that were established in 1998 about the disposal of biochemical weapons that Japan has left in China have become communal areas of interest to both countries.

In environmental cooperation between China and Japan, cooperation between State Environmental Protection Administration of China (中國國家環保總局) and Japan International Cooperation Agency (JICA) as well as environmental cooperation between the two governments have been expanded to Japanese administrations including the Ministry of Foreign Affairs, the Bureau of Statistics, the Ministry of Environment, the Ministry of Science and Technology, and the Ministry of Culture. It also includes Chinese administrations such as the Bureau of Statistics, the Chinese Economy and Trade Committee, the Ministry of Science and Technology, the Ministry of Education, and the State Environmental Protection Administration. In 1980, cooperation in the environmental science field has already been discussed due to the agreement on scientific technology between China and Japan. The participating organization from China was the Chinese environmental science research organization that was established right at that time. From the Japanese side, the Ministry of Trade and Industry participated in this cooperation with great interest. 'Supporting green plan,' (started in 1991), promoted by the Ministry of Trade and Industry, included the Japanese trade promotion agency, Institute of industrial technology, and NEDO. They have maintained environmental cooperative relationships in a broad range of areas including the state design committee, international trade, the industrial field, and energy field and also performed joint research and sample investigations while developing and using new technologies. They have pursued re-education of professional human resources as well. The most relatively influential cooperation was enforced by NEDO and it was a collaboration effort on coal refining technology

and its related research, application, and development.

Environmental cooperation between local governments in China and Japan has been promoted in the level of cooperation between sister cities. This cooperation has been processed by an offer of funds, support for environmental protection, and educating trainees about the elements of China's environmental protection. This environmental cooperation between local governments is below the level of environmental cooperation between national governments in the amount of funding and level of technology, but it has its own significance in a way that it supplements and improves the contents of cooperation in national government level.

Non-governmental environmental cooperation between China and Japan has progressed with the government's environmental cooperation most of the time, but it is more distinctive in ranges and varieties than governmental cooperation. Non-governmental environmental cooperation between China and Japan can be classified as follows; Pure academic research between universities or research institutions between the two countries, investigation and study on the environment and economy funded by the Japanese economy foundation or corporations, environmental protection activities led by Japanese non-governmental environmental organizations, and cooperation by international organizations.

B. Necessity of China's Participation in Environmental Cooperation in Northeast Asia

From the perspective of the nation, according to <'11.5' Scientific Technology Developmental Plan for National Environmental Protection>, China's current level of environmental protection faces three contradictions at this point. First, it gets more difficult to bal-

ance the relationship between environment and economy due to the contradictions between the facts that the environmental problem gets worse every day while the conversion to growing economic development is slow. Secondly, there is a contradiction between the urgent needs of the people to improve the environment and the long-term period that would be required to control the environment. The third contradiction is about the reality of the worsening environmental situation while the demand for international environment is growing increasingly every day.

Particularly, the execution of 'Plan for promoting development in China's region in the Northeast' has provided the opportunity for the economy of China's region in the Northeast to develop. But at the same time, it faces a brand new challenge in the construction of ecological and environmental protection. China's region in the Northeast suffers from a worsened ecological environmental situation due to the effects of intensive development throughout a long period. Also, it has serious problems in the areas of clothing, soil, wetlands, mines, diversity of living organisms, and ecological environment construction in urban and rural areas. The most serious problem is industrial pollution. Ecological environmental problems of China's region in the Northeast can be specified into several aspects as follows.

(1) Aggravation of Natural Ecological Environment

First, the climate dryness tendency is being aggravated. Due to the influence of climate change in Central Asia, the climate of the Northwestern area in China's Northeast region is becoming drier. Also, xerophiles (旱生) from Western China, and even super-xerophiles plants (超旱生) from deserts are moving to the east. If people continue environmental destruction in this situation, it is

evident that the quality of ecological environment in Western mountains and hills in northeastern areas will be degraded in quality. This will eventually bring negative influences on agriculture, forestry and cattle farming as well as on economic and social development of the middle-western area.

Second, soil loss is aggravated on a daily basis and the sizes of lithoidal areas are increasing. Sizes of soil loss areas are 46% of the whole northeastern area, and annual soil erosion reaches to the amount of 3.5~4.5t. Serious soil loss leads to a decrease of organic substances in the soil, negatively affecting the fertility and the depth of the land. The thickness of soil was 1 meter in the early developmental stage in northeastern China, but now it has dropped to 20~30cm and the quantity of organic substance dropped from 7% to 3.5%. The lithoidal areas in mountains are increasing and now show 23.31 billion~26.64 billion m^2 which is 8~10% of the whole mountainous district.

Third, the areas of desertified lands are continuously increasing. The western area located in the eastern part of China is next to the Kerqin (科尔沁) desert. Particularly, previously existing soil layers have been largely destroyed by the excessive development and inappropriate methods of agriculture. The density of the shelterbelt that was constructed in the 1950s has dropped and many parts have been disconnected so that the capacity of holding sand has been largely disabled, increasing the areas of desertified lands. The current desertified land size of China's northeastern area is 11,856.3 km^2 and the degree of the yellow dust storm disaster is worsening.

Fourthly, the countercurrent of ocean flow is a serious problem. Coastal areas of China are experiencing phenomena such as the drop of the underground water level and countercurrent of ocean water destroying large areas of cultivated land due to excessive development of underground water. The countercurrent of ocean

flow in Bohai is the most serious one. For example, areas such as Dandong, Dalian, Panjin (盤錦), and Jinzhou (錦州) in Liaoning are seriously influenced by the countercurrent of ocean flow disaster.

Fifthly, the sinking of the surface in the mining area has become a serious problem. Due to the excessive development of mining production over a long period of time, most ground surfaces of mining areas in Liaoning and Heilongjiang have sunk. The ecological environments of the mining areas are very aggravated as well. According to the statistics, 90 places coal development areas, such as Fushun (撫順), Fuxin (阜新), Tiefa (鐵法), Beipiao (北票), Nanpiao (南票), and Shenbei (沈北) in Liaoning, have currently reported sunken grounds, and the size of the sunken area is 258.95 km^2. In Fuxin, 13 locations have shown sunken surfaces and the size of the sunken area is 101.4 km^2. Heilongjiang also has serious problems of sinking ground, and the problems are usually distributed around Hegang (鶴崗), Shuyangyashan (双鴨山), Jixi (鷄西), and Qitaihe (七臺河). The size of the affected area is 507 km^2.

Sixth, household wastewater pollution is very serious. Four hundred out of one thousand cities in China have already encountered water shortage problems. Domestic wastewater has been released into the rivers without any treatment and this has polluted the quality of water in many areas having no necessary mechanism and technological aids. A large scale of industrial cities and farms are densely populated in the Songhua River area from China's northeast region and coastal area of Liaohe (遼河), creating serious domestic wastewater pollution. Out of the released 11.4 billion tons of domestic wastewater in 2005 from Liaoning, the amount of nitrogen emission is 570,000 tones. The emission of domestic wastewater in Heilongjiang is 6.89 billion tons and Jilin's emission is 5.7 billion tons, showing that there has been a 6.5% increase from 2004.

(2) Industrial Pollution Problem

First, the air of industrialized cities is seriously polluted. Liaoning's pollution is the most serious one in the northeastern part. Annual emission of industrial waste is 1.2774 trillion standard m^3 and the emission of SO_2, smoke, and industrial powder is 640,000 tones, 400,000 tons, 350,000 tons respectively. 85% of the whole Liaoning area has exceeded the allowed standard of dust content and the central urban areas are the worst, showing 2~10 times more dust than the annual average dust amount. Annual average density of the solid particles in the entire air of Liaoning is 7~8 mg/m^3 which is 1.5 times more than the national standard.

Secondly, industrial wastewater is contaminating the quality of water in serious degrees, making it difficult to provide water to the central south area in the northeastern region. Liaoning and Jilin are areas that lack of water resource. However, industrial cities in middle and large scales are concentrated in Liaoning, aggravating the water shortage. The water problem in coastal areas such as Dalian is in a very severe situation as well. To solve the water supply problem in cities and industries, Liaoning has developed underground water on a large scale from the 1970s. As a result, the amount of underground water in cities like Shenyang, Liaoyang (遼陽), and Anshan (鞍山) has reduced rapidly, creating the flare-shaped land. Currently, 85% of the rivers in Liaoning are contaminated and the area of the contaminated underground water in central cities leads up to 5 million km^2. According to the report on water quality evaluation of three regions in China's northeast area in 2005, out of seventy-nine water resources controlled by the government in the northeastern region, 29% had poorer quality than grade 5, 34% were lower than grade 4, and only seven reached grade 2 and its percentage was only 9. Among them, the Liaohe

River is most polluted while the water quality of the Aplok River is the best.

(3) Environmental Pollution in Rural Areas

Agricultural districts in the northeastern region are not highly economically developed so that basic facilities for daily lives and production such as roads, houses, and toilets are still in primitive and degraded conditions, leading to the disposal problem of domestic trash. Also, the pollution of chemical fertilizer and agricultural vinyl is serious as well. Particularly, since an extensive farming style has been ongoing for a long time, the fertility level of the land is low. As a result of rapid development of town and township enterprises (鄉鎭企業) and the fact that '3 wastes' from urban areas are transmitted to rural areas and using agrichemicals and chemical fertilizers and irrigating with polluted water, all the rivers, wells, and water reservoirs, and the farms were contaminated and the environment in agricultural districts has been ruined severely.

(4) Appearance of Potential Ecological Environmental Problems

New environmental problems have emerged by the effect of new economic developmental plans even before previously existing environmental problems were solved. For instance, at the south foot of the Daihung mountain range, where an abundant amount of colored metal minerals are buried, the region is preparing to develop mining and metal refining industries. Hailar (海拉尔) area in the eastern part of inner Mongolia is plentiful with coal resources and the local government of this region has already

decided to mine coal on a large scale. Jilin has decided that the steel industry would be the main focus of future industrial development, and Tongliao (通遼) steel company has risen as the main leader of the steel industrial development. All these new industrial distribution and developmental plans contain potential crises in the ecological environment. The south foot of the Daihung mountain range is a natural barrier that blocks the sand dust blowing from Mongolia to the Northeast, and Hailar is located in the extension of this barrier. Soil in Hailar became severely desertified due to the unreasonable cultivations and uses of its meadows for several years, and its capacity for ecology has been weakened to a great extent. If the mining for colored metal minerals and coal resources starts, the ecological environment will be destroyed even more. The more serious point is that there is a risk of destruction of the important ecological fence in western areas in the northeastern region if corresponding environmental protection management does not follow up with the developmental and production processes. Mount Baekdu is a significant ecological barrier in the east part of three areas in northeastern region. Tongliao steel company is located around the outskirts of this environmental protection area. If the steel industry takes place here and is developed on a large scale in this area, it will negatively affect the ecological stability and future development. Also, considering the situation from a perspective of overall industrial distribution and development in the northeastern region, economic profits will be even lower than the profits from previous states of protected ecology.

C. Regional Environmental Cooperation in Northeast Asia for the Solution to China's Environmental Problems in the Northeastern Region

Regulating the traditional and resource consuming industrial structure during the economic development of the northeastern region should solve the environmental problems mentioned above. Also, resource and energy consumption and highly polluting extensive economic developmental methods should be improved. These issues, however, have intimate relations with the ecological environment in the northeastern region. Using the geographical merits, northeastern areas in China have the potential to harmonically resolve the complicated relationships among economy, society, resources and the environment by actively participating in the northeastern environmental cooperation. Particularly, since the northeastern region is located in the center of the Northeast, gradually developing environmental cooperation in this area can be responsible for providing a great foundation to solve some issues such as regulating the ecological environment and improving the industrial sites. Therefore, it is necessary to consider the strategic issues such as protecting the environment of the northeastern region and converting the method of economic development under the big frame of the northeastern environmental cooperation. Participation of the northeastern region in environmental cooperation in Northeast Asia may bring positive effects in the following three aspects.

First, environmental cooperation in Northeast Asia will play an assistant role as to controlling the environment of the northeastern region in China. Current industrial structure in the northeastern region in China is primarily based on raw material processing industries, and heavily polluting traditional industries. If this

region actively participates in the environmental cooperation in Northeast Asia, it will be possible to reduce the cost of the environmental structure by having free funding support, preferential loans, and technological cooperation throughout the project and this will help to regulate the environment of major areas, other areas, and cities, and also to improve the quality of the environment.

Secondly, an effective mechanism will be established for environmental technological cooperation and this will expand the domain for economic management. The northeastern area is still falling behind economically and facilities are old and technologies are primitive. For instance, the percentage of production facilities of major industrial companies in Shenyang that reaches the level of international developed countries is only 13.4% and old equipment from periods dating before the 1960s place more than 70% of the entire amount. This leads to low economic efficiency, slows down economic development, wastes a lot of resources, and, finally, produces severe environmental pollution. Therefore, if the region participates and cooperates in the environmental cooperation of Northeast Asia, it will enable the region to effectively use the energy during the process of industrial development, and also will have premiums in introducing new technologies that can collect resources and wastes and then recycle them.

Thirdly, it will be beneficial for the corporations to develop international competitiveness.

Nowadays, requests for environmental protection in international trade are growing stricter, creating a 'green trade barrier.' However, the number of corporations that are approved by the international environmental management system is very rare in the Northeastern region of China. Hence, if the region wants to advertise its own goods to the international market, it is necessary to include environmental protection business in the big frame of

social economic development. Also, if the region invents green environmental products by exchanging environmental information and cooperating environmental technologies with Japan and Korea, it will play a significant role for northeastern corporations to develop competitiveness in the international market.

<Government's Leading Role in Promoting Participation in Environmental Cooperation in Northeast Asia>

The government should play a major role by promoting the Northeastern region's participation in the environmental cooperation in Northeast Asia so that by taking effective measures, it should promote the northeastern regions of China to be included in the planning of environmental cooperation in Northeast Asia.

① The government should come up with a policy that encourages environmental cooperation in Northeast Asia. By providing benefits such as government subsidy policies, tax policies, and low interest loan policies, the government should actively support and promote the participation.

② Environmental cooperation with Japan and Korea should be actively pursued. Japan has one of the most advanced environmental protection technologies and facilities in the world, but is very passive at conveying technologies and actively transferring industries. Therefore, China should build an environmental protection cooperation mechanism with certain goals. The northeastern region of China should promote cooperation on inventing ultramodern technologies, high added values, low pollution, low consuming products with Northeast Asian countries like Japan and Korea according to China's industrial structure regulation policy. At the same time, recycling technology should be developed and promoted while development of energy saving technology,

ecological agriculture, raw materials and resource technology, and clean production technology should be encouraged.

③ An environmental protection fund should be secured. Funding issues are the biggest obstacles in the environmental protection in the northeastern region in China. Therefore, corresponding policies should be established to actively secure the government's donations, free support and privilege loans when the region participates in the environmental cooperation in Northeast Asia.

④ The environment management system should be perfect. Particularly, for an extensive development of the region or large-scale project, preferential policies should be established when attracting foreign capital, so that they are induced to invest in environmentally friendly projects. Environmental management should be intensified, and strict standards and legislation should be created.

5. China's Role in Environmental Cooperation between South and North Korea

China shares the Aplok River and the Tumen River with North Korea. Also, they face the borders at the yellow sea and reciprocally receive environmental influence directly from each other. Environmental cooperation with North Korea to reduce negative environmental effects through environmental protection by each country is a major part in the environmental cooperation in Northeast Asia that China is promoting. Environmental cooperation for the improvement on North Korea's environmental situation becomes an interest of the Chinese government due to its direct and positive influence on both China's and North Korea's environment.

A. Current State of Promoting Environmental Cooperation between North and South Korea

(1) Direct Exchange Cooperation on a Government Level

Direct exchange cooperation for the environment on a government level is agreed to by <Agreement on Reconciliation, Inviolability, and Exchange Cooperation between South and North Korea> from 1992 and <A Joint Declaration of South and North Korea> which was agreed to during the summit talks between the two sides on June 15, 2000. However, direct exchange cooperation on the level of the national government's environmental protection department is not activated since exchange cooperation is mainly focused on economy and also because of the unstable relationship between South and North Korea due to political and military reasons.

Different from this, environmental cooperation on the local government level has been continuing since 2001, starting from the case that Gangwon province had helped Mountain Geumgang's mountain insect pests control operation. Cooperation is mainly done by supporting items like insect pest control chemicals, utensils, and management goods for the agricultural technology center (air cooler or heater, small buses) from South Korea's Gangwon province to North Korea. Gangwon province is planning to commence an exchange cooperation operation of pest control on 1,500 ha of pine needle gall midge and 1,000 ha of Acantholyda parki.

(2) Environmental Protection Exchange Cooperation at Special Economic Zones of North Korea through South and North Korea's Economic Cooperation

Exchange cooperation business on the environmental area between the North Korean government and South Korea's business developers is promoted to protect the environment in Geumgang tourist district and Gaeseong industrial district that are constructed and managed by South and North Korea's economic cooperation from 2000. In Gaeseong industrial district, Korea land corporation and Hyundai Asan Inc. have established <Environmental Protection Plan for the First Construction Business in Gaeseung Industrial District Factory Area> in 2006, which is about constructing environmentally friendly construction sites, based on the "8th meeting agreement of South and North Korea economic cooperation promotion committee." Also, through the negotiations between South and North Korea, legal ground for environmental regulation has been established by <Environmental Protection Terms at Gaeseong Industrial District> which is lower level legislation regarding Gaeseong industrial district environment area in November 2006. In the case of mountain Geumgang tourist district, North Korea's public corporation of Geumgang tourism and Hyundai Asan Inc. have agreed on <Agreement on Compliance Rules Regarding to the Tour in Mountain Geumgang> on July 30, 1999, and the operation of the rules for natural environment protection for tourists in mountain Geumgang and the environmental protection plan have been submitted to the North Korean government by Hyundai-Asan Inc. in November 2006.

(3) Direct Exchange Cooperation on Non-governmental Levels

Direct exchange cooperation on non-governmental levels has been promoted with exchange cooperation such as attending environmental meetings held by non-governmental organizations or academic research projects in private dimensions or planting seedlings. 'Forest of peace' has continued to support seeds, plants, fertilizer, related production facilities, cultivators and tractors for the forestation in North Korea actively since 1999. It has constructed and managed a greenhouse for nursing trees (150 pyeong) and a solar power generation site (4KW level) for the support of the green house near mountain Geumgang in Goseong county of North Korea and passed on tree nursing technologies. In addition, forestry forum of Northeast Asia has donated $350,000 through UNDP from 2001 to 2003 to restore two tree nurseries. As stated above, direct exchange cooperation on the non-government level on environmental areas is mainly based on the restoration of forestry in North Korea.

(4) Indirect Exchange or Contact through Third Countries, International Organizations or International Conferences

The very first indirect exchange or contact through third countries, international organizations or international conferences is the indirect exchange between South and North Korean environmental experts at the 'Academic conference of environment and development in East Asia' that was hosted by eight countries including South and North Korea and UNDP in 1995. After that, governmental or non-governmental indirect exchange or contacts have continued through environmental cooperation mechanisms such as

a special meeting on yellow dust storms by Tripartite Environment Ministers Meeting (TEMM) among Korea, China, and Japan, Northeast Asia Sub-regional Programme for Environment Cooperation (NEASPEC), Northwest Pacific Action Plan (NOWPAP), Tumen-Net Strategic Action Programme (Tumen-Net), Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), and Yellow Sea Large Marine Ecosystem Project (YSLME).

(5) Evaluation on Environmental Cooperation of North and South Korea

Direct exchange cooperation between the two governments is not actually processed yet but staying at a level of perfunctory declaration due to North Korea's passive attitude and political and security reasons. The most active exchange cooperation is the field of forestry and insect pest control, and this was possible due to North Korea's urgent demand on those areas. Exchange cooperation through third countries, international organizations and conferences is valuable as a gateway for indirect exchange cooperation with North Korea. This, however, is possible to achieve stability only when there is support for actual environmental improvement with technologies and funds. Environmental cooperation on the environmental management in special economic zones from the South and North Korean economic agreement is showing some successes by spreading environmental policies and legislations, and the possibility of environmental cooperation combined with economic cooperation has been shown.

B. China's Role for Vitalization of Environmental Cooperation between North and South Korea

As shown above, environmental cooperation between South and North Korea has partially progressed in a non-governmental dimension or with the combination of economic cooperation. However, actual exchange cooperation about the construction of environmental infrastructure that includes building pollution disposal plants for major rivers and large-scale factories, formation of environmental study foundations and capability development, and environmental improvement enterprises on each medium has not been launched yet.

As a solution to promote the environmental cooperation vitalization between South and North Korea, as a neighboring nation to North Korea, China's role as a facilitator of environmental cooperation between South and North Korea is expected. The reasons are, first, as China has already played a role as a facilitator and a mediator in the areas of politics, the military, and security through the six-nation conference, the same role is anticipated. This reason is supported by the fact that North Korea has shown more participation at environmental cooperation mechanisms for Northeast Asia or activities such as TEMM, and NEASPEC, when they were held in China. That is, the Chinese government or related organizations have the ability to promote environmental cooperation between South and North Korea by providing grounds and channels for South and North Korea's cooperation or even for the three nation cooperation among China, South Korea, and North Korea.

Second, there is a close relation between North Korea and the Chinese economy and environmental demand. China co-owns two border-rivers called the Aplok River and the Tumen River with North Korea. Therefore, China and North Korea both have

responsibilities and rights to the conservation of water resource protection in the two rivers and also on the economic development by using resources around the area, including using water in an environmentally friendly and sustainable way. That is, if China is the only one putting in the effort, there should be a limit in the conservation of environment of these border rivers. The participation of North Korea and cooperation between the two countries is necessary. North Korea, however, faces the reality that they cannot consider environmental protection and sustainable development including the use of the Aplok and the Tumen River. North Korea is in a difficult situation to invest national budget, human resources, and technology in the environmental protection of these two rivers. However, if China goes for the cooperation of the three countries including South Korea, North Korea, and China herself, necessary funds, technology, and experience can be shared with South Korea. Since South Korea shows great interest on the environmental protection of the Aplok River and the Tumen River as it has interests in the developmental plan project of the Tumen River by UNDP, there is a high possibility for the three-nation cooperation. As it is suggested, China may gain opportunities of economic development and environmental protection by arranging chances and participating in South and North Korean cooperation.

Third, vitalization of South and North Korea's environmental cooperation will act positively on the cooperative mechanism and activities to correspond to the environmental problems in Northeast Asia together. For example, cooperative operations such as constructing a communal observation network for yellow dust storms and real-time sharing of the observed data will advance the construction of yellow dust storm monitoring and an early warning system.

6. Conclusion

International environmental cooperation has become a significant part in China's diplomacy and also has an important role in China's environmental protection operation. Particularly, China's active participation in Northeast Asian environmental cooperation has a huge significance with the execution of "strategies for vitalizing the old Northeast industrial basis." This is directly related not only to the future development of the northeastern region in China but also to the sustainable development in Northeast Asia. Therefore, establishing the 'environmental community in Northeast Asia' is necessary since environmental cooperation in Northeast Asia does not benefit only one specific country but includes communal interest of the countries within the area. To achieve this, countries in the area should use the environmental cooperation mechanism in Northeast Asia. At the same time, sufficient agreement should be induced on the issues of strategies for environmental cooperation in Northeast Asia, and the issues of cooperation principles. Also, it is necessary to look for common features among countries, instead of focusing on the conflicts.

Even though environmental cooperation in Northeast Asia has been truly vitalized with the participation of China, Japan, and Korea, one of the biggest remaining problems is the inactive participation of North Korea. North Korea's involvement in the establishment of 'Northeast Asian environmental community' may be a common desire of the other countries in the community. With providing suggestions and efforts for the environmental cooperation in Northeast Asia, China is expected to play a productive role in stimulating North Korea's participation and promoting environmental cooperation between South and North Korea. The reasons are explained as follows.

First, China's principles and standpoint towards international environmental problems correspond with the interest of North Korea. Being an abnormal country basically causes the devastating economic state of North Korea. The abnormal state of North Korea is mainly due to the confrontation with South Korea during the Cold War era and also due to the blockade policy and restrictions from U.S. Therefore, supporting the environmental construction in North Korea should be the priority in this stage.

Secondly, different from political and economic cooperation, environmental cooperation can play as an easily accepted adhesive to improve the relationships among each country due to its own characteristics. This will work on North Korea as well, relatively reducing North Korea's pressure. The more important fact is that environmental cooperation becomes the precedent of economic cooperation (especially from the perspective of the development of natural resources). It also becomes the outcome of economic cooperation (economic development increases the demand of the environment departments inevitably). The integration between environmental cooperation and economic cooperation provides a foundation for the support of sufficient funding and technology. Therefore, North Korea's participation in environmental cooperation in Northeast Asia is beneficial both for the improvement of North Korea's environment and economic development as well as for the foreign economic cooperation.

Third is the constructive role in the environmental cooperation in South and North Korea. China and South Korea share mutual interests in many aspects while having North Korea in the middle. For instance, China and South Korea both pursue peace of the Korean peninsula, and this is only possible with the political stability of North Korea. Also, China and South Korea both aim for the communal prosperity and both try to promote economic coopera-

tion with North Korea. Therefore, mutual communication, understanding, and cooperation between China and South Korea are needed to solve the issues related to North Korea.

In this situation, under the frame of multinational cooperation, if environmental cooperation in Northeast Asia is vitalized, it is expected that cooperation between South and North Korea will be vitalized as well. If three-nation environmental cooperation among China, South Korea and North Korea happens, there will be more advantages to vitalize environmental cooperation between South and North Korea.

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VI

Northeast Asian and South-North Korean Energy Cooperation

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1. Introduction

In recent decades under the influence of progressing interdependence among Northeast Asian countries in managing challenges of globalization the pattern of the factors and conditions affecting the current and future status of NEA cooperation was transformed. The objective factors of geographical proximity and resource complementarity have moved into the forefront. It is those that have stimulated NEA countries to develop actively regional economic cooperation in order to build mutual trust and generate mutual benefits in various areas (economy, policy, culture, energy, security, society, environment, etc.) both for the region as a whole and for the countries concerned.

From the economic perspective the cooperation within the NEA region could ensure more efficient distribution and usage of the available production, financial, natural and technological recourses so that the all countries concerned could have sound economic development and thus increase the people's well being.[1]

In view of various security dimensions the NEA cooperation could provide the region with more power in global geopolitics, guarantee for countries involved predictability in strategic actions of one another due to strong interdependence, eliminate the threats of regional conflicts, reduce the risks and the consequences of possible shortages in resource supply, financial crises, economic breakdowns, and environmental disasters.

In addition, regional cooperation also will be crucial to the resolution of the specific challenges faced by NEA, such as Russia's

[1] – Minakir P.A., Asia Pacific Region and NEA: Movement towards Integration and the Russian Factor, In *The Vision of Economic Development and Cooperation in Northeast Asia*, Economic Research Institute for Northeast Asia, Niigata, Japan, 2007.

drive for economic development of its Eastern part on the basis of its own natural resources, China's quest of rapid economic growth despite severe environmental problems, Japan's and South Korea's pursuit of sustainable and secure development in the light of China's increasing power, and DPRK's vital need of rehabilitation and integrating into the international community.

Since the recognition of the necessity of cooperation among NEA countries, there appeared a range of concepts and theories devoted to the assessment of opportunities and prerequisites, the elaboration of principles, and ways and mechanisms of such cooperation. All proposed designs are based on a variety of institutional and investment projects ranging from development of an integrated project in Tumangan area to establishing Free Trade Agreements on bilateral and/or multilateral bases.

Nevertheless, in most concepts of NEA regional cooperation the core of those are associated with *energy resources and infrastructure*. It is the energy sector that is assigned the part of engine for the cooperative processes within the region. This could be explained with the reasons of two types. The first one is related to the nature of energy resources, being an essential and irreplaceable input for industrial production and social welfare, and the one of energy infrastructure, being a framework (network) binding strongly the countries passed through and generating the ground for not only bilateral cooperation but also a multilateral one and regional integration. Another reason results from driving factors peculiar for NEA only (see below).

Thus, there is an acknowledgment in official, expert, and business circles that utilizing energy could be a catalyst for regional economic cooperation, easing geopolitical tensions, and promoting economic development by securing stable energy supply.

2. Outline of Energy Situation, Prospects and Policies in NEA Region

With confidence one can consider Northeast Asia as the most dynamic region throughout the world. Leading NEA countries - Japan, Republic of Korea, and China - in rotation were demonstrating outstanding rates of economic growth over various periods of recent decades. As a consequence, the region's economic dynamics has been accompanied by substantial growth in energy consumption despite the low energy intensity of GDP.

Over the last six years, 2001-2006, the energy demand of Japan, "big" China[2] and South Korea, has increased rapidly at the average rate of 6,3% annually. This is driven by enormous thirst for energy in People's Republic of China resulting in the soaring of energy consumption in the country over last six years by more than 75%. In 2006 the total energy consumption of the three countries mentioned reached 2.58 mln tons, or about 98% of total energy demand in NEA region (including only the Russian Far East), 71% of that in Asia Pacific and 24% of that in the world. While the "big" China account for about 50% and 17% of the total energy demand in Asia Pacific and in the world respectively. China, Japan and South Korea ranked 2nd, 4th, and 10th as energy consumers in the world.[3]

Within the region, each country's total energy demand and supply pattern is unique. Japan and Republic of Korea have the energy mix of the highest quality and most environmentally

[2] – "Big" China here includes People's Republic of China, Hong-Kong SAR and Taiwan.

[3] – BP Statistical Review of World Energy, June 2007, http://www.bp.com/statisticalreview. For NEA as a whole the estimates of Economic Research Institute FEB RAS were used.

friendly. Petroleum accounts for slightly less than a half, both natural gas (as LNG) and nuclear energy for about 15% of the total commercial energy consumption in Japan and South Korea. China, North Korea, and Mongolia rely heavily on coal which provides 70-80% of the total commercial energy demand in these countries. Besides, North Korea produces a sizable portion of non-commercial fuels such as biomass and charcoal, which in 2005 estimated was at 25% of total energy consumption in the country.[4] DPRK and Mongolia are the only countries in the region which do not use natural gas and nuclear power. The Russian Far East's energy pattern also differs from that of other areas of NEA. In the Russian Far East (RFE) two fuels - oil and coal - are predominant at a level exceeding 40% of total commercial energy consumption.[5]

Due to the lack of domestic energy production with respect to the amount of energy consumed in most NEA countries the existing energy patterns cause them to import huge amounts of energy resources. Both Japan and South Korea have a near total dependence on imported fossil fuels. Peoples' Republic of China is supplied from outside about 45% of crude oil and petroleum products consumed. North Korea and Mongolia are also dependent fully on oil import. The key problem of the energy import in NEA is not in itself but in the highly concentrated structure of that with the supplies from Middle East accounting for about 80% of Japan's and South Korea's oil import, about 40% of China's oil import, and about 50% of South Korea's LNG import. In addition, such a high

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4 – David Von Hippel, and Peter Hayes, *Fueling DPRK Energy Futures and Energy Security: 2005 Energy Balance, Engagement Options, and Future Paths*. Prepared by the Nautilus Institute for Security and Sustainability in collaboration with Korea Energy Economics Institute, Draft, May 2007.

5 – R. Gulidov, "Statistical Assessment of the Region's Energy Balance in Eurostat/IEA Format," *Voprosi Statistiki*, 2007, No. 1 (in Russian).

dependence on imports from the Middle East proved to be forced to pay higher prices for oil and LNG than other regions of the world (so-called Asian Premium of more than $1 per barrel of oil).

According to the estimates of a number of national and international research institutions in the XXI century the leading NEA countries are expected to keep energy consumption growth rapid albeit at a lower rate than those of today. In most scenarios the simulated energy demand pattern will be affected by an increase in natural gas use taking into account the higher pace of its demand projected as compared to that for the other fuels in total. Nevertheless, in the region as a whole, a bulk of energy consumption will still continue to be derived from coal and petroleum. The key NEA countries' dependence on energy imports is anticipated to persist in the future and even grow due to China's oil import dependence doubling in comparison with that of 2006 (from 40 to 80%).

The prospects of aggravation in energy import dependence for all leading NEA countries are determined by its poor mineral wealth. Japan and South Korea as well as Mongolia and DPRK have almost no proven hydrocarbon reserves having only reserves of coal. Although China is the energy resource-rich country in the region it is inevitable that its reserves of oil and gas are inadequate to current and, moreover, prospective country's energy consumption pace. So, there is only Russia, whose eastern territories Far East and Eastern Siberia contain more than 3.1 and 0.9 trillion cubic meters of natural gas onshore and offshore respectively, and about 1.0 and 0.3 billion tons of crude oil onshore and offshore respectively, could provide self-sufficiency in energy demand and export huge quantities of energy resources into NEA countries.

Under aforementioned challenges in matching the regional energy demand and the global struggle for energy resources, the

NEA countries' energy policies have been undergoing substantial revisions since entering the XXI century. The basic key points of energy plans of the countries concerned are as follows.

China. Recognizing the problem of a stable energy supply as the greatest challenge with regard to its economic development, in March 2006 China's government announced their 11th five-year plan for 2006-2010, which makes provision for intensive and broad introduction of energy conservation measures. Among the other policy priorities are ensuring reliability of energy supplies, environment protection, optimizing energy mix by switching to natural gas, nuclear and renewable energy sources, pursuit of gradual energy reforms in all energy industries, and acceleration in developing energy resources. In addition, it is aggressively promoting the acquisition of energy interests from waters close to its own territory to the Middle East, Africa, and Central Asia.[6]

Japan. The New National Energy Strategy, which has energy security at its core, was published in May 2006. It declared the establishment of a sustainable basis for growth through the integrated resolution of energy and environmental problems. In order to achieve this various measures have been formulated, including those aimed at the realization of the world's most advanced energy demand and supply structure, the comprehensive strengthening of resource diplomacy and energy and environmental cooperation, the enhancement of emergency response measures, promoting new energy sources and encouraging nuclear power generation.[7]

Republic of Korea. In the early 2000s the new energy paradigm aimed at broad suitable energy development of the country took

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[6] – S. Abe, "Energy," *The Vision of Economic Development and Cooperation in Northeast Asia*, Economic Research Institute for Northeast Asia, Niigata, Japan, 2007.

[7] – *Ibid*.

the course for energy supply stability having been adopted in the 1970s. The major guidelines of this paradigm come to the following: to set up an environmentally friendly energy system, to enhance the market mechanism, to improve energy efficiency, and to act the part of the hub of multilateral energy cooperation in NEA.[8]

Mongolia. In the quest of alleviating its strong dependence on Russia's petroleum supplies Mongolia's energy strategy directs to attracting foreign investment in developing its abundant coal resources, refurbishment and improvement of the energy infrastructure, establishing a unified electric power grid, and intensive and widespread utilization of renewable energy resources (wind, solar, hydro).

Democratic People's Republic of Korea. Under a range of problems facing DPRK's energy sector, such as an antiquated and/or poorly maintained energy infrastructure, mounting deficit in fuel supplied, energy price distortions, etc. the country's near-to-mid energy futures seem crucially dependent on success in installation and good relationships with the international community, particular with neighboring countries.

At the end of the XX century all the hopes for resolution of DPRK's energy-related problems were associated with establishing in May 1995 the project of KEDO (Korean Peninsula Energy Development Organization), which represented an international consortium for arrangement of assistance to energy development in the Korean peninsula.[9] The project was initiated with the

[8] – Energy Policy of Korea, 2004. pp. 10-15; Moon Young-Seok, Energy Demand Forecast and Energy Policy of Korea, 2004.

[9] – See, for instance The Korean Peninsula Energy Development Organization: Implications for Northeast Asian Regional Security Cooperation, 2000; KEDO, 2004.

Framework Agreement between U.S. and DPRK, signed in October, 1994, under which North Korea refused its own nuclear program, in turn, U.S. and partners (ROK, Japan and afterward the EU) was obliged to construct two nuclear reactors (with a total capacity of 2.0 GW) as well as to delivery 0.5 mln tons of heavy fuel oil annually until the first reactor came into operation.

After the beginning of the first nuclear reactor construction the KEDO project faced serious financial problems, which were heavily aggravated by U.S. administration's reckoning of the DPRK in so-called "axis of evil" countries. Political tensions and refusal of U.S. from obligations on resi heavy fuel oil deliveries resulted in the DPRK's energy crisis and provoked one to resume its nuclear program. As a result, at the end of 2003 the KEDO project was suspended. Just recently, in July 2007, in the course of regular meetings of six-party talks the countries involved made a spectacular breakthrough in resolving North Korea's nuclear problem. DPRK agreed to shut down and seal its experimental nuclear reactor in exchange for supplies of 1.0 mln tons of heavy fuel oil. As of today two shipments of 50 thousand tons of fuel each were delivered from South Korea and China.

Heavy fuel oil deliveries and other technical and financial aid under the terms of the six-party arrangement seem to be an impetus for revitalization of North Korea's energy sector and economy. In the near future advancing the course of rehabilitation in the DPRK is expected to follow energy policy with focus on the following points:[10]

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[10] – Kwan Ho Kim, *Options for Rehabilitation of Energy System & Energy Security & Energy Planning in DPR of Korea*, 2004; D. Von Hippel, P. Hayes and T. Savage, The DPRK Energy Sector: Estimated Year 2000 Energy Balance and Suggested Approaches to Sectoral Redevelopment, 2003, pp. 115-118.

- ensuring energy security through stabilizing petroleum products supplies;
- reconstructing and upgrading the coal-mining enterprises and coal transport infrastructure;
- diversification of energy mix switching from coal and oil to renewable sources (hydro, wind, solar, and tidal energy) and introduction, if possible, of natural gas use;
- reconstructing and upgrading the electric power network facilities as well operating thermal and hydro power stations, public and industrial boilers;
- intensive introduction of energy efficient technologies both in energy production, conversion, transmission and distribution sectors and in final energy consumption.

In addition, in light of the fact that DPRK is located at the center of NEA, at the point where the Korean peninsula joins the rest of the continent, it has a strong potential to become a participant in multilateral international initiatives in the areas of electric power grid or/and the gas-transport network. Thus, it is essential for the DPRK's external policy as well as for the neighboring countries' policies towards DPRK to be pursued on the assumption that this country will eventually join a cooperation framework.[11]

Russian Federation. Russia's recent energy initiatives and energy market developments have been driven by the urge of the national authorities to transform the country into an energy superpower acting as a global export hub for energy resources and a guarantee for global energy security. Given that the principal features of the

[11] – T. Sugimoto, "Energy Cooperation," *The Vision of Economic Development and Cooperation in Northeast Asia*, Economic Research Institute for Northeast Asia, Niigata, Japan.

actual Russian energy strategy could be summarized into three items.

1. Wide-ranging expanding of energy supply capacity through promoting exploration and development of oil and gas in the continental shelf and poorly investigated remote areas, creation of infrastructure facilities for energy export along multidirectional routes. Under these benchmarks the Pacific direction of the country's energy policy (so-called "Eastern Vector of Energy Policy of Russia") acquired a strong enhancement and ranked first among the geographical priorities of Russian energy officials. It is projected that the portion of Russia's oil export to Asia will grow from 4.1% of total Russian oil export as of 2004 to 30.0% as of 2020 and that Russia's gas export will account for 15.0% as of 2020.[12]

2. Reinforcement of state control for the energy resources with drastically increased market power of state-owned energy companies. This has been resulting from both legislative activity of federal officials and aggressive corporate strategies of state-owned oil and gas companies. A federal law "On gas exports," granting JSC 'Gasprom" with an exclusive right to export of all the types of gas, was adopted in July 2006.[13] The new version of the federal law "On Subsoil Resources," which is now under elaboration, envisages constraints[14] for foreign companies to participate in the auctions for the utilization rights of the "strategically important" fields.[15] Over some last months state-owned JSC "Gasprom" has

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[12] – Russian Energy Strategy up to 2020.

[13] – The provisions of the law do not apply to production sharing agreements on the "Sakhalin-1" and "Sakhalin-2" projects.

[14] – It is declared that only joint ventures with a foreign participation share less than 50% of the capital may be admitted to take part in the auctions for "strategically important" fields.

[15] – The discussion on the categories of "strategically important" fields is not

achieved a majority interest in "Sakhalin Energy Investment Co., Ltd." and JSC "RUSIA Petroleum," thus having gained primary control in "Sakhalin-2" and Kovykta gas projects, respectively.

3. Enhancing pursuit of acquiring energy assets overseas, particularly oil and gas distribution and sales utilities. The rationale for this was officially presented in July of 2006 during the St. Petersburg G8 Summit where Russia's Global Energy Security Initiative was announced. In accordance to the approach suggested, Russia has been emphasizing the interdependence of energy suppliers and consumers. As a result, it considers that the policy globally used aiming at securing energy demand should be complemented by energy security measures on the supply side. Thus, Russia is ready to develop its oil and gas fields jointly with other countries (with some restrictions), but the counties concerned should favor the Russian companies with an access to the energy distribution infrastructure and market. This approach is referred to as a concept of "assets exchange" between the producers and consumers of energy resources.[16]

yet over. According to the recent proposals of the Ministry of natural resources of Russia, concerning oil and gas resources, it is expedient to refer the fields of over 70 million tons of oil and 50 billion cubic m of natural gas to "strategically important."

[16] – V.D. Kalashnikov, "Energy sector of the Russian Far East," In *Economic Cooperation between the Russian Far East and Asia-Pacific Countries*, edited by P.A. Minakir, Khabarovsk, RIOTIP, 2007.

3. Cooperation in the Energy Sector as an Engine of NEA Economic and Security Cooperation: Rationales, Advantages, and Possible Areas

NEA is unique for its large energy markets and vast regional energy resources, which are so far disconnected. This circumstance supported by the energy policy priorities of the countries involved forces them towards energy cooperation. The region-specific reasons for NEA energy cooperation derived from the points that could be summarized as follows.

(1) *Complementarity in the economic resources making cooperation natural*. The conventional formula of NEA cooperation stresses that the countries involved could benefit from employing their own comparative advantageous, namely Russia - resources, China and DPRK - labor, and Japan, Korea - investment and technology.

(2) *Complementarity in the energy production/consumption patterns of NEA countries*. Russia is the only country in the region with energy capacity to export energy resources of high quality and in a huge amount to other countries. While the domestic energy reserves of South Korea, Japan and even China are dispensable with regard to its energy demand and, particular for China, do not meet the desirable national energy consumption mix.

(3) *Complementarity in the energy & economic policies of NEA countries*. Having abundant untapped reserves in its Eastern part, Russia strives to employ its potential to boost economic development in depressed territories of Eastern Siberia and the Far East. In addition, Russia's government seeks for ways of diversifying its energy export directions shifting from Europe to other regions of the world as well as enhancing Russia's position in the region of increasing global importance. At the same time, the leading NEA countries become concerned with rapid growth of the regional

energy demand, particularly in China; growing dependence on oil and gas from the Middle East; increasing vulnerability to supply disruptions along the routes of deliveries; and aggravation of the global and regional environmental issues.

(4) *Geographical Proximity*. The region is compact in its territory. Russia has a common land border with China, DPRK and is close to Japan through their maritime boundary. All the energy infrastructure cooperative initiatives could be implemented within a length of about 2000 km (excluding those from Eastern Siberia).

(5) *Commercial feasibility and technical availability of the energy infrastructure cooperation projects in the region*. In recent decades quite a few research, pre-feasibility and feasibility studies, and design works approved a reasonability of the projects of energy cooperative initiatives in the region.

(6) *Lack of capital-intensive energy infrastructure in NEA*. Countries of NEA are forecasted to face the issues of intensive development of its energy sectors following significant infrastructure costs at both ends of the supply and demand chain.[17] Utilizing the economies of scale of large energy cooperative projects could reduce substantially the proposed investment needs of individual countries.

In recent years a range of energy cooperation projects have been under discussion. Among the specific areas of energy cooperative initiatives are as follows:

[17] – According to the IEA projections, NEA energy sector will account for about 26% ($4,303 billion) of world total energy investment ($16 trillion) during 2001-2030 (Russia $1,050 billion, China $2,253 billion, and OECD Pacific, including Japan and Korea, $1,000 billion). For Eastern Siberia and the Russian Far East, including funds for geological exploration and development, the projected estimated investment need is $200 billion. Estimates for the next 10 years put China's energy investment needs at US$700-US$725 billion.

- Joint exploration and development of energy resources in the NEA region, mostly in eastern Russia;
- Joint construction, operation and management of NEA oil and gas trunk lines, trans-NEA gas supply networks as well as crude oil, LNG, coal-shipping terminals;
- Construction of new oil and gas processing, chemical facilities, and sharing spare refinery facilities for its effective use;
- Joint creation and utilization of oil storage facilities, jointly implementing stockpiles and emergency response program;
- Joint implementation of power grid interconnection along with joint construction of thermal/hydro/nuclear power plants and national transmission lines;
- Intensive trade with energy resources with joint operation and management of national and local distribution and sales systems;
- Joint nuclear waste management, joint programs on next-generation nuclear technology;
- Joint designing and sharing of energy-efficiency technologies, dissemination of pollution control technologies;
- Renewable energy cooperation (technology and resource development).

With regard to the challenges faced by NEA, which is aiming to achieve sustainable socioeconomic development in the future, promoting cooperation relating to the issue of energy is able to alleviate or even eliminate the most urgent of them. It is anticipated to secure stable energy supply with import fuel and source diversification, reliable delivery routes and system, connecting national energy infrastructure with that of neighboring countries, joint storage facilities enabling emergency swap of energy supply, and mutual participation in the development of the energy sectors of

countries concerned.

"Securing quantity" is expected to follow with broader energy economic benefits of "improving quality" of energy supply by enhancing energy efficiency, introducing environment-friendly technologies, reducing energy supply costs and vulnerability to price volatility, promoting market liberalization.

At last, energy cooperation within NEA could have a pump-priming effect in the context of deepening regional interdependence, including strengthening of relationships of mutual trust and economic collaboration, thus being a step ahead along the way of NEA integration. Employing features of energy as geopolitical resource NEA countries could ease international tensions within the region, providing a framework for multinational cooperation in resource-utilizing rather than ongoing non-productive completion. Consolidating regional efforts towards creation of regional energy (electricity and natural gas) networks could be as a catalyst for drawing North Korea into the international community, rehabilitating its economy, and fueling North Korea–South Korea cooperation.

4. RFE's Energy Projects as a Base for NEA Energy Cooperation

Under the objective circumstances Russia is considered as an underpinned pillar in establishing NEA energy cooperation. The vast majority of the projects introducing Russian energy resources which are now under discussion/construction/realization are located within the Russian Far East being a natural part of an economic territory of NEA region.

El'ga Coal Project. The El'ginskoye coal deposit is located in a

remote area of the southeast Republic of Sakha (Yakutia). It is the first-largest reservoir of soft coking coal of high quality with the scale of about 2 billion tons.

The last Feasibility Study of the project was developed by U.S. company "John T. Boyd." Its key findings could be summarized in the following way. By quantity and quality of reserves El'ginskoe coal deposit is that of a world class entity with strong capacities of the largest coal-mining enterprise in construction. Development of the deposit is economically expedient while the enterprise built would extract 20-25 million tons of coal annually. Marketing research conducted revealed that it is possible to have a niche in the NEA markets for the coal of El'ga to the extent of 15 million tons for steaming coal and more than 5 million tons for coking coal annually.

The license for coal mining for the northwest sector of the deposit belongs to JSC "El'gaugol." As of today the major shareholders of the company are the Republic of Sakha (Yakutia) (39.4 %), JSC "Russian railways" (29.5%) and JSC "East building contract corporation" (28.8%). However, the decision of establishing late in 2007 the auction on sale of the shares held by Yakutia and JSC "Russian railways" is already accepted.

Oil-and-gas projects of the Sakhalin shelf. In Sakhalinskaia Oblast two large-scale oil and gas projects on terms of a production sharing agreement are now in the process of being developed.

Sakhalin-1 project is headed to develop three oil and gas fields in the Northeast shelf of Sakhalin island: Chaivo, Odoptu and Arkutun-Dagi. Total sum of recoverable reserves of these exceeds 307 mln tons of oil (2.3 bln b/d) and 485 bln cubic meters of natural gas (17.1 trillion cubic feet). The project is expected to develop in four phases. The goal of the first one is to develop the oil resources of Chaivo and Odoptu oil and gas fields with limited gas produc-

tion (up to 3.0 billion cubic meters a year) to meet the domestic demand of Khabarovskii Krai.

The project is being run by the international consortium of energy companies including the American company "Exxon Neftegas Limited" acting as an operator of the project with 30% share, Japan's "SODECO" (30%), India's "ONGC Videsh, Ltd." (20%), and two subsidiaries of Russian JCS "Rosneft" (20% totally). As of today, the total investments in the project are estimated by the operator at $17.0 billion of which $6.6 billion were done as of the end of the first half of 2006. The oil and gas production under the project started in 2006.

Sakhalin-2 project envisages the development of Piltun-Astohskoe and Lunskoe oil and gas field in the shelf of the island with total recoverable reserves of 140 million tons of oil (1.0 billion b/d) and 550 billion cubic meters of natural gas (19.4 trillion cubic feet). The operator of the project is "Sakhalin Energy Investment Co., Ltd." Among its shareholders are Russian JSC "Gasprom" (50% plus a share) along with subsidiaries of Royal Dutch Shell (27.5% minus a share), Mitsui and Co. Ltd. (12.5%) and Mitsubishi Corporation (10.0%).[18]

The first stage of the project started in 1999 and included the development of oil resources of Piltun-Astohskoe field during an ice-free period of the year. The annual amount of oil extracted from this field varies from 1.6 to 2.0 million tons (12.1 to 15.0 thousand bbl). Crude oil has been delivered under spot contracts to South Korea, Japan, China, Taiwan, Thailand, the Philippines, and the U.S. In May 2003, the operator announced the start of the second stage of the project primarily associated with putting Lunskoe

[18] – "Gazprom buying 'Shell-owned "Sakhalin-2" share interrupted," *Novastnaya Lenta NGB (National Guard Bureau)*, April 14, 2007 (in Russian).

field into operation. Initially total investments in the second stage of Sakhalin-2 were estimated at $9.6 billion. Nowadays capital costs of "Sakhlin-2" project are estimated at more than $19.4 billion of that $12.5 billion are already invested.[19]

Besides, licenses have been obtained for the exploration of the remaining geological blocks and sectors of Sakhalin's shelf. In the near future, the first shelf blocks targeted for exploration are: Sakhalin-3 (Kirinskiy block, Ayashskiy and East-Odoptu sites, Veninskiy block),[20] Sakhalin-4, Sakhalin-5, and Sakhalin-6. According to the forecasts, these blocks should be extremely rich in hydrocarbon resources: oil - 1.3 billion tons, gas - 1.9 trillion cubic meters.

Oil pipeline "Eastern Siberia - Pacific Ocean" (ESPO). A piecemeal plan of construction of the pipeline system ESPO with designed throughput of 80 million tons of crude oil annually was approved in April 2005. In a year, under the pressure of environmentalists, an initial route of ESPO was shifted 400 km to the north from Baikal Lake. Thus, the total length of ESPO increased to almost 4.8 thousand km. The operator of the project is Russian state-owned company "Transneft."

After revision of the pipeline project its first phase is supposed to run along the route Taishet (Irkutskaya Oblast) - Ust'-Kut area (Irkutskaya Oblast) - Talakanskoe oil and gas field (Yakutia) -

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[19] – "Inspection committee of "Sakhalin-2" - agreed to major issues of selling off liquified natural gas," *Novastnaya Lenta NGB (National Guard Bureau)*, July 18, 2007 (in Russian).

[20] – In January, 2004 the State Commission on Fulfillment of the Production Sharing Agreement of the Ministry of Natural Resources of the Russian Federation declared void the results of a 1993 tender for developing the blocks of Sakhalin-3 (except for the Veninskiy block). In 2007 the Ministry of Natural Resources of the Russian Federation plans to auction the license for the geological study of Sakhalin-3 project.

Aldan area (Yakutia) - Tynda (Amurskaya Oblast) - Skovorodino (Amurskaya Oblast), with a designed capacity of 30 million tons of oil annually. Simultaneously with the completion of the pipeline trunk section, launching of the first stage of the oil terminal at the Perevoznaya Bay is scheduled. Building of the ESPO's first phase of about 2.8 thousand km long commenced in April 2006 and is projected to be completed at the end of 2008. As of the end of July 2007 more than one thousand km of pipes are in the ground.[21] According to the latest announcement the cost of the first phase is estimated at $11.3 billion.[22]

The second phase of ESPO project is planned to run along the route Skovorodino - Perevoznaya Bay (Primorskiy Krai), with a total throughput of up to 50 million tons of oil a year, and to enhance the capacity of the first pipeline section up to 80 million tons of oil a year.

Program of creating an integrated system of gas extraction, transportation and supply in East Siberia and the Far East with probable gas export to the markets of China and other Asia-Pacific countries ("Eastern Program"). This program is aimed at the designing of a comprehensive, complex and consistent policy in order to ensure Russia's most beneficial development of gas resources and gas export scheme in the Eastern part of Russia. A developer of the program is JSC "Gazprom." After numerous revisions the program was adopted in June 2007.

According to the program, current reserves of East Siberia and the Far East enable establishing here a high-powered gas industry

[21] – "Eastern oil pipeline now over 1000km," data presented by the Russian Ministry of Industry and Energy, June 20, 2007 (in Russian).

[22] – "Simon Vainshtok, Chairman of Transneft - Maintains equanimity towards twofold increase of East Siberian oil pipeline construction costs," *Neftegas.ru*, July 19, 2007 (in Russian).

of national and international significance, with natural gas output projected at 200 billion cubic meters annually. The program assigns the four gas production centers, such as Sakhalin - on the basis of shelf fields, Yakutia - on the basis of the Chayandinskoe oil and gas field, Irkutsk area - on the basis of the Kovykta gas and condensate field, and Krasnoyarsk area - on the basis of the Sobinsko-Paiginskoe and Yurubcheno-Tokhomskoe oil and gas fields.

In the course of the program's preparation 12 options of gas production and transportation systems in the East of Russia were examined. Developer of the program emphasizes the "Vostok" (East) variant as the most efficient. This option includes the following: orientation of Irkutsk and Krasnoyarsk gas production centers towards the Russian unified gas supply system (UGSS), i.e., for meeting gas demand in the western part of Russia; development of Sakhalin gas production center, independent of the UGSS and aimed at meeting the demand for natural gas of Sakhalinskaya Oblast, Khabarovskii Krai and Primorskii Krai through the construction of the export gas pipeline infrastructure to Northeast China and the Korean Peninsula, as well as through the development of the LNG facilities in the southern part of Sakhalin. The investment need of the variant is estimated at $62.5 - $77.7 billion subject to the scenario.

Russia - China electric power cooperation. Two inter-state power transmission lines are currently operating in the Unified Power Grid "Vostok" delivering electric power from the Amurskaya Oblast to isolated demand areas of Northeast China (as of 2006 - 0.5 billion kWh). In 2003 "InterRAO UES" company and the Chinese "Sirius" signed a Framework Agreement on electricity supplies of 13 billion kWh within 2004-2013.

In March 2006 JSC "RAO UES Rossii" and State Power Grid Company of China concluded an agreement on the elaboration of

a Feasibility Study of the project of large-scale electric power supply from Eastern Russia, to China (nearly 60 billion kWh a year). In November 2006 a Pre-Feasibility Study was prepared. In accordance with it the project is supposed to be implemented in three stages. Over the first stage, 2008-2012, the expansion of frontier electricity trade up to 4.5 billion kWh is provided. Over the second stage, 2012-2015, new power installed capacities of 3.5 GW are projected to be commissioned within the southern part of RFE in order to expand the annual electricity supply up to 22.5 billion kWh. At the third stage of the project, after 2015, it is planned to build 6.0-6.4 GW in the RFE and Eastern Siberia so as to enlarge export volumes up to 60.0 billion kWh annually.

In November 2006 a contract for deliveries under the first stage of the project was sighed.[23]

Russian Far East - Korean peninsula electric power cooperation. In 2001, DPRK's officials applied to the Russian party to consider the technical and economical feasibility of electric power supplies to DPRK. Over 2001-2003 the technical aspects of the power transmission line from the RFE to North Korea were being discussed more than once. Eventually, the format of the project was expanded and the specialists from Republic of Korea were involved. Thus, it was proposed to change the parameters of the project and include the construction of "Vladivostok substation - Chongjin" 500 kV AC power transmission line (380 km) to supply 500 MW of power (2.5 bln kWh annually) and the "Vladivostok - Seoul" ±500-600 kW DC transmission line (900 km) to supply 2000-3000 MW.

Under some economic and political reasons the study of "The Far East - Korean Peninsula" power bridge project was suspended. In August 2006, a Russian delegation visited the DPRK to revive

[23] – *UESR (Unified Electrical Systems) Russia*, 2006 Annual Report (in Russian).

the project but so far no developments have occurred.

Both "The RFE - Korean Peninsula" power transmission line and natural gas pipeline projects are very meaningful in realizing the NEA energy and economic cooperation. Besides economic benefits alone they yield some other important advantages such as the development of energy facilities in the RFE, the settlement of the energy crisis in DPRK, the optimization of electricity consumption and energy mix in the countries involved, the involvement of DPRK as an economic partner and normal member of the international community, and the establishment of real partnership between Russia, DPRK, and Republic of Korea. Finally, it is the projects that could be a real alternative to blocked KEDO project and DPRK's nuclear development program.

5. Current Status of Energy Cooperation between Russia and Leading NEA Countries

Current status of energy cooperation in NEA region is still not of the level that countries involved would like. The rate of the energy cooperative initiative implementation differs strongly among the countries involved and across energy sub-sectors. China is the country that has succeeded the most.

Russia - China oil and gas cooperation.[24] The Russian - Chinese subcommittee on cooperation in the field of energy of the Russian - Chinese commission on preparation of regular meetings of head of governments operates. The Asian representative office of JSC "Rosneft" opened in Beijing in December 2006. There are a number of agreements between Russian state-own companies and those of

[24] – For Russia - China electricity cooperation see previous section.

China or Chinese governmental bodies that are currently in force in the oil and gas sector:

- on crude oil supplies between JSC "Rosneft" and Sinopec (July 2007);
- on aviation fuel supplies between JSC "Rosneft" and Chinese China National Aviation Fuel (CNAF) (April 2007);
- on enhancement of cooperation in the field of crude oil transportations between JSC "Russian Railways" and Ministry for railways of Chinese People's Republic (March 2007);
- on basic principals of joint venture establishment between JSC "Rosneft" and Sinopec (November 2006);
- on basic principals of joint venture establishment between JSC "Rosneft" and China National Petroleum Company (CNPC) (March 2006);
- on studying the matter of design and construction of oil pipeline from Skovorodino to Russia - China border between JSC "Transneft" and the CNPC (March 2006);
- on crude oil supplies on terms of advance payment between JSC "Rosneft" and CNPC (December 2004);
- on strategic cooperation between JSC "Gasprom" and CNPC (October 2004).

These agreements underpinned the development of a real Russia - China energy cooperation, which is currently exhibited in the following.

(1) Intensive development of oil trade. Under the contracts concluded JSC "Rosneft" is obliged to supply 48.4 million tons of crude oil during 2005-2010, or 8.9 million tons annually for CNPC, and 2.5 million tons of oil annually for Sinopec. Total volume of supplies accounts for 8 million tons in 2005, 10.3 million tons in

2006 and expected to be 10.5 million tons in 2007. In 2007 JSC "Russian Railways" announced that it is planning to invest more than $100 million in reconstruction of the section of the railway in order to expand its throughput for oil transport to China up to almost 30 million tons of oil annually;

(2) In July 2007 JSC "Transneft" and CNPC signed a protocol on construction of a branch from the ESPO pipeline to China;

(3) JSC "Rosneft" and Sinopec cooperatively fulfill the exploration works within Vininskii block of Sakhalin-3 project owning 74.9% and 25.1% interests, respectively, in the company-operator of the project;

(4) Over July - December 2006 via its joint venture (51% - Russian share, and 49% - Chinese one) JSC "Rosneft" and Sinopec set up a control for another Russian oil and gas company JSC "Udmurtneft";

(5) In October 2006 JSC "Rosneft" and CNPC established a joint company "Vostok Energy" with the 51% - Russian share, and 49% - Chinese one. In July 2007 "Vostok Energy" company won the auction for the development of two hydrocarbon places in Irkutskaya Oblast (Eastern Siberia);

(6) In March 2006 JSC "Gasprom" and CNPC signed a protocol which settled the time-frame, volumes, routes and price setting principles on natural gas supplies from Russia to China. In accordance with the protocol it is destined for the construction of two gas pipelines from Russia to China, so-called "Western" and "Eastern" routes. It is scheduled to supply into China 68 billion cubic meters of natural gas by 2020.

Russia - Republic of Korea energy cooperation. The strategy of Republic of Korea towards cooperation with Russia in the field of energy replicates in general terms that of China, however, less successfully.

In May 2003 JSC "Gasprom" and "Kogas" signed an agreement of cooperation for a period of five years. In October 2006 the agreement between national companies was supplemented with an agreement between the governments of the Russian Federation and Republic Korea on cooperation in the field of the gas industry. Based on these agreements negotiations carry on supplies of 10 billion cubic meters of pipeline of natural gas annually to 2012-2013.

In the case of keeping political problems with North Korea, Gasprom's executives do not rule out LNG deliveries from the new gas field of Sakhalin to South Korea. In October 2006 Gazprom Marketing and Trading Ltd. (subsidiary of JSC "Gasprom") supplied in Korea the first lot of LNG in the course of the resale bargain. Besides, Kogas has a contract with Sakhalin Energy Investment Company on supplies of 1.5 million tons of LNG annually for the period of 20 years.

The memorandum of understanding between JSC "Rosneft" and Korea National Oil Company (KNOC) was adopted in September 2004. In accordance with it the establishment of joint companies for exploration works and oil extraction within the shelf of the Kamchatka Peninsula was envisaged. To exploit West Kamchatka shelf the Korean - Russian consortium was formed. It consisted of JSC "Rosneft" (60%), KNOC (20%) and several other Korean companies such as GS-Caltex, SK, Daewoo International, Kumho Petrochemical and Hyundai (totally 20%). In February 2005 the parties involved concluded the Interim Finance Agreement, on financial terms for fulfillment exploration and prospecting works until 2008. In May 2007 the consortium announced the discovery of a large oil field in the course of exploration.

In March 2007 it was reported about strong interest of a group of Korean companies such as LG International Corp., Korea Resources Corp., KEPKO, POSKO and some others to invest in "El'ga Coal

Project" participating in the auction for selling of 68.9% of JSC "Yakuugol" and 75% minus a share of JSC "El'gaugol." Total initial cost of the lot is expected to be $1.8 billion.

Due to energy consumption stagnation, good results were achieved in the development of both Sakhalin oil and gas projects thus ensuring the Russian oil pipeline would run up to Pacific coast of Russia. There was a period of Japan's coolness in promoting energy cooperation with Russia. In recent years Japan again gave evidence of concern on the Russia - Japan collaboration within the energy field. Although Japan's cooperative policy has common features with those of China and Korea, it seemed to be different from them in some ways.

In November 2005 an agreement of cooperation between JSC "Gasprom" and Agency of Natural Resources and Energy of the Ministry of Economy, Trade and Industry of Japan was adopted. In October 2005 a memorandum of understanding between JSC "Gazprom" and Mitsubishi Corp. was signed. In August 2006 two framework agreements on the realization of short-term LNG trade between Tokyo Electric Co. and Gazprom Marketing and Trading Ltd. and the latter Chubu Electric Co. were signed. In the same month the first lot of LNG was delivered for Chubu Electric Co. Besides, most of the output of LNG liquefaction plant under the "Sakhalin-2" project is contracted to supply to Japanese electric power companies.

In January and June of 2007 two meetings of officials took place within the framework Russian - Japanese strategic dialogue established. One of the major issues of the meetings was ensuring energy security in the region.

In addition to conventional features in energy cooperation between Russia and leading NEA countries, Japan exhibits a good instance of the establishing of an effective interaction with a Russ-

ian regional government in Sakhalinskaya Oblast. In 2005 a memorandum of cooperation between the government of Sakhalinskaya Oblast, on the one part, and Mitsubishi Corp. and Mitsui and Co. Ltd., on the other part, was adopted. The memo included the matters of utilization of Sakhalin's natural gas resources, coal production and coal export development, and small cogeneration plants construction. In May 2006 Japanese companies designed the master plan of effective utilization of natural gas in Sakhalinskaya Oblast. These endeavors caused a strong interest from JSC "Gasprom" to attract the Japanese companies to joint implementation of gas processing, and gas chemical and engineering projects within the frames of the so-called "Eastern Program."

Besides, Japan's financial institutions such as Japan Bank for International Cooperation, Sumitomo Mitsui Banking Corporation, and others take an active part in assignment of money for Russian energy projects. In February 2007 Minister for Industry and Energy of Russia V. Khristenko suggested for the Japanese investors to participate in construction of large refinery at the coast of the Pacific Ocean, development of nuclear power engineering, and deployment of renewable energy resources in Russia.

6. Problems and Prospects of Energy Cooperation from the Russian Perspectives

While general political, economical and institutional environments do not contain harsh, insuperable constraints and obstacles for establishing energy cooperation in NEA region, there have been far less movements to translate it into reality than the concerned parties would like.

On the one hand, the reasons for that are in the energy and eco-

nomic situation in Russia imposing comparatively high risks and huge costs for cooperative energy initiatives due to the low degree of exploration for oil and gas, severe conditions and remoteness of the fields, absence of infrastructure in the areas involved, poor legislation for private investment into new fields and protection of foreign investors, insufficient domestic demand, and an unclear strategy for participation in NEA energy cooperation. On the other hand, this could be explained by the policies of the leading NEA countries towards regional energy cooperation characterized with the following features:

- thus far the region has neither a common energy market nor joint institutions to organize energy cooperation or general institutional agreements and unions (like EU, ASEAN);
- leading NEA countries declaring interest in the multilateral energy cooperation in the region still prefer contacts with Russia on a bilateral basis;
- the attitude of NEA countries towards the development of Russian energy resources has a conventional "resource" nature. So far, no distinguished bi- or multilateral initiatives, or integrated designs for energy cooperation between Russia and NEA countries have been observed;
- the North Korean issue is a separate and complicated element of energy cooperation between Russia and the Korean Peninsula.

Given that, the oil sector seems to be the only exception owning the immense potential for cooperation in any case. Projects in the natural gas and electricity sectors are indeed not easy to implement taking into account distance, costs as well as market access. Its prospects depend strongly on how NEA countries will define

the efficiency and environmental soundness of the power projects, balancing their domestic priorities and regional opportunities and the Kyoto process. One of the main problems is the price tag.[25]

Nevertheless, the problem of the absence of a framework of NEA energy cooperation may be alleviated by clear a statement of unambiguous priorities/principles for the cooperation put forward by each county concerned. The strategy of cooperation between Russia and NEA in the field of energy can be enhanced through an integrated approach guided by the following principles:[26]

- a comprehensive format of cooperation simultaneously involving the issues of oil, natural gas, coal, electricity, fuel processing, and regional development;
- establishment of strategic alliances for joint exploration and development of oil and gas fields in East Siberia and the shelf of Sea of Okhotsk;
- formation of joint infrastructure for energy resource transportation;
- adherence to "assets swapping" principles;
- policy multilaterally advocating the DPRK's participation in the "Russia - Korean peninsula" energy cooperation;
- joint participation in the regional RFE development projects, and, first of all, in the projects of oil and gas processing facilities construction, electricity-intensive plant building, renewable energy deployment and energy efficiency improvement.

[25] – V.I. Ivanov and B.G. Saneev, "Politics of Energy Cooperation in Northeast Asia," paper prepared for workshop on energy security and sustainable development in NEA: Prospects and cooperative policies, Khabarovsk, September 17-19, 2002.

[26] – Kalashnikov, *op. cit*.

7. South-North Korean Energy Cooperation[27]

Certain factors exist the behind North Korean energy problems as follows. First, there exist problematic factors, which have debilitated the North Korean energy sector. Most problems stem from economic difficulties: (a) disrupted supply and demand channels and (b) inappropriate governmental policies. Related issues of concern were also discussed: (a) the crisis-prone nuclear development program, (b) preoccupation of leadership with regime survival, and (c) the development of North-South economic relations. The future paths of Northeast Asian energy cooperation will influence North Korea's energy development, with the latter affecting the former. In other words, the North Korean energy sector difficulties have originated from their own mismanagement, but at the same time, the problems have been aggravated by the international political and economic turbulence. In this vein, solutions to the North Korean energy sector problems should be based on comprehensive thinking that encompasses economic factors and political considerations. The current section begins with the objectives of the suggestions for the North Korean energy sector development. Then it will suggest cooperative measures.

When we consider the supply and demand structure of the energy sector in North Korea, three fundamental problems can be identified: chronic shortage of supply, excessive dependence on coal, and an outmoded infrastructure. Indeed, the current level of North Korea's energy supply is only about 60-70% of the 1990 level. When we consider that the energy supply in 1990 was not

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[27] – The current section revised formerly published monograph by Korea Institute for National Unification, titled as *Energy Cooperation with North Korea*, written by Kyuryoon Kim.

enough to support economic growth, these figures help put North Korea's catastrophic situation into perspective. Thus, the first and foremost goal should be the achievement of increased supply.

At the same time, it is necessary to try to reduce the high dependence on coal because relying on a single energy resource could easily result in serious problems of supply if production of the primary resource were to fluctuate. As North Korea has developed more and more coalmines, productivity and the quality of coal has dropped drastically. And North Koreans have lost opportunities to learn higher energy development technologies because the coalmines and coal fired power plants were built 20-30 years ago. If North Korea had turned their attention to creating a balanced energy supply structure, it would have been more beneficial in developing its energy industry. In this vein, the second objective of North Korean energy sector development should be the achievement of a balanced supply structure.

North Korea has allocated much of its resources for the maintenance of a huge military sector since its foundation. This became one of the fundamental reasons behind the current economic, as well as energy sector, difficulties. It is necessary for North Korea to pay more attention to improve the well being of its citizens. Without proper power consumption by ordinary citizens, it would be hard to imagine a normal course of economic development. This fact applies to the supply/demand mechanisms of the energy sector as well. As noted above, North Korean people used mountain trees for cooking and heating during the 1990s, which was one of the causes of severe deforestation. Thus, it is necessary to increase the energy supply to households in order to improve the overall energy supply and demand structure.

Along with the three economic objectives above, it is necessary for us to set related political goals since the North Korean energy

sector difficulties were largely caused by international political turbulence during the 1990s. It should be noted here that the North Korean economic hardship had been aggravated by its isolation from the international community. The North Korean nuclear weapons development program and resultant crises made North Korea a focal point in security issues in Northeast Asia. However, North Korea became more isolated in its economic exchanges with the capitalist world because the attention from the international community surrounding its nuclear weapons program created a fundamentally conflict-ridden and negative North Korean national image. No country in the world would want to trade with a militarily hostile country. North Korea should make more of an effort in creating a more peaceful image with the international community in order to receive outside help. Thus, it is necessary to prioritize a complete dismantlement of the nuclear weapons program in pursuing North Korea's energy sector development. This goal applies to North Korea's relations with South Korea. In other words, developmental assistance to North Korea in the energy sector should be based on the objectives that it would contribute to the peaceful unification progress and to the stability of international relations in Northeast Asia.

It is necessary to form an institution to handle North Korean energy problems more comprehensively. There exist two international mechanisms related to North Korean energy issues. Even though its existence itself is under question now, KEDO has operated since 1995 with the purpose of coordinating LWR projects and the provision of heavy fuel oil to North Korea. Six-party talks provide another forum for discussing North Korea's energy issues, though it has not yet been institutionalized and its focus is more on nuclear issues.

It may be a good idea to organize an international institution to

handle North Korean energy issues, with core members being the U.S., China, Russia, Japan, and South and North Korea. Membership for such an organization could be open to other interested nations. The first category of broadened membership would include a country such as Mongolia, which belongs to the Northeast Asia region. The second category can be possible energy supply countries located in the Central Asian region. The third group of countries to be considered would be the current members of KEDO, such as Australia and Canada.

The proposed international institution could be named the North Korean Energy Development Center and could perform various functions. It could function as a forum for discussion among the concerned parties. With the initiative of the South Korean government, it could provide opportunities for North Koreans to learn modern technologies of energy sector management. It could also allow North Korea to benefit from the experience of other transitional economies. As the proposed institution would run on a multilateral basis, we could cooperatively find better solutions to North Korean energy problems. At the same time, it could integrate various energy improvement projects in order to gain maximum results.

Improving the energy sector of North Korea involves various sectors of the economy and requires considerable time. The current section attempts to suggest projects to be implemented in each of the following three stages. The primary focus of the first stage would be rehabilitating the North Korean energy industry. Upon entering the second stage, North Korea could pursue development of the energy industry based on the outcomes of the previous stage. During the third stage, North Korea could further develop energy, its industry and achieve practical growth.

A. Rehabilitation Stage

The first stage could be referred to as the "Rehabilitation Stage" because the North Korean energy sector has retrogressed during the 1990s. Thus, the foremost task for the North Korean energy improvement plan should be to regain the production level of the early 1990s. In order to achieve this goal, North Korea needs outside help because it does not have the essential resources for rehabilitation. During the rehabilitation stage, the following measures need to be implemented.

The first important step towards North Korean energy development would be a systematic investigation of the current situation. Of course, it would be most helpful if the North Koreans were to become participants in such a forum. It is necessary to collect all available information about the North Korean energy industry and compile such data in an integrated manner. Then energy experts, including North Koreans, should discuss optimal ways to enhance the North Korean energy sector. In this vein, the South Korean government needs to play a key role in promoting such activities by supporting international seminars and the exchange of technicians. For example, it is necessary to hold an international seminar on the improvement of the energy sector in North Korea. This should include the experts of North and South Korea, China, and Russia. Then, these international seminars could be regularized and become a foundation for a permanent international forum. In this way, North Koreans would have opportunities to learn advanced technologies and management skills.

Second, the most immediate need from the North Korean side would be the renovation of its outmoded facilities. In doing so, initial efforts should be concentrated on the renovation of mining facilities since North Korea is highly dependent on coal as its pri-

mary energy source. In other words, it is essential to regain the production level of coal in 1990. Simultaneous efforts should be devoted to the renovation of transportation facilities, especially railroads, because an inadequate transportation infrastructure hindered the smooth flow of the energy supply during the 1990s. Along with the improvement projects for the renovation of the mining and transportation facilities, it is necessary to renovate power plants. North Korean power plants were not supplied with parts during the 1990s. Debilitated power plants resulted in the inefficient use of energy sources and low operating ratios. Perhaps the optimal solution for these debilitated power plants would be the construction of new ones. However, the cost would be high and it would take a long time to achieve such a goal. Thus, as an interim solution, it is necessary to renovate power plants. South Korea could become a participant of such projects. Currently, North Korea renovates its power plants on an ad-hoc basis because it does not have the much-needed capital to undergo a comprehensive system of renovation. It is necessary to form an international consortium to handle such renovation projects. In this regard, the role of Russia is very important because most power plants were built with the help of the former Soviet Union. The South Korean government can become a source of project funding and management guidance.

The third project is the provision of electricity to the Gaeseong Industrial Complex as noted in the previous section. In addition to this project, it is necessary to begin construction projects during this stage for the transmission of two million kilowatts of electricity to North Korea. It is forecasted that such a construction project would take at least three years. The South Korean Ministry of Unification recently estimated that it would cost about 6.5 to 11 trillion won for the next nine to thirteen years depending on the results of

the negotiations between North Korea and the concerned parties. This figure can be broken into four categories: provision of heavy fuel oil for three years (150 billion won), construction of electricity transmission facilities (1.7 trillion won), electricity provision of 2 million kilowatts for six to ten years (3.9 to 8 trillion won), and a light water nuclear power plant of 2 million kilowatts (700 million to 1 trillion won).[28] As it would require a long time to stabilize the North Korean energy supply, the construction of transmission facilities should be part of the first stage so that actual provision of electricity could begin in the following stage.

As an interim solution for the problems regarding the North Korean nuclear development program, it would be necessary to provide heavy fuel oil in this stage under the assumption that North Korea will show cooperative attitudes towards the decisions made by the six-party talks. As noted above, the shipment of heavy fuel oil to North Korea, as agreed upon in the Agreed Framework, stopped at the end of 2002. Thus, North Korea should have a desperate need for heavy fuel oil for electricity generation. In order to restart the operation of thermal power plants, North Korea needs heavy fuel oil from the outside world.

B. Development Stage

After the North Korean energy industry is restored to produce supply levels equal to that of 1990, it would enter into a development stage in the sense that North Korea further develops its energy production not only in the areas of mining coal, but also electricity. In the previous stage, the North Korean energy supply

[28] South Korean Ministry of Unification, "Energy Provision to North Korea," September 22, 2005 (in Korean).

would have met basic energy demands. However, it would not be sufficient, and North Korea would need to explore ways to advance its economy. Thus North Korea needs to adopt the following projects to increase its energy supply with the help of the outside world.

First, it is necessary to internationalize the issue of South Korea's provision of two million megawatts of electricity to North Korea. The provision of LWRs to North Korea became an international issue, even though it was the result of American-North Korean negotiations. Similarly, the South Korean proposal has already become internationalized because its major contents have been included in a recent joint statement made by the six parties. Thus, it is necessary to open up discussions regarding the electricity provision to North Korea to concerned parties, including the participants of the six-party talks and other interested countries.

Second, it is necessary to modernize electricity gridlines throughout the country during this stage in order to adequately transmit produced electricity to the end users. In doing so, international assistance is needed to modernize transmission and distribution systems for the efficient use of electricity.

Third, South Korea could begin to send two million kilowatts of electricity to North Korea with the assumption that the abovementioned projects would have been completed. In fact, it would be efficient to utilize seasonal and daily peak time uses of electricity. South Korea's peak season is summer because of its heavy use of air conditioners during hot weather. In contrast, electricity consumption during winter is relatively lower in South Korea. Thus, it may be a good idea for South Korea to send more electricity during wintertime because the North Korean winter climate is much colder than South Korea.

C. Growth Stage

Upon entering the third stage, the North Korean economy and energy industry may have recovered enough to pursue further growth. Such a situation requires an increased supply of energy to support growing demands made by economic growth. Thus it is necessary to consider the following projects to adequately supply energy to North Korea.

The first project is related to the pipeline construction projects that are currently being discussed by the Northeast Asian countries. For the sake of simplicity, we can propose two pipelines that will use the North Korean territory. One line could pass through the western part of North Korea, while the other could pass through the eastern part. As for economic feasibility, the latter is more economical and should be utilized in the long run to provide a supply of energy to South Korea and Japan.

The second project would be the connection of electric grid lines between North Korea and the Russian Far East. The latter area has enough reserves of electricity, as it has access to gas and oil in East Siberia. The only problem is that Russian electric currents are 50 Hz and North Korean currents are 60 Hz. Thus it will be necessary to install a transformer along the borderlines of North Korea and Russia. We can consider the use of Russian energy as a possible source for North Korean energy needs.

The third project could be more controversial because it is related to the use of nuclear energy. As noted above, North Korea's nuclear development program has long been disputed because of its dual usages. North Korea has yet to completely dismantle its existing nuclear weapons development program even though the six-party talks resumed and made some progress. We can think of two alternatives here. On the one hand, we could resume the con-

struction of two light water reactors at Sinpo. On the other hand, we could form an international consortium to build other types of nuclear power plants, possibly a Russian model. It would be difficult to predict the future course of North Korea's nuclear development program. The current paper suggests resuming the construction of two light water reactors, if it were to be decided and agreed by the six parties.

8. Conclusion

North Korea has experienced severe economic problems during the 1990s because of internal as well as external factors. Upon entering the 21st century, the North Korean economy has been slowly recovering from its lowest level of economic production. North Korean authorities have also adopted several market-oriented measures in the middle of 2002. In the midst of these recent changes, North Korea is in desperate need of energy in order to support economic recovery. Indeed, energy is indispensable for every country pursuing economic development.

In order to adequately provide energy assistance to North Korea, it is absolutely necessary for South Korea to maintain the principle of transparency. As North Korea is still largely secluded from the outside world, the South Korean government needs to ask North Korea to provide records of its energy use. At the same time, the South Korean government needs to fully inform its own people regarding the processes of such assistance. This point is very important in an economic sense as well because opaque procedures in helping North Korea in the past have often resulted in failure or discontinuity.

It is necessary to be patient in dealing with North Korea and to

maintain a longer-term perspective. We need to understand that the North Korean people, having lived under a centrally planned economy, may have very different attitudes. They probably never imagined the conditions they are experiencing now. The above projects may also require much more time to realize than we anticipate. A more important yardstick for the success of the energy improvement projects may be the direction, not the outcome. In other words, it is necessary for us to keep the projects moving and to try to maintain continuity even though the projects may progress very slowly.

In conclusion, it is necessary for us to keep in mind that South and North Korea were one nation for a long time. We need to prepare for the ultimate reunification, though it is hard to predict the exact timeframe. During the course of implementing energy improvement projects, we may be confronted with rather lukewarm, or sometimes harsh, reactions from North Korea and from inside South Korea. However, the goals and measures suggested in this research should be pursued with diligence, patience, and consistency in order to realize a prosperous unified Korea.

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VII

Regional Cooperation on Transportation in Northeast Asia

- Emphasis on the Northeast Asian Railway Cooperation Initiative and its Progress -

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1. Introduction

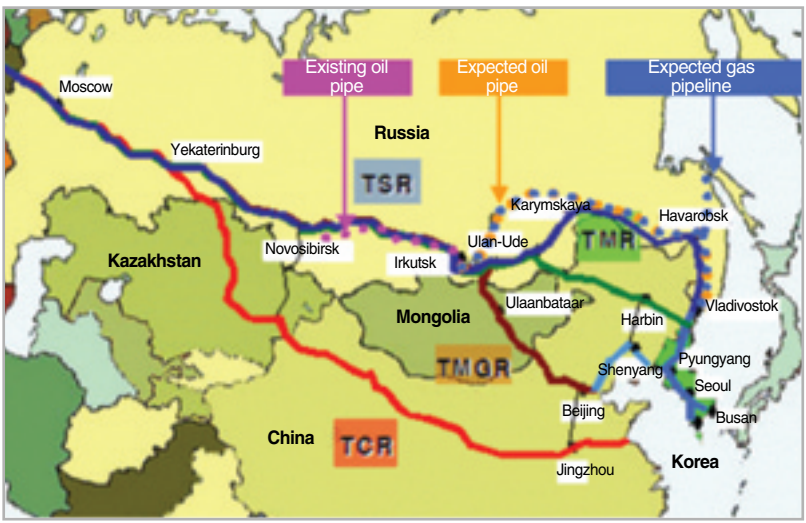
The project of connecting the railroads of South and North Korea is a monumental project that washes away 60 years of pain from the divided peninsula, and opening a new era of reconciliation and cooperation. Also the reconnection of the railway opens up 'the Iron Silkroad' that links Europe-Asia-Pacific, and is itself a core project having the potential to lead 'the era of peace and prosperity in Northeast Asia' by providing a basis for cooperation in the Northeast Asia region. Especially, as the most substantial and important cooperation project, the linking of the Inter-Korean railroads with the continental railroad will facilitate human and material exchange by railroad transportation, as a result providing a new chance for friendship and cooperation in the region and consequently cultivating a forward-looking cooperative partnership.

When the Trans-Korean Railway (TKR) is connected, not only the economic cooperation of South and North but also the reduction of the time and cost of transportation will greatly contribute to the enlargement of Northeast Asian economic cooperation. The TKR will be connected to Trans-Siberian Railway (TSR), Trans-China Railway (TCR), Trans-Mongolian Railway (TMGR), and the Trans-Manchurian Railway (TMR), all of which connects Asia and Europe, in turn being established as the world's largest transit system that connects European and Northeast Asian market by land. Currently the greatest beneficiary of the TSR is Russia, the territory of transit, and Finland, the terminus of Northern Europe, and the beneficiary will expand to include Eastern Europe and Central Asia in the near future.

Railway transportation does not compete with or substitute for marine transportation but complements it and will solidly perform a complex physical distribution function, and also provide an

opportunity for the Pusan harbor to be the central port of physical distribution in Northeast Asia once again. 'The Iron Silkroad' not only reduces costs and time of transit as an economic effect of physical distribution, but also solves tensions within the region and helps peace in the Korea peninsula become more settled as a huge invisible profit. Moreover, it means securing supply routes that transport resources and energy from Siberia, thus raising the possibility of participating in Siberia's resource and energy development.

<Figure VII-1> Continental Railways and Energy Network



As the Trans European Railway Network fastened the organization of the EU by integrating Europe's economy, society, and culture as well as playing the role as a transportation network, the reconnection of the North-South railways now under progress, by providing a cooperative infrastructure in the Northeast Asia region, will be a signal of "the era of peace and prosperity in Northeast Asia." Furthermore, by bringing 'the Iron Silkroad (or

the Eurasia land bridge)' to completion, which connects Europe-Asia-the Pacific, it will become the core network that promotes economic, social, and cultural community of Eurasia.[1] Thereupon, I would like to suggest the Northeast Asian railway cooperation initiative and its plans to drive forward.

2. Current State of the Reconnection of Inter-Korean Railways

A. Progress of the Inter-Korean Railway Reconnection Project

<Table VII-1> Major Events of Inter-Korean Railway Reconnection Project

Date	Events
'00. 7. 31	The 1st inter-Korean ministerial meeting: agreed to reconnect Kyung Eui line.
'02. 4. 5	Special envoy Dong-won, Lim visits North Korea, agreed to reconnect East Sea railway line and road.
'02. 9. 18	Simultaneous groundbreaking ceremony of Kyung Eui railway and East Sea railway and road
'02. 12. 31	Construction of all blocks of Kyung Eui railway in the South completed
'03. 6. 14	Inter-Korean railway track reconnection ceremony
'04. 4. 10	Agreed to 'Basic Agreement on Train Service between the North and the South'

[1] Presidential Committee on Northeast Asian Cooperation Initiative, "Cooperation Infrastructure of the Northeast Asian era - Linking Inter-Korean and Continental Railways," p. 11 (2005) (in Korean).

Date	Events
’04. 4. 13	Conclusion of the ’Basic Agreement on Train Service between the North and the South’ at the 4th meeting of the Panel for the Reconnection of Rail and Road Links
’05. 7. 12	10th meeting of the Inter-Korean Economic Cooperation Promotion Committee; agreed to test run the train and hold the road opening ceremony in October 2005, and hold the railway opening ceremony within 2005.
’05. 8. 12	Joint investigation on the actual condition of the construction of the railway connection blocks
’05. 12. 31	Construction of railroad tracks of the East Sea line in the South completed
’06. 5. 13	Agreed to test run the train on the 24th of May at the 12th round of the working-level contact on inter-Korean road and railway reconnection
’06. 5. 19	South Korea suggested to “have military working-level contact on the 22nd.” Contact on the 22nd abandoned.
’06. 5. 22	Inter-Korean chief-level contact regarding test run; discussed details of the ceremony.
’06. 5. 23	South Korea suggests exchanging the list of passengers; North Korea declines the suggestion.
’06. 5. 24	North Korea announces the cancellation of the test-run ceremony.
’06. 6. 6	12th meeting of the Inter-Korean Economic Cooperation Promotion Committee: agreed to adopt ’the Agreement on the Inter-Korean Cooperation for the Development of Light Industries and Underground Resources’ in condition of the test running of the train.
’07. 3. 2	The 20th ministerial meeting: agreed to test run the train within the first half of the year.
’07. 4. 22	13th meeting of the Inter-Korean Economic Cooperation Promotion Committee: agreed to carry out the test run on the 17th of May.
’07. 5. 11	5th inter-Korean general-level military talks: agreed upon military assurance measures for the test run.

B. Progress of the Inter-Korean Railway Reconnection Construction

<Table VII-2> Current State of Discontinuity of Inter-Korean Railways

Line	Block	Distance (km)	Discontinued block (km)		
			Subtotal	South	North
Kyung Eui	Seoul~ Shin Eui Ju	486	24	Moonsan~ MDL(12)	MDL~ Gaesung(12)
Kyung Won	Seoul~ Wonsan	222	32.6	Sintan-ri~ MDL(17.8)	MDL~ Pyunggang(4.8)
Kumkang mt.	Cheolwon~ Inner Kumkang	167	whole section	Cheolwon~ MDL(32.5)	MDL~ Inner Kumkang (84.1)
East Sea	Yangyang~ Wonsan	193	98	Yangyang~ MDL(80)	MDL~ Onjung-ri(18)

<Table VII-3> Construction rate of Inter-Korean Railway Reconnection[2] (End of '06)

Division	South		North	
	Content	%	Content	%
Kyung Eui Line	•Track construction (Moonsan~MDL)	100%	•track construction (Gaesung~MDL)	100%
	•Buildings & Facilities – Mt. Dora station and subsidiary facilities – enlargement of customs, immigration and quarantine(CIQ) – promoting a common CY	100% 98% 8%	•Buildings & Facilities – Panmoon/Sonha station building, incidental facilities – repairing Gaesung station building	95%
	•electricity, signal, communication	100%	•electricity, signal, communication	95%

[2] – Internal data of KORAIL, Korea Railroad Corporation (2007).

Division	South		North	
	Content	%	Content	%
East Sea Line	•laying tracks (Jaejin~MDL)	100%	•laying tracks (Mt. Kumkang~MDL)	100%
	•structures and facilities – Jaejin station building and subsidiary facilities * side tracks and inspection warehouse under construction	100%	•structures and facilities – Gamho/Samil-po station building, subsidiary facilities – Repairing Mt. Kumkang station building	95%
	•electricity, signal, communication	100%	•electricity, signal, communication	95%

3. The Course of Cooperation on Inter-Korean Infrastructures

A common view of the current state of infrastructures in North Korea is that it is generally close to the level of South Korea in the mid-1970s. The Kyungwon line and the East sea line, the subjects of TKR-TSR, need overall repair and improvement, and besides the highway and some of the 1st grade roads, the rest are unpaved roads. Airport facilities are in poor condition, and the ports built under the Japanese domination are severely lagging behind. The energy sector, known as the biggest lacking requisite of the North Korean economy, with its small scale capacity of the existing facilities will also be hard to put into normal operation. Regarding the regime's characteristics, the communication facilities are restricted and centered to state administration facility. Such poor levels of infrastructures are the reasons that impede economic development even if the North Korean economy turns to reformation and open market policies.

The cooperation for infrastructure between South and North Korea has developed in relation with three major economic cooperation projects at the center. The three major projects, as well as the infrastructure cooperation between the two Koreas, are mainly carried out at the border areas between the South and the North. The Korean peninsula infrastructure development initiative needs to aim at North Korea's economic revival; economic integration of the South and North; strengthening of the peninsula's long-term competitiveness; and cooperation to build a Northeast Asian infrastructure, plus a phased strategic approach to achieve the goal.[3]

The first phase is the building of an infrastructure linked to the free trade zone at the border area of the two Koreas. The construction of the Kyung Eui line and the East Sea line railway and road are now completed. The second phase is expansion of the infrastructure following the activation of the free trade zone at the border area and gearing up the development of the infrastructure that could provide a driving force to establishing a free trade zone at the borders between North Korea and Russia, and also North Korea and China. The third phase is the expansion of infrastructure to prepare for the demand coming from transports passing through the Korean peninsula as well as from within North Korea. In the long term, there is need to establish a Northeast Asian infrastructure network and continuously strengthen the inner capability of the infrastructure in the Korean peninsula.

The development of infrastructures in North Korea, which are the driving force behind the economic rebuilding of North Korea as a core strategic project, is linked to industrial growth such as the

3 – Reorganized referring to Won-Bae Kim, *Research on Basic Initiatives on the Development of Infrastructures in the Korean peninsula* (I), Chapter 6, pp. 133-139 (Korea Research Institute for Human Settlement (KRIHS, 2006), (in Korean).

development of six special zones. The demand for infrastructure can be divided into one that is on a steady rise after the interchange of the two Koreas and special zone needs that are on a rapid increase due to the special zone development plan. After the step-by-step project of the Gaesung industrial complex and the Mt. Kumkang special tourism zone is completed, the annual passenger demand and the annual quantity of goods transported are estimated to soar up to 5 million people and 7.5 million tons each. Regarding the maximum capacity of Shin Eui Ju-Dandong and Duman river-Hasan, which is 5 million tons, the expansion of facilities in the border areas between the South and North to reinvigorate the special zone is urgent. The Shin Eui Ju special administrative district is the gateway to China that holds the possibility of attracting the light industry and service industries, and the Najin-Sonbong free trade zone, as a cargo relay base, has a high potential of experiencing success in the intermediate trade and the distribution industry. The possibility of Nampo and Wonsan being designated as special zones in the future can also be predicted. Thus, the development of North Korea's infrastructure corresponds to the long-term vision of the Korean peninsula and its demands, and by supposing an industrial special zone that has the highest probability, a project that enables both inter-Korean and multilateral cooperation has to be deduced.

4. The Physical Distribution Environment of Northeast Asia

The Northeast Asia region, with its rich natural resources, abundant labor, industrial technique, and capital, can expect a high synergy effect in economic cooperation from its given condition of strategic location. Moreover, to seek economic development

of a state in the region, playing a central role in each field, such as transportation, finance, information, trade, and arts/culture, is important. Northeast Asian countries, including South Korea, China, Japan, and Russia have grown up to account for 1/5 of the world economy and 90% of the East Asian economy. The three northeastern provinces of China, 780.89 thousand km^2 in total size with a population of 172.9 million, covers 8.22% of the total size of China, accounts for 8.4% of the total population and 9.8% of total GDP. The Far East region of Russia, 6 million 215.9 thousand km^2 in size (30 times of South-North Korea combines), includes the Maritime Province of Siberia, Khabarovsk, Amur and other places in the east of Lena River, and Kuril, and with a population of about 10 million, accounts for 36% of the total land mass of Russia and 5% of the total population. Recently the Northeast Asia region became one of the world's three largest economic trading blocs, with its weight in the world regarding the quantity of goods transported rapidly increasing up to 30%.

<Table VII-4> The Scale of Northeast Asian State Economy

	Population (million)	GDP (hundred million $)	GDP per capita ($)	Trade (hundred million $)
South Korea ('05)	48.8	6,797	14,040	5,456
China ('05)	1,313.9	19,317	1,078	14,225
Japan ('05)	127.4	46,228	36,400	12,254
Russia ('04)	143.4	5,390	3,815	2,220

But the increase in exchange of goods and humans within Northeast Asia resulted in continued saturation of physical distribution facilities. Ports in Busan, Kobe (Japan), Kaohsiung (Taiwan), and Hong Kong are showing insufficiency in their demand capability, and the connection between ports and land transportation measures is not smooth enough. This partially comes from inefficient management of retarded facilities, thus requires supplement and expansion of facilities based on new technologies and the withdrawal of irrational institutional regulation. Also, to absorb the rising quantity of goods transported, the connection of railways between major Northeast Asian states will become an essential factor, and the spin-off from the reconnection of South-North railways must be understood in linkage with the continental railway.

5. The Northeast Asian Railway Cooperation Initiative and its Progress[4]

When the reconnection project of the South-North and continental railway currently in progress is successfully completed, it is foreseen to create new demands along the differentiated and specialized area in the mid- and long term, and develop into an international cargo railway network connecting the Eurasia region

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4 – Refer to Hee-Seung Na, "The Currents of Northeast Asian Railway Network and Northeast Asian Railway Cooperation," paper presented to Korea Institute for International Economic Policy (KIEP)/Korean Siberia Society joint scientific conference, "Development of Siberia and the Korean Peninsula" in 2005 (in Korean); Presidential Committee on Northeast Asian Cooperation Initiative, "Cooperation Infrastructure of the Northeast Asian era - Connection of Inter-Korean and Continental Railways," p. 15 (2005) (in Korean).

and an international passenger railway network that integrates Northeast Asia (Northeast Asia living space of a day). The Eurasian cargo railway network will be formed to the east (Kyung Eui line, Kyung Won line) connected to the TSR, and the Northeast Asian railway network for transport of humans and goods will be completed to the west (Kyung Eui line), connected to the TCR. That is, two international railway networks that use the Korean peninsula as terminus are expected to be formed. Hence, to boost these international railway networks and facilitate exchange between regional states of Northeast Asia, bilateral or multilateral railway cooperation between intraregional states must come first.

In this regard, it is thought to be necessary while the connection of TKR and TSR between the three states, South Korea, North Korea, and Russia, is pushed on as the initial Eurasia cargo railway network project, it should be expanded and developed to a model for Northeast Asian railway cooperation which includes South and North Korea, Russia, and China in the mid- and long term. Therefore to prepare for the era of the Northeast Asian railway network, we should propose a test drive of the railway and lead the making of the Northeast Asian railway committee by providing a transport agreement to raise the efficiency of the railway transportation. A future driving strategy should be established through a specific and in-depth analysis for the effort.

Against this background, as a railway cooperation system for peace and prosperity in the region, a driving strategy for "Northeast Asian railway network and committee" should be formed to again strengthen the momentum of the railway reconnection project.

6. The Northeast Asian Railway Committee (Plan)

In case a Northeast Asian railway cooperation body is constituted by using existing international railway cooperation organizations, making use of UN ESCAP can be a way for now. The UN ESCAP is working to promote inter-regional cooperation through fighting poverty, boosting the economy of backwater regions, and globalizing as well as integrating the transport system. Especially, the "Demonstration Runs of Container Block-trains along the Trans-Asian Railway Northern Corridor" is now close to completion.[5] Thus, using the UN ESCAP to form a Northeast Asian railway committee under the current international environment can be considered.

The "Demonstration Runs of Container Block-trains along the Trans-Asian Railway Northern Corridor" advanced by UN ESCAP is not only pushed forward by South and North Korea but also by Russia, China, Mongolia, Kazakhstan, and Eastern European states as a multilateral international railway cooperation project. This project started in Bangkok in 1995, by the financial assistance of South Korea and the participation of relevant countries. The demonstra-

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[5] – This project started in Bangkok, 1995, under financial support from South Korea and the participation of related states. Korea has already carried out a feasibility test once with France and once alone. As the project was realized during 1998~1999, the Organization for Cooperation Railway Lines (OSJD) and Belarus, Poland, and Germany participated in the project in addition, and the five basic routes have been finalized at the 2nd UN ESCAP Ministerial Convention on Infrastructure held in Seoul, November 2001. The five routes decided are Russia~Belarus~Poland~Western Europe, China (Yeonun)~Kazakhstan~Russia~Belarus~Poland~Western Europe, China (Tianjin)~Mongolia~Russia~Belarus~Poland~Western Europe, South Korea (Pusan)~North Korea~China~Russia~Belarus~Poland~Western Europe, North Korea (Najin)~China~Russia~Belarus~Poland~Western Europe.

tion runs of five basic lines were decided at the 2nd UN ESCAP Ministerial Conference on Infrastructure held in Seoul in November of 2001. In other words, UN ESCAP is useful in that it is possible to constitute a Northeast Asian railway cooperation organization and to convene a ministerial conference on infrastructure. Many Korean experts are working at the Bangkok headquarters where financial support, the existing human resources and material infrastructure abound. Therefore, carrying out early demonstration projects for the Northeast Asian railway committee might be possible.

The UN ESCAP is an international organization that puts through multilateral international railway cooperation projects, not an international railway cooperation organization. This organization is currently promoting various projects within diverse fields. Especially in Asia, they are encouraging a multilateral international transportation cooperation project, and are giving much attention and assistance to a Northeast Asian railway cooperation project without reluctance in recent periods. It is easy to promote an independent railway cooperation project within UN ESCAP, and there is no such circumstance to act under particular restraints. In addition, it can be developed into a Northeast Asian railway committee and may be accomplished as an independent multilateral international railway cooperation organization.

Using UN ESCAP has the advantage of carrying out the Northeast Asian railway demonstration project and railway committee quickly, while minimizing internal and external oppositions and an excessive financial burden due to establishing a separate international organization, and accumulating the experience of managing an international railway at the same time. It seems to be the optimum plan to constitute a Northeast Asian railway committee at the present time.

7. Phased Roadmap for the Constitution of a Northeast Asian Railway Committee and a Northeast Asian Railway Network

The Northeast Asian railway committee must furnish conditions as a consulting organization between regional actors regarding all the current issues including railway transportation facilities and its management. That is, this committee must become an organization that extensively discusses the current bilateral and multilateral issues of railway transportation between countries in the aspect of Northeast Asia's common interest. Thus, constituting a Northeast Asian railway committee requires a phased strategy because of the different state interest and sharp difference of the railway infrastructure and service standards in each country. Also, in the middle to long run, forming a certain task force between the government and experts for the establishment and step-by-step promotion of the Northeast Asian railway committee seems desirable. To constitute a Northeast Asian railway committee, the following phased strategy can be set up and put forward.[6]

A. Short-run Project

A multilateral project to examine and solve specific issues in hand in a relatively fast period should be put into execution as a short-run project. The TKR~TSR connection project between South and North Korea, and Russia currently under progress should be

[6] Hee-Seung Na, "Recent State of South Korea·North Korea·Russia Railway Cooperation and Northeast Asian Railway Cooperation Promotion Strategy," presented at the 3rd expert group seminar for the deepening and diffusing of the Northeast Asia initiative, Presidential Committee on Northeast Asian Cooperation Initiative (in Korean).

promoted with trust, and together with the "Demonstration Runs of Container Block-Trains along the Trans-Asian Railway Northern Corridor" by the UN ECSAP put into force, the "Demonstration Runs of Northeast Asian Railway" needs to be proposed. Before constituting the Northeast Asian railway committee, a Northeast Asian railway working group consultative meeting should be formed inside the UN ESCAP to promote the "Demonstration Runs of Northeast Asian Railway." After proposing a route (plan) for the "Demonstration Runs of Northeast Asian Railway" at the working-group consultative meeting, it can be decided at the UN ESCAP ministerial conference on infrastructure. Through this demonstration transportation we have to prepare a reform measure by checking and analyzing the connecting routes, the interface between the connecting routes, bottlenecks, operation of the railways of each state, customs, and route operations. Especially, providing an international public information and cooperation environment for establishing Northeast Asian railway network during this period is important.

B. Middle-term Project

Based on the short-run project carried out, the middle-term project is a program that can promote a more macroscopic task, which brings in multilateral interests. Through the "Demonstration Runs of Northeast Asian Railway," various legal/institutional/technical problems will arise. To integrate this step-by-step, and raise the efficiency of Northeast Asian railway transportation, a rudimentary Northeast Asian railway transportation pact is needed. In this case, as a part of the Northeast Asian railway transportation pact, pacts such as the GBRT,7 which have been previously explained, should be studied and subsequently prepared for

the Northeast Asian railway committee to furnish an advanced railway operation system. That is, completing a Northeast Asian railway committee by strengthening international cooperation functions of the Northeast Asian railway working group consultative meeting, and concluding a Northeast Asian railway transportation pact to raise the efficiency of Northeast Asia's railway transportation. After forming a preliminary group for organizing the committee, consisting of states that concluded the pact, they should be made to decide in advance matters regarding the form of the committee, the organizational composition, and the range of its work.

C. Long-term Project

The long-term project is establishing an independent Northeast Asian railway cooperation organization by expanding and developing the Northeast Asian railway network, which is the 'Peace project of Northeast Asia,' through the Northeast Asian railway committee. The former Northeast Asian railway committee will be developed into a Ministerial convention on Transportation in Northeast Asia, and the project will settle down as a Northeast Asian railway cooperation organization which is a multilateral international railway cooperation structure of its own. The main functions of the organization will be discussing and coordinating with member states for managing the Northeast Asian railway,

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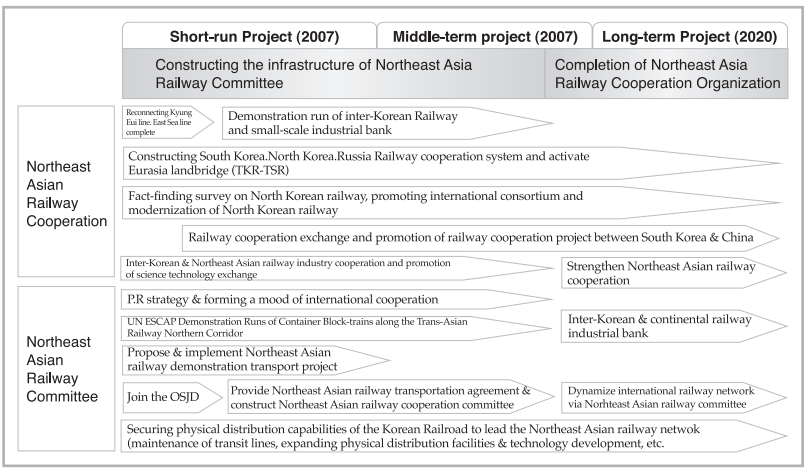
7 – GBRT is an international railway cargo direct transport agreement between the government-run Russian railway that runs through the Polish government-run railway, Belarusian railway, and German railway Inc. The terms of transport and fare system of Russian, Belarusian, and German international railway cargos, including the terms of transport in case of direct transport, are under discussion.

setting rail fares for passengers and cargos, improving rail operations by betterment of rail routes and signaling systems, and establishing and revising Northeast Asian railway pacts. Based on these, we can lay out a scheme and a standard for integrating and linking the Northeast Asian railway network. Through the vibrant activity of the Northeast Asian railway committee, we can ultimately establish an intra-regional common market for transportation and crank up the international railway network.

<Figure VII-2> Phased Roadmap for Constituting the Northeast Asian Railway Committee[8]



8 – Presidential Committee on Northeast Asian Cooperation Initiative, "Cooperation Infrastructure of the Northeast Asian era - Linking Inter-Korean and Continental Railways," pp. 16-17 (2005) (in Korean).

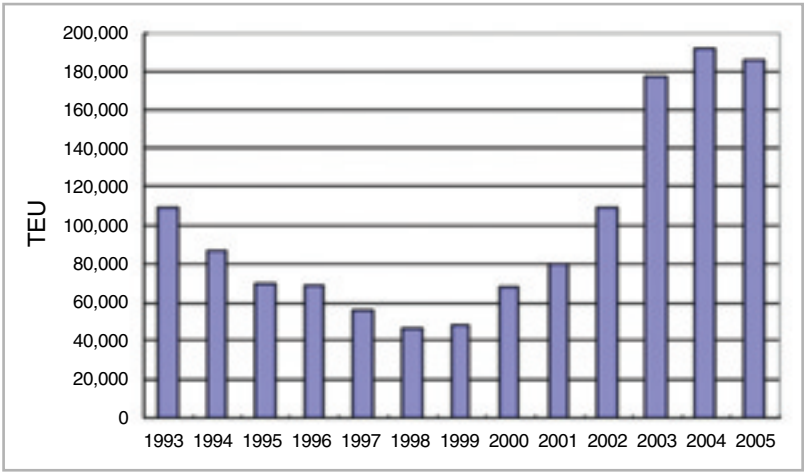
8. Railway Cooperation of South-North Korea and Russia as a Short-run Project

Trial operations of the Kyung Eui line and the East Sea line are afoot now and mean not only the reconnection of the divided peninsula but also the restoration of the discontinued Northeast Asia. As mentioned earlier, the linkage project of the inter-Korean and the continental railways will grow as an international passenger railway that unites the Northeast Asia region and an international cargo railway network that connects the Eurasia continent. This signifies the completion of the two international railway networks that use the Korean peninsula as its terminus, that is, a Eurasian cargo railway network that connects with TSR and a Northeast Asian railway network for humans and goods linked to TCR. The linking of railways is a very important as well as a comprehensive project to ensuring the future vision of the Northeast Asia region.

Especially TSR, compared to Chinese railway, is 600~1500km longer in length but by only running via Russia it is assessed as the most competitive route to transporting goods to Europe by minimizing the number of crossing borders, reducing the time of customs clearance, running a regular container train to secure in-time operation, enforcing a discount policy on international transit costs of TSR, and improving TSR services through the International Coordinating Council on Trans-Siberian Transportation (CCTST). By electrifying all blocks by December of 2002, double tracking and electrifying all blocks, which is an index of advanced railway, has been accomplished, and it is possible to track down cargos in all blocks by optical communication. As a result, international transit cargos using TSR increased more than fivefold from 23 thousand TEU in 1999 to 120 thousand TEU in 2004. In 2005, South

Korea used TSR to transport 100 thousand TEU a year in a SEA and RAIL form between Pusan-Vostochny-Moscow-Finland. Recently, however, decreases in railway cargos due to rise in TSR rates are a task to be solved henceforth.

<Figure VII-3> Amount of International Container Cargos Handled at Port Vostochny



Russia, one of the neighboring countries in Northeast Asia, is the most vigorous state in modernizing North Korea's railway to link TKR with TSR. All the while, Korea and Russia have been promoting a trilateral TKR-TSR linkage project through exchanging South Korean-Russian Railway Cooperation Agreement (2001), Korean-Russian Transport Committee (2001, 2002), South Korean-North Korea-Russia trilateral railway expert group meeting (2003), and South Korea-North Korean-Russian Ministerial Convention on Railway (2006).

TKR-TSR linkage project, a trilateral cooperation on railways between South-North Korea and Russia, is a Eurasian railway

physical distribution enterprise that is able to transport 100 thousand TEU of containers annually in the short-run and 500 thousand TEU in the future. Railways are supply routes that deliver the abundant resources and energy of the Far East and Siberia region, and an important transportation infrastructure for developing resources and energy in this region. The restoration of the inter-Korean railway has important significance in that extent.

9. Recent Cooperation between South Korea, North Korea, and Russia and Tasks

Recently South Korea is mapping out a new form of economic cooperation project that combines economic factors besides the three major economic cooperation enterprises. To promote a new economic cooperation project, there is need to expand the development of infrastructures in the border areas between South and North Korea to major cities in the North. To make this happen, we need to enlarge cooperation between two Koreas to cooperation between neighboring states.

Last year at the 12th Inter-Korean Economic Cooperation Promotion Committee, South and North Korea agreed to break into a third country in the economic and resource development area. This year, the two Koreas agreed to cooperate in light industry and underground resource development at the 13th Inter-Korean Economic Cooperation Promotion Committee. Also North Korea has proposed joint development of a petrochemical base in Najin-Sonbong area, and joint participation in resource development in Far Eastern Russia. As a matter of fact, North Korea has proposed a multilateral cooperation, and its range is expanding from infrastructure cooperation to energy and resource cooperation. They

are hoping for a trilateral cooperation between South Korea, North Korea, and Russia.

Economic cooperation in the border areas and development of infrastructures of the Korean peninsula has to be put forward giving priority to North Korea's accommodation and demands, multilateral cooperation, and projects that are able to supply resources. The development form of infrastructures and special zones should be multilateral cooperation as well as inter-Korean cooperation and insure the synergy of opening up. Based on this, we should keep our eyes upon Najin-Sonbong special zone as an important stronghold of trilateral cooperation between South Korea, North Korea, and Russia.

140 million dollars of investment has been made to Najin-Sonbong special zone of North Korea since its establishment in 1991, but not being successful specializing in any particular field of industry, its progress is in poor state. However, Najin-Sonbong economic special zone is an area with high possibility of having success in entrepot trade and physical distribution enterprise. It is the stronghold of TKR-TSR linkage demonstration project, and has an excellent condition of being accessible from all directions as a cargo stock point of South-North Korea, Russia, China, and Japan. Also, since the two Koreas have agreed to break into a third country in the economic and resource development area, they should provide Najin-Sonbong special zone with new dynamics through the trilateral cooperation project including energy and resource development cooperation and cooperation in transportation of them between South Korea, North Korea, and Russia.

As the second phase of the Korea peninsula infrastructure development, the repairing of Najin-Hotsan railway, servicing Najin port, and repairing oil refining facilities in Sonbong is assessed as the project with top priorities in terms of being able to

partially resolve the shortage of energy in North Korea and activate the transit port function of Najin port. Put together, as the second phase of the Korea peninsula infrastructure development initiative, while continuously promoting the present three major inter-Korean economic cooperation projects, local infrastructure development projects in the border areas of North Korea-Russia and North Korea-China should be put forward simultaneously. This is a process of the Korea peninsula economic sphere going through the fetal period to the next phase.

For the TKR-TSR linkage project to be successful, modernization of North Korea's senescent railway must be preceded. Recently after resolving North Korea's nuclear crisis at the six-party talks, a multilateral cooperation to aid the infrastructure of North Korea is expected. The BDA fund transfer problem has been solved recently, and since the first phase of denuclearization measures have been fulfilled, North Korea is hoping to incorporate into the international financial system at the nuclear disused phase. Discussion between North Korea and the U.S. in regards to discharging the status of state sponsor of terrorism and the one between North Korea and Russia on writing off 8 billion dollars of debt heightens the possibility of an international consortium for North Korean railway modernization. Moreover, if the container demonstration transport project between the two Koreas or South Korea/North Korea/Russia is advanced after the railway demonstration run, that will play a very affirmative role in publicizing North Korea's railway modernization business to the international society.

'Najin-Hotsan railway maintenance' and 'Container transport of physical distribution via TSR after maritime transport between Pusan~Najin' recently discussed are projects with high possibility of commercial success. If the infrastructures are improved by repairing railways and the foundation of Eurasian physical distrib-

ution project is fostered by the construction of a physical distribution base, this is significant in terms of providing new dynamics to the Najin-Sonbong special zone, and ensuring synergy of reform, openness, and development.

This whole enterprise gives benefit to all three parties. North Korea can partially restore their senescent railway and give life to the economy in the Najin-Sonbong area, and also expect strengthening of cooperation with Russia. Russia can settle the saturated Far Eastern port and by raising competitiveness of TSR, they can rev up the physical distribution network of Eurasia. Moreover, the North Korea-Russia relations can be improved and the political, economic influence as a major railway, energy power can be expanded. Finally, South Korea can expect a good cyclic synergy effect of inter-Korean cooperation from trilateral cooperation. Furthermore, the improvement of inter-Korean relations and peace settlement in the Korean peninsula contributes to economic and security cooperation in Northeast Asia and Northeast Asian cooperation renders the development of inter-Korean relations in return, so ultimately one can expect a mutual cyclic structure that leads to the unification of the Korean peninsula and the integration of the Northeast Asia region.

10. Conclusion

On the 17th of May, although it was a one-time event, by carrying out the demonstration run of Kyung Eui and East Sea line, South and North Korea took their first step forward in inter-Korean railway cooperation. It is now the time for South Korea, North Korea, and Russia to start cooperating in Pusan-Najin-TSR physical distribution. The three states will secure a physical distribution

transport network with international competitiveness. After the BDA problem is solved and North Korea's initial denuclearization measure is preceded, more energy can be put in the international consortium led by South Korea, North Korea, and Russia for modernizing North Korea's railway. As the European railway network went beyond the role of a transportation network and integrated economy, society, and culture of Europe, advancing the formation of EU, I expect TKR-TSR cooperation between South Korea, North Korea, and Russia, being not only the cooperative infrastructure of Eurasia but also of the Northeast Asia region, to open the "era of peace and prosperity in Northeast Asia."

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[Appendix] Currents of Trans-continental Railways

- Trans-Siberian Railway (TSR)
  - TSR departs from Russia's Far Eastern port, Nakhodka/Vostochny port to Moscow, and is linked to major cities in Europe.
  - Its total length is 9,208km to Moscow. It currently is in charge of mainly Russian intra-state cargo transports. All blocks are broad gauge (1,520mm) and the voltage is AC 25,000V.
  - By electrifying all blocks by December of 2002, double tracking and electrifying all blocks, which is an index of advanced railway, has been accomplished, and it is possible to track down cargos in all blocks by optical communication.

- Trans-Chinese Railway (TCR)
  - TCR departs from China's Yeonun port via Lanzhou and Urumchi, and links to the TSR through the Kazakhstan region to the major cities in Europe.
  - Its total length is 8,613km and 7,127km, approximately 82.7% of its total block, has become a double-track line. The electri-

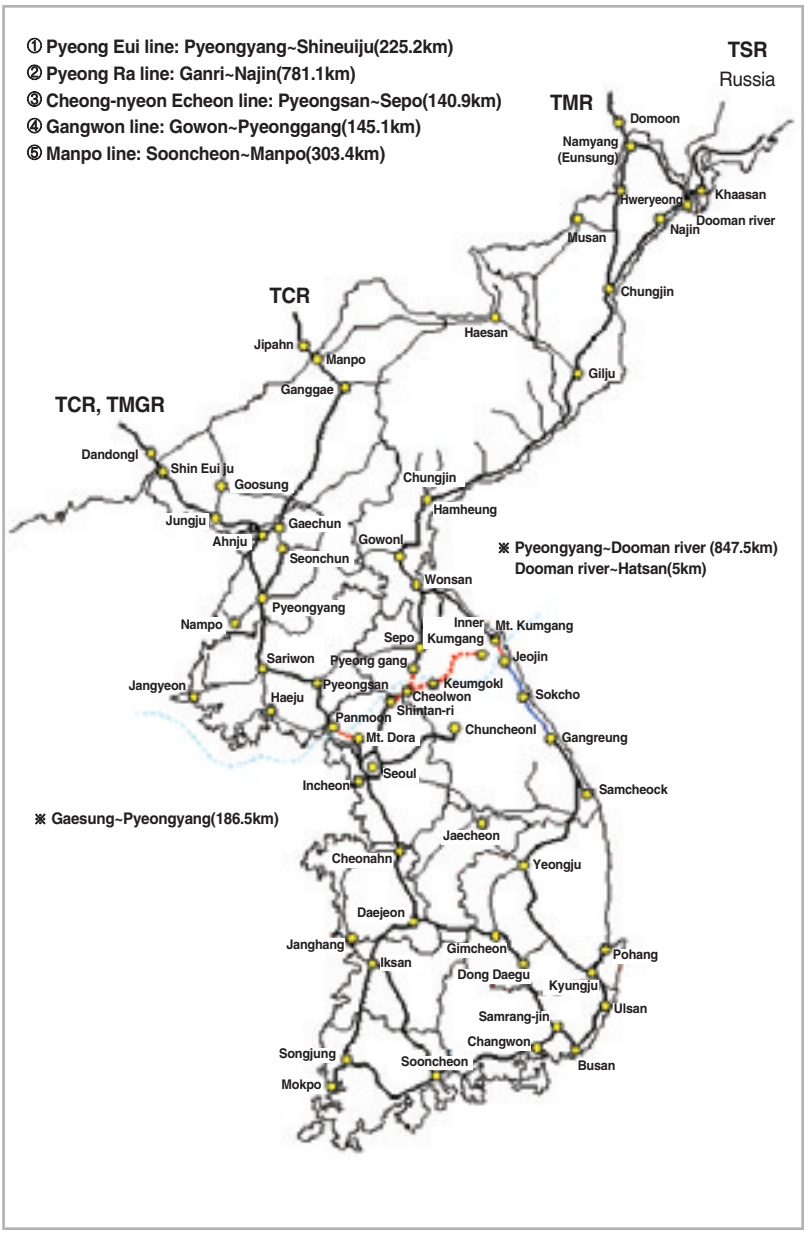
fied blocks are in length 5,001km, which is about 58.1% of the total block.

– China's railway uses standard gauge (1,435mm) but Kazakhstan's railway uses broad gauge (1,520mm). Thus, transit or train transfer is made at the border.

- Trans-Mongolian Railway (TMGR)
  – TMGR departs from China's Tianjin port via Beijing, Ulaanbaatar, and Hoit station, a border station between Mongolia and Russia, and connects with TSR at Russia's Ulan Ude station.

- Trans-Manchurian Railway (TMR)
  – TMR departs from China's Tumen and goes through Manchurian region connects with TSR at Russia's Karymskaya station via Manchuria station (Zabaikalsk at the Russian side), a border station shared with Russia.

<Figure VII- 4> Trans-Korean Railway (TKR) Network



VIII

Conclusion

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After the advent of the EU, efforts to institutionalize interstate cooperation at the regional level have increased globally, and the regional cooperation in Northeast Asia is also increasing continuously since the Cold War, owing to the global trend of pursuing peace and prosperity. Especially as economic growth and interdependence of regional states intensified, the importance of Northeast Asian regional cooperation is emphasized more than ever. Moreover, Asia's sharing of identity and the geographical closeness are working as a cultural, geographical factor that induces interest in Northeast Asian regional cooperation. However, despite these geographical, sociocultural, and economic factors, Northeast Asian regional cooperation has not reached the phase of institutionalization. It is because regional cooperation has been impeded by the carryover from the Cold War system resulting from continued division of the Korean peninsula as well as China and Taiwan, sustained insecurity of regional situations resulting from the presence of a number of major powers, regional hegemonic competition including military competition between China and Japan, the divergence of political thought, difference in the level of economy, and the unsolved unfortunate past.

Likewise, Northeast Asian regional cooperation lies at a low level despite its huge potential. This situation has rather caused regional states to deeply recognize the necessity of regional cooperation, and is pushing forward vigorous discussions to promote it. This research was made in attempt to provide a new approach to these discussions.

Until now most of the research on the ways of Northeast Asian regional cooperation have tried to apply the European case or traditional regionalism theory to the Northeast Asia region, or have made detailed exploration on the matter of how economy and security interact when attempting inter-state cooperation or

regional integration. But traditional regionalism theory has the limit of not being able to provide any theoretical evidence of the attempts or the efforts to integration between Northeast Asian countries that form asymmetric structural forces, as the theory only considers the relations between states with similar size of the economy and industrialization level when explaining integration and the interdependence which made it possible. It is also unreasonable to apply the experience of European integration entirely to Northeast Asia, which has different history, culture, religion, and nationality, state building and political system. Furthermore, as we have confirmed that cooperation in non-political areas such as economic cooperation tends to strengthen security cooperation through the pre-existing building process of regional consultative body, the discussion over the correlation between economic and security cooperation no longer has new theoretical or policy usage in Northeast Asian regional cooperation.

Therefore, unlike prior transcendental researches, this research attempted to provide a more practical cooperation plan (or a model) to promote 'new connection' by closely examining regional cooperation cases prevailing in leading states of Northeast Asian regional cooperation such as South Korea, Japan, China, and Russia. To do this, we proposed local government-level regional cooperation and regional cooperation by sector as a new composition of connection for 'flexible regional cooperation.' And on this basis, we examined cases in each nation jointly with experts from each field and region. As a result, we have come to the following practical ways and policy considerations when promoting Northeast Asian regional cooperation.

First, it is better to put in efforts incrementally around areas with enough room for multilateral regional cooperation than to push forward economic cooperation or security cooperation in

full-scale. This is not a work of functionalism or neo-functionalism but originates from the specificity of the Northteast Asia region. Unlike Europe, political and economic differences between regional states of the Northeast Asia region are very wide. In this regard, unreasonable promotion of economic or security cooperation can be misunderstood as an attempt to worsen the gap between the rich and poor in the region or to seize hegemony, and the effort to cooperate will probably incur discord instead. And there is the realistic problem that the U.S. influence on Northeast Asia cannot be excluded. The U.S. is globally the sole hegemonic power and a member of the Asia-Pacific region. Accordingly the U.S. is leading APEC, the multilateral organization in the Asia-Pacific region, and has built a bilateral security cooperation system in the region through alliance with South Korea, Japan, and Taiwan. Eventually it is self-evident that the discussion of Northeast Asia's economic and security cooperation will encourage the U.S. intervention. Hopes of discussion over economic and security cooperative body might risk a new hegemonic competition in the region between the U.S., China, and Russia.

What we have to keep an eye on more than anything else are the regional cooperation cases by sector already in progress. As we have seen above, cooperation is made in various levels in health and medical care, environment, energy, and railway area in Northeast Asia. Cooperation in these fields has great momentum of cooperation as it corresponds to the interest of one's own state, and at the same time can steer consensus on their common benefit. Also peaceful cooperation is possible as states that have relative advantage resulting from special characteristics of each area can naturally lead cooperation. As an example, Japan has cooperated with Asian states in the health and medical care area for the past few decades, and they are now leading the Northeast Asian medical

care cooperation through their accumulated experience. The active participation of Russia, the energy producing state, provides a driving force for Northeast Asian energy cooperation. If there is no participation in environmental cooperation from China, who is causing serious environmental problems along its developmental path, the prevention efforts of South Korea, Japan, and other neighboring states will be useless. Moreover, considering that the linkage of transport network including railways and roads between South and North Korea is the missing link of the Northeast Asian transportation network, the aggressive promotion of inter-Korean cooperation by the Korean government is becoming a prime mover of Northeast Asian transportation cooperation.

In addition, the fact that these co-operations under way in Northeast Asia in each area are led by the private sector even superficially, is very encouraging in terms of the continuity of cooperation. If corporations, scholars, or NGOs lead regional cooperation, despite discord between states heightening, the momentum of cooperation can be maintained. In inter-Korean relations, when there are no radical conflicting circumstances like nuclear testing, cases where exchange and cooperation of local government and non-governmental organizations have not stopped while dialogue between states are closed can be easily found. The increase of voluntary regional cooperation by the private sector can play a positive role as it can promote more flexible regional cooperation.

Second, connections between areas are needed when promoting regional cooperation in each area. If it is promoted individually, it can bring unfortunate results resulting from the difference of the speed of cooperation. For example, as a result of sustaining a poor medical environment and a long spell of closed regime in North Korea, it possesses epidemics that have already been demolished

from other states. If cooperation in the transportation area is pushed forward without having proper health and medical cooperation with North Korea, a tragedy will be unveiled as epidemics spread across neighboring countries. On the other hand, if transportation cooperation is promoted simultaneously with energy cooperation, synergy effects might bear fruit in constructing infrastructure in energy and transportation. The connection between the areas must be put forward as it can minimize the side effects of regional cooperation and maximize its efficiency. Also, for regional cooperation in each area to develop into a more sophisticated regional cooperation, mutual connections between areas are needed.

A dialogue channel of 'Track 1.5,' where government officials and expert groups of each area can have discussions together, has to be constituted. As projects in each area require sophisticated expertise, cooperation of experts is essential. Also as massive budgets are executed, the participation of working officials is needed to actually put the discussed matters into execution. If this consultative body is run in the form of a summit conference, not only is it easier to become entangled in political logics, but also the agreed contents might end up as a bidding statement. Thus, forming a 'Track 1.5' consultative body with expertise and working capabilities will be more efficient.

Third, when pushing forward regional cooperation, there is need to vigorously make use of exchange and cooperation between local governments. The exchange and cooperation between local governments are mostly cooperation in education that usually aims at friendship or humanitarian assistance. And as close-to-life cooperation takes a bigger part, it can raise mutual understanding between citizens of the region. The increase in regional cooperation and mutual understanding in non-political areas is a cornerstone of regional cooperation in high politics.

Also, because cooperation between local governments can be relatively made on small scale, it can be used as a guinea pig project before promoting full-scale cooperation. Especially, interchange and cooperation between states with different political ideologies or economic systems are difficult right at the moment, but we can search for the possibility of cooperation through sub-regional cooperation between local governments. That is, while cooperation at the local government-level is continuously pushing forward, interchange and cooperation at a higher level aren't impossible if the sphere of bilateral regional cooperation is steadily broadened through demonstration projects. As the level of duty is different between the central government and the local government, regional cooperation at the local government-level can't substitute regional cooperation between central governments. However, in terms of sustaining the momentum of regional cooperation and raising its efficiency, interchange and cooperation at the local government-level can be a good way to promote flexible regional cooperation.

As in the case of Northeast Asia, having various conflicting factors despite the geographical closeness, promoting regional cooperation or integration is very difficult. Whenever the underlying conflicting factors prevail, regional cooperation that was in progress can be easily turned around. Thus to promote regional cooperation in such an area, there is no alternative but to choose between resolving the conflicting factors or avoiding them. But the conflicting factors of the Northeast Asia region are problems that cannot be solved in a short period, such as the difference of political ideology and economic system, the gap between economic levels, history problems, and hegemonic competition. Perhaps these problems might be something that cannot ever be solved. Accordingly, to promote regional cooperation in Northeast Asia, it is appropriate to

search regional cooperation incrementally while avoiding these factors rather than solving them first. This is the reason this research promotes flexible regional cooperation through diverse forms of communication channels.

But the fundamental reason that South Korea is in need of a 'more flexible regional cooperation' lies elsewhere. The inter-Korean relation is dotted with all the conflicting factors of Northeast Asia. Recently because of the North Korean nuclear crisis, it has reared up as the region of most acute confrontation of political and security discord in Northeast Asia. Of course it is true that recently clues to resolve the nuclear crisis have been searched through the February 13 agreement, the 6th meeting of chief negotiators of the six-party talks, and the 2007 South-North Korean Summit. But as conflicting factors are still inherent, there is need to push efforts to continue inter-Korean cooperation through vigorous usage of various forms of communication channels, rather than waiting for these problems to be perfectly solved. Until now, the division of South and North Korea has been counted as the typical hindering factor to regional cooperation of Northeast Asia. But if inter-Korean relations can make a breakthrough through these efforts, a turning point that can accelerate Northeast Asian regional cooperation may be provided.

In conclusion, the mutually developing trend between the globalization process and the integration efforts of regional economy is not a story of some other region. Now the constitution of a cooperation system in the Northeast Asia region is the stream of time. Of course it is also clear that drawing up a regional consultative body is itself difficult because of the various conflicting factors in Northeast Asia. However, as the economy of Northeast Asian states develops and the interdependence of intra- and inter-regional states increases, regional cooperation is a must. Thus we have to

clearly recognize the promoting factors as well as the hindering factors of regional cooperation and find a way to practice it efficiently. That is, to deepen the interdependence of Northeast Asia, we need to promote incremental cooperation by increasing the efforts at the local government-level and the voluntary role of the private sector, rather than depending solely on the role of the states.

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