

Challenges and Opportunities in the Regional Environmental Governance in the Northeast Asia

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ABSTRACT: *The transboundary airborne and maritime pollution are posing the great ecological challenges for the Northeast Asia. Compared to other Asian sub-regions, the Northeast Asia's regional environmental cooperation framework is under the development. Despite these challenges, the regional environmental cooperation frameworks remain comparatively nascent. The article examines the challenges and opportunities to strengthen the regional environmental cooperation in the Northeast Asia. The study adopted the regional governance framework using qualitative data including regional and national policy and academic documents. The findings show that the regional environmental governance in the Northeast Asia has multilayered structures, parallel institutions, and weak institutional and financial mechanisms. Furthermore, the regional countries lack in the strong leadership due to the competitions among nations, geopolitical tensions, and divergent national priorities. Nevertheless, the opportunities for regional environmental cooperation can include striving towards regional science-policy interface process and involvement of various parties including scientific communities, NGOs, public participation, and private sectors.*

KEYWORDS – Environmental protection, governance, Northeast Asia, regional cooperation, transboundary pollution, Regional cooperation

I. INTRODUCTION

The Asia Pacific region is the home of 60 percent of the global population, accounts for over 40 percent of the global economy. There are several subregions in the Asia Pacific. Southeast Asia, Northeast Asia, South Asia, Central Asia, and Pacific Islands. Among them, Southeast Asia has developed the most environmental cooperation through numerous legal instruments and policy statements [1]. Compared to the Southeast Asia, the region of Northeast Asia is under the way of development in terms of regional environmental frameworks.

The region of Northeast Asia is comprised of the core countries including Japan, South Korea and China as well as North Korea and Mongolia. The region can be defined as “Growth center of world economy plus central region worldwide pollution”. The Northeast Asia as a region is also quite diverse. It includes not only substantially different political systems but also various levels of economic development [2]. In terms of economic perspective, Japan is one of leading economic super power in the world. South Korea has experienced significant economic growth in last decades while Chinese has had double digit growth in the last decade.

However, high population density, high rate of consumption of natural resources and the pressures of rapid industrialization with inadequate environmental management have made Northeast Asia one of the most polluted sub regions in the world [3]. Lee (2001) argued that at the national level, the regional countries were highly vulnerable to ecological threats such as scarcity of resources and pollution but also human security concerns

such as population, health, and food and energy requirements as well as at the inter-state level, environmental degradation has become a common concern [4].

The short list of major environmental problems in the region include; (a) acidification of inland waterways; (b) acid deposition in China, Japan, Korea and Russia; (c) limitation of drinkable water resources in China, Korea and Mongolia; (d) land degradation and desertification in China and Mongolia; (e) increasing greenhouse gas emissions and; (f) the loss of biodiversity and the high degree of vulnerability of society to natural disasters (drought, flooding and others) in all countries of East Asia [5].

These transboundary environmental problems are not limited to single country and should be tackled with regional cooperation. As Haas (1990) noted that our collective survival may depend on governments' ability to manage such novel issues [6]. So it is suggested that the more vulnerable the state's environment, the greater incentives for seeking international environmental protection. In other words, the ecological vulnerability and interdependence among regional countries necessitate the regional environmental cooperation. According to Young (1994) the ecological interdependence is defined as physical and biological interconnections of the environment that cause the actions of each actor in the environment to impinge on the welfare of the others [7]. In case of the Northeast Asia, the major environmental concerns include as follows:

- China's air pollution is partially transferred to Japan and South Korea.
- Dust storms originated in China and Mongolia affect South Korea and Japan.
- Marine environment including Yellow Sea and East Sea.

The objective of this paper is to discuss the challenges and opportunities of the Northeast Asian countries towards building up the effective regional environmental governance to tackle these transboundary environmental problems.

II. CONCEPTUAL FRAMEWORK AND DATA COLLECTION

The demand for regional environmental governance may emerge as a response to growing ecological interdependence within a region. The diverse definitions for governance can be found in the recent burgeoning literature. According to the Commission on Global Governance [8], the governance is defined as the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceived to be in their interest.

Based on this definition, Komori (2010) defined the regional environmental governance as the formal and informal processes of coordinating mechanisms, involving public and private actors and regulating human activities towards collective goals of managing natural resources and mitigating environmental damages at the regional level. Another commonly used term is the concept of "regimes" building or formation in the regional environmental cooperation [9]. Hereafter these concepts have been compared as follows (Table 1).

Table 1: Characteristics of Governance and Regime

Governance (Komori 2010)	Regime (Holsti 1995)
- Coordination among various regimes beyond a single issue	- A set of principles, rules, regulations, practices
- Actor oriented: state and non state actors	- Setting up standards and common understanding
- Process oriented: dynamic processes of coordination among different actors	- Specifying required or prohibited actions
- Outcome oriented: Effective and efficient delivery of public goods	- Allocating shares of scarce resources
	- Prohibiting certain activities totally

Source: Komori 2010; Holsti 1995

The study adopted the regional governance framework to closely observe the coordination and collaboration among regional countries through bilateral and multi-lateral initiatives. Another important factor is the national level efforts towards the regional environmental cooperation in the Northeast Asia. So, the study

collected the policy and institutional data on the multilateral initiatives and used the secondary sources such as academic journals and expert opinions.

III. FINDINGS AND DISCUSSION

Regional Environmental Governance in the Northeast Asia

Since the early 1990s, a number of regional initiatives have been observed in the Northeast Asia. Since the 1992 Rio Earth Summit, there has been a virtual explosion of regional activity for environmental protection of the Northeast Asia. As it is shown in the Table 2, such initiatives include the North-East Asian Sub Regional Programme of Environmental Cooperation (NEASPEC), the Tripartite Environment Ministers Meeting (TEMM), and the Tumen River Area Development Programme (TRADP) and so on [10].

The key characteristics of existing programs and mechanisms for environmental cooperation in the Northeast Asia region as follows [11]:

1. **Parallel institutions:** Several programs, plans and forums for environmental programs. For example: in case of air pollution
2. **Multilayered structures** – the geographical coverage ranges from global, regional to subregional institutions. For instance there are multiple organizations in the Asia Pacific and other subregions. For instance, we can name NEASPEC, NEAC, NOWAP in the Northeast Asia, EANET in the East Asia, ESCAP/RAP, ECO-ASIA, APN in Asia Pacific Region.
3. **Different membership** – it is dependent on the status of an institution as diplomatic relations between countries as well as international membership of host organization.
4. **Weak institutional and financial structure** – Most institutions are highlighted with its poor organizational and financial foundations as the region lacks in the comprehensive regional governance institution.

Table 2: Participation of Northeast Asian Countries in Environmental Cooperative Programs

Issues areas	Acronyms	Full name	Start year	Region Subregion	Level of actors
Air pollution	EANET	Acid Deposition Monitoring Network in East Asia	1998	East Asia	State
	TDGM	Tripartite Director General Meetings for yellow sand/Dust sand storm among China, Japan and ROK	2007	Northeast Asia	State
	LTP	Joint Research Project on Long-Range Trans-Boundary Air Pollutants in Northeast Asia	1995	Northeast Asia	State
	NEAFF	Northeast Asian Forest Forum	1998	Northeast Asia	NGOs
	TEEN	Tripartite Environmental Education Network	-	Northeast Asia	NGOs

Source: Kim 2014

Limitation on Environmental Governance in the Northeast Asia

These initiatives were steps in the right direction. Yet despite these efforts, the Northeast Asian countries continue to be unable to achieve the necessary levels of cooperation that are needed to address these overwhelming problems [12]. So why has the Northeast Asia region failed to establish successful environmental frameworks and institutions? Several arguments related to limitation of regional cooperation have been widely discussed in the recent literature.

First of all, it is argued that the Northeast Asia region lacks in leadership or is defined by competition over leadership due to mistrust between nations because of geopolitical rivalry, historical animosities, colonialism, war atrocities, preoccupation with economic development [13] [14]. In this regard, three core countries can be summarized as follows:

Japan

- Cautious in government level multilateral cooperation in the NEA
- Multilateral framework as a form of development aid
- Responsibility as a global player since the Rio Summit in 1992 rather than taking regional leadership
- Broader geographical scope /NEA, East Asia, Asia Pacific/ and closer relationship with Southeast Asian countries
- Traditional focus on economic issues such as providing infrastructure, construction of factories
- Focus on environmental technologies for maximizing profits
- Due to historical problems and lack of political initiatives

South Korea

- Middle power: role as a facilitator rather than leader and lack of political and economic influence
- Interest in the NEA where it can be a visible regional player
- Efforts without long history
- Contestous position with Japan

China

- Interest in information exchange and lack of scientific knowledge
- No preference for leadership

Secondly, it is argued that the Northeast Asia region lacks of consensus or consensual knowledge on regional environmental issues and on the existence of cross border environmental damage which cause the different level of threat perception. Previous studies regarding regional integration theory and environmental cooperation theory conducted by Peter Haas and the like have emphasized the importance of forming a trans-national epistemic community where scientific findings by scientists/experts are shared. In recent years, the importance of including not only natural scientists and academic experts as members of the epistemic community, but also highly expert NGOs, civil society organizations (CSOs), and the like, has been discussed [15]. Kim (2007) discussed the regional cooperation in the Northeast Asia and argued that there is no consensus that they are vulnerable to transboundary acid deposition and high economic costs to reduce pollution caused the slow development of cooperation in the region. Furthermore it argued that Japan, as a leading country in the region, lacks in solid expert communities and might hinder the transition toward regulatory regime formation [16]. Regarding the leading role of Japan, Matsuoka (2017) argued that Japan itself failed to exercise initiative in establishing an epistemic community because of such domestic problems as vertically segmented administration [16].

Thirdly, there are various overlapping institutions which can be translated into fragmented or scattered ones with overlapping topics and actors. According to Komori (2010), the primary focus is national governments with limited role of non state actors. Furthermore the regional initiatives are lack in coordinating mechanisms among their members and in terms of financial side, no each country is interested in bearing the financial burden for tackling with regional environmental issues. As a result of these factors, it has failed in producing tangible outcomes as limited in information exchange [17].

Forthly, it is argued that the environmental cooperation in the Northeast Asia has evolved through non-binding agreements despite its steady institutional development. One set of studies argued that the lack of legally binding agreements hinder regional cooperation causing inefficient enforcement mechanism. While another set of studies argue that as non legally binding agreement do not contain official commitments on compliance or legal restrictions, due to diverse policy interests, these agreements were feasible and workable in the regional cooperation. Insufficient coordination among cooperation channels, the concentration on bilateral cooperation,

and a lack of enforcement mechanism were pointed to as the primary causes of the low achievement in improving environmental quality [18].

Furthermore, in regards with effectiveness of these agreements, Yoon (2007) argued that as the regional environmental cooperation was still at the early stage of development, most initiatives and frameworks were at the early stage of development, the region could develop into the model of how non-binding yet effective cooperation among countries with conflicting interests is possible [19].

IV. CONCLUSION

Compared to other regions or sub-regions, the Northeast Asia region's environmental cooperation had initiated only after the Cold War period and in early 1990s. The bilateral environmental cooperation has more succeeded compared to regional cooperation. However these core countries have been putting enormous efforts towards developing regional environmental mechanisms overcoming historical complex background, diverse economic and political circumstances and geopolitical rivalry. In addition to state efforts, the development of non-state actors including NGOs, scientific communities and private sectors will definitely be another important factor for developing the regional environmental cooperation.

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