

Emerging Loose System in Regional Institutions – Networked Cooperation on Transboundary Air Pollution in East Asia

Asami Miyazaki*

Faculty of Economics, Kumamoto Gakuen University, Kumamoto, Japan

Abstract: East Asian cooperative frameworks on the environment have been analyzed using interest-based theory and ideas of international regimes. However, their wide variety of cooperation models and institutional processes suggest that only a partial understanding has thus far been achieved. The subject of this case study, Acid Deposition Monitoring Network in East Asia (EANET), is a network focusing on acid rain and is not derived from any international pact. It has been expediting regional cooperation on transboundary atmospheric issues by forming networks and a 'loose' system of institutions inductively. Exploration of various multilateral cooperative methods will offer us other approaches for a reconsideration of regional environmental governance, such as the nature of political actors and the constructive aspect of institutions.

Keywords: environmental governance; international institution; network; East Asia; international cooperation; acid rain and atmospheric issues

Introduction

Modes of governance for regional cooperation on transboundary air pollution in Asia can be generally divided into the following three practical patterns: legal agreements/treaties, forums, and cooperative networks. An example of the first is the ASEAN Haze Agreement, a legal document dealing with the issue of transboundary haze, which was adopted and entered into force at the regional level. Secondly, there are forums for talks on environmental issues in general, such as the Tripartite Environment Ministers Meeting (TEMM), North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC) and the Environment Congress for Asia and the Pacific (ECO-Asia) where general environmental issues are discussed at ministerial or senior official levels. Lastly, there are networks such as the Acid Deposition Monitoring Network in East Asia (EANET) and the Regional Cooperation on Haze in Southeast Asia. Similar types of networked cooperation can be found not only in East

* Email: a-miyazaki@kumagaku.ac.jp

Asia but also in other areas of the region such as in South (the Malé Declaration, and South Asia Co-operative Environmental Programme, SACEP) and Central parts of Asia (Environmental Congress in Central Asia), and in Asia Pacific ((Secretariat of) The Pacific Regional Environment Programme, SPREP). Such cooperative ventures have been increasing in number in recent years, although they are based on neither international treaties nor legally-binding documents with stipulations of rights or duties.

EANET was formed in 1998 after five years of experts' meeting by scientists and government officials and one of the first regional networks formed in East Asia. Most of the other environment-related networks in Asia, and some in Africa, model themselves after EANET. It includes both developed and developing countries with a variety of economic and political conditions consequently.

Previous studies on EANET have been limited in their understanding of its institutional effectiveness because they have applied the idea of international regimes from the neo-liberalists' point of view, with its emphasis on economic institutionalism (Takahashi 2000, pp. 97-117, Brettell 2007). Most of these existing researches have, because of the inclination of international regime theory, considered EANET's policy and development as ineffective in comparison with European international regimes such as the Convention of Long-Range Transboundary Air Pollution (CLRTAP), in terms of legalization of international regime, in line with 'hard' institutionalization (which has in fact been unfashionable in studies in International Law (IL) in the last 10 years). It is true that some scholars claim that regional environmental cooperation in Asia is weak due to the small number of legally-binding treaties (no international environmental treaty has been ratified except the aforementioned ASEAN Haze Agreement, although the ASEAN conservation treaty has been signed but not ratified) and their effectiveness (e.g. Indonesia has yet to ratify the haze agreement, although it is expected to do so in the near future)¹. However, EANET is a networked cooperation and it forms a peculiar regional institution which may be interpreted as a harmonized type of "non-regime" consequently (Dimitrov 2006; Dimitrov et al. 2007). It also differs with European cooperation like LRTAP which is mostly regarded as the international regime as some previous studies tried to compare with EANET. What those existing practical modes of governance written above, particularly the high rate of network-based cooperation on transboundary air pollution issues in Asia, are implying is emerging forms of environmental governance based on networking in Asia.

In this article, through an examination of EANET, the role of the network as a structure will be analyzed as the process of the formation of regional institutions on transboundary air pollution in East Asia. In the next section, the networking between

actors in EANET and its development will be discussed to argue for the role of networks and the formation of regional institutions for dealing with environmental issues such as acid rain. Features of the formation of 'loose' system in institutions promoted by networks will be discussed in the second section. The significance and challenges of 'loose' system in institutions will be examined in the final section.

1. Tenets of 'Loose' Institutions by Network

The term, 'loose', means not only the level of legally-binding nature but also that of flexibility on requirement of domestic/ internal procedure on the approval of instrument in this case². Flexibility of procedures could secure broad consensus on international cooperation among countries with wider different political systems and institutions for decision-making. Many previous international treaty discussed have promoted cooperation among states through the obligation of pollution reduction or biological diversity conservation, and have regulated through penalties or undermining of international position by shaming from international society in case of contravention.

A 'loose' institution, as a working definition, comprises understandings, agreements, and declarations which are not always legally binding³. It can have either a formal or an informal institutional character so cannot be easily categorized by either rules or organization, or, customs or norms. International/intergovernmental organizations are commonly permanent bodies, corporate entities with a budget, human resources, and a secretariat, operating according to legal rules, such as an international pact or treaty. 'Loose' institutions sometimes do not primarily require or expect to possess all of these features, particularly that of a legal agreement. ('Loose' institutions cannot be created as a result of given conditions which regulate/expedite actors' behavior.) In brief, 'loose' institutions are constructive/inductive in nature. In this article, 'loose' institutions will be defined as a result of networked cooperative actions connected by various kinds of political actors and linked by concerns with address certain issues. But more theoretically or in a more systematical view of this idea, 'loose' institutions can be constructed by other political actors' interactions as previously explored. Thus, resolutions of the United Nations (UN) may be included as one of the examples. Agreements and declarations differ from traditional legal documents; nor are they concerned with institutional efficiency in terms of orthodox analysis in International Relations (IR) influenced by the ideas from IL. Discussions about their roles, definition and effectiveness should take into account these and other differences. Neither liability nor privilege is stipulated in the instruments and other official

documents adopted at the intergovernmental and other formal meetings of EANET. These documents contain the proceedings of meetings or statements/agreements on the network's activities. Meanwhile, regulative institutionalization by the UN Framework Convention on Climate Change (UNFCCC) and the Vienna Convention for the Protection of Ozone Layer and their protocols are of the type which may be called 'tight' cases of institutions⁴. 'Tight' institutions are postulated to be regulative and deductive in nature (formerly dependent variables in causation research on international environmental regimes, 'tight' institutions are now considered as independent variables), as explicit burdens and rights consist in them.

In the case of 'loose' institutions of this article, actors will often practice positive behavior, leading, for example, towards altruistic action or mediation for international cooperation. In a political world premised on an iterated game, the potential for actors to take spontaneous or voluntary action for addressing common issues can never be excluded from analysis. Actors will cooperate harmoniously in order to prevent continuing environmental degradation, or to avoid the 'tragedy of the commons'. Understanding a network is necessary in any analysis of the structures of such cooperation. In any discussions of international institutions from international regime based on individualism and rational choice theory, nature of political actors premised as rational ones mainly aiming to maximize their interest. However, it is not always the case to be consisted of only rational actors in the international society, particularly on 'normative' issues such as environment, human rights, and so on (Eckersley 2004, pp.19-52). Likewise, existence of 'normative' actors or actors promoting 'normative' action to other political actors can never be ignored in the context of international cooperation⁵, even if in the security issues (Rathbun 2012). In the world of reality, therefore, there are basically two types of actors.

Historically, the theoretical significance of 'loose' institutions has tended to be disregarded by IR scholars of propensity toward research on 'tight' institutions on the environment in particular except networked regionalism (Yeo 2010). 'Loose' institutions have, however, during the last three decades, been re-examined through developments in research in global governance in IR (Rosenau and Czempiel 1992, Hewson and Sinclair 1999), soft law debate in IR, and, most of all, in IL. This is simply because 'loose' institutions can be formed not only by homo-actors-network such as intergovernmental networks (Slaughter 2004, pp. 1-35, 51-64 and 131-215), transnational advocacy networks (Keck and Sikkink 1998), or epistemic communities (Haas 1990, 1992, p. 1-35), but also by hetero-actors-network. In applying these theoretical ideas to EANET, it can be seen to be a hetero-actors-network, involving

thirteen states, experts, and international organizations. As numerous previous studies show, a network can become both 'loose' and 'tight' institutions. It is not until this distinction between them emerges that institutions are generated. In this article, therefore, the process of the formation of institutions is to be investigated in order to find their inductive construction which is more commonly argued in previous studies, first of all. As for changes in actors' behavior, it is determined not by institutional factors (such as restraints imposed by institutions or an institution's effectiveness) but by interactions within network related to the same issue(s), such as, in the case of EANET, transboundary air pollution. It is inductive research that enables us to understand the various types of institutions and networks that have emerged around (and continue to emerge) in environmental issues in Asia.

Indeed the relation among actors and institutions is to be analyzed to understand the structure of international negotiation and cooperation in consequence. As numerous studies have already claimed, however, focusing actor-institution relationship will be important but its form is diverse. One of the keys in this article is that a wide variety of interactions among actors can be found from their direct and indirect relations through networking. This structure in network generates 'loose' system of institutions.

The term, network, in this article refers to the relational structure various actors form to deal with certain issues (Knoke and Yang 2008, pp. 6-9, Rhodes 1997, pp. 29-45). The characteristics of these actors are an interest in a particular issue, knowledge about it, and a desire to act together to attain their goals. A network may have a single or multiple engagements with an issue (Hecllo 1978, p.104).

In an analysis of network scholars investigate the relational structure of the actors, the network's function and its role (Ansell and Weber 1999, Rhodes 1997, pp. 29-45, Ruggie 2000). Study on network in IR has been developing towards a multi-linear analysis; however, there has been no unified theory to emerge thus far from these studies (Miyazaki 2009, pp. 140-156). Nevertheless, the idea of network has been inspiring IR scholars as well as sociologists to change their understanding of the structure of relations among actors which causes change in actors' behavior, leading them to not only study the characteristics and contributions of actors themselves or their interactions but also to track the indirect relations between actors and those around them and the influence of clusters of actors with which each actor is involved.

Understanding the background of network formation can be divided looking at two sets of factors; endogenous and exogenous. While the former includes domestic politics or institutions, economy, and human resources, the latter influences international affairs and other international institutions. These factors motivate actors to participate in

network spontaneously, and expedite formation of network. Transformation of network is also influenced by them. In the stage of forming and developing network, it depends on the aim and strong point of network's formation to what extent their structure of network incorporates indirectly related actors. One of the advantages of network formation is the quick and flexible response capacity to changes of the environment. Open and closed natures to other networks are important indicators to analyze interplay among networks and their flexibility (Ansell and Weber 1999). Also, it is necessary to consider densities of ties among actors. For instance, a network linked with weak ties is indispensable to other networks with strong ties to bridge among them⁶.

The network performs a number of functions. Autonomous adjustment is made by horizontal cooperation led by 'hub' through deliberation among participants (Ruggie 2000). A hub, a leading actor which plays central roles in the network, creates cooperative relationships with different types of actors (networking), and patiently intercedes with other actors in dispute to encourage a dialogue, for instance. The complementing of resources within a network through quick transferring and sharing among actors is the second contributor towards functionality. Prompt learning by members is possible through activities of resource-sharing such as capacity building (CB), problem perception via dialogue, and collaborative projects. In the following case study, participating countries could procure expertise for monitoring on air pollutants. A hub judges the effectiveness by promoting such learning and attainment of other actors for improvement of the environmental issues.

The generative efficacy, or 'emergence'⁷, are susceptible to knowledge creation and learning that various actors bring and compound with different kinds of their knowledge which can be counted as third effect of networking (Powell 1990, pp. 295-336, Reinicke 1997, pp. 127-138). Participants of network tend to pursue their own profit at the initial stage, however, profits and obligations are shared within a network at the advanced stage (Powell 1990, pp. 300-305). This shows the result that actors interplay among them whatever their links are direct or indirect. It also implies that formation of network is rested on liability and reciprocity (Uzzi 1996, pp. 674-698).

EANET is the network which engages with the issues of acid rain and other air pollutants. Scientists and other experts on the issues, governmental officials, international organizations, local governments and others are involved in the network's operations of international cooperation. EANET belongs to the type of network which has no explicit rules on obligations or rights; however, it procures adequate regional cooperation to perform its tasks and fulfils the definition of a 'loose' institution through networking. In the following section, the background to forming network like this, as

well as the factors and features of emerging 'loose' institutions are described.

2. EANET as a Regional Network

Background of Networking

A key factor behind the formation of EANET was the recognition, in the early 1990s, in Japan of a need for a new international environmental policy for East Asia. At that time, the Ministry of Environment in Japan (MOEJ) started to take an initiative role in regional cooperation on the environment (UNSD 1997, Interview with Mr. Wada). The MOEJ believed that action was required on acid rain, following the identification in the Agenda 21 adopted at the Rio Summit (UNCED) in 1992 of the need to fill gaps in the data on the impact of acid rain in developing countries (UNSD 1997). Japan had particularly become concerned with transboundary causes of air pollution, as research (begun in Japan in 1975) had shown that China was a major source of acid rain in the country.

Another factor behind the promotion of regional ties was that China began to make political decisions to address transboundary air pollution. It accepted the possibility of transboundary effects on acid rain and the importance of countermeasures in 1992 (Brettell 2007). Experts' meetings with the involvement of China, predecessors of the scientific advisory committee of EANET, began to be held in 1993; such meetings would not have possible had China not formally recognised that transboundary air pollution was a problem. Japan observed China's responses with interest. Moreover, if the focus of cooperation was only Northeast Asia, disputes between emitting countries and recipients would have been inevitable ones, especially given the region's history, in which there was an element of mistrust between some countries and therefore a certain reluctance to cooperate.

However, until the early 1990s, Asia had not been held in good repute in international negotiations on global environmental issues. A number of countries outside Asia frequently regarded all Asian countries except Japan, such as China and India, as developing nations which took an antagonistic attitude towards the climate change (Akasaka 2000, 36-41). This perception motivated not only a sense of prestige in Japan but also encouraged them to adopt a leadership role on the environment in East Asia⁸. At around this time, the environmental Official Development Assistance (ODA) of Japan began its Green Aid Plan (Tsukamoto 2003, METI 2003a), first to Thailand (since 1991), then China (since 1992), and, since 1993, Indonesia, the Philippines, and Malaysia (METI 2003a, 2003b). During the early to mid-nineties, other East Asian

states expected Japan to assume a leadership role on the issue of acid rain by offering international aid at the beginning (Akimoto 2000, pp. 42-46). Acid rain was emerging as an issue of growing regional and global concern. Not only Japan (Hatakeyama 2003, pp. 1-25, Fujita 1998, pp. 1-24, MOEJ 1994, p.23), but also northern Thailand, the main cities of Vietnam, and Malaysia had been considering the issue of air pollution (Suzuki 1999, Toda 2000, pp. 15-19). However, it had proven difficult to bring into being bilateral cooperation between the emitters of NO_x and SO_x and the nations affected by pollutants. This was because there were differences in focus on both recognition and scientific understanding of the transboundary issue of air pollution.

Lack of scientific data and the necessity of implementing countermeasures had been already pointed out in Agenda 21 of the 1992's UN Conference on Environment and Development (UNCED). According to the Agenda, there was a lack of resources in developing countries to undertake the essential monitoring of air pollution in those nations (UNSD 1997). Moreover, although monitoring had been undertaken in some countries, it was difficult to analyze the data due to the absence of a common method of monitoring necessary for a comparative survey (Hirai and Choji 1991, pp. 40-44). The transboundary impact had already been claimed by scientists in East Asia. However, there was neither regional cooperation channel in Northeast Asia nor a strategy to bridge the gap in resources in Southeast and Northeast Asia on issues of acid rain or transboundary air pollution. The decision to include all of East Asia was adopted at the experts' meeting to determine the geographical area to be covered by EANET (MOEJ 1997). If Japan had only been concerned about direct impact on itself it could have argued for a network for Northeast Asia only. However, during the experts meetings, Japan argued that 'air pollution shall affect the whole of East Asia' (EANET 1995, Akimoto 2000, Interview with former focal point of EANET). These impediments and challenges of regional cooperation led to the third element of promoting networking.

Discussions of the foregoing issues (i.e. identification of the extent of the problem, the need for consistency in monitoring, etc) took place at experts' meetings prior to EANET's establishment. During the early operating period of the network some countries also had to make a number of domestic arrangements (e.g. obtain parliamentary approval to participate). The importance of devising an action plan which included, for instance, commitments to joint research and the realisation of regional cooperation on acid rain, was proposed and insisted on at the Northeast Asian Conference on Environmental Cooperation (NEAC) conference in October 1992, held just after UNCED. Participating countries, mostly from Northeast Asia at that time, sought also to expand membership to include more countries from the south.

Sharing Resources and the Struggle for Cooperation

EANET, launched in 2001, comprises a Scientific Advisory Committee (SAC), Working Groups, a Secretariat of Network (operated by UNEP/RRC.AP), a Network Center (Asia Center for Air Pollution Research, ACAP), a National Center, and holds intergovernmental meetings. The sharing of resources has been realized by the networking of each of the above. EANET has sought to retain the membership of all participating countries and obtain technical assistance from both local and international sources. At its intergovernmental meeting, an international norm of regional cooperation was gradually generated through the recognition of acid rain as a common issue to be addressed (Japanese Environmental Agency 1997). At the time of forming EANET, it was expected that the Japanese government would take the initiative on acid rain in East Asia and act as a hub. International aid from the Japan International Cooperation Agency (JICA) and Acid Deposition and by Oxidant Research Center (ADORC, currently, ACAP) working as EANET's network center, contributed to fill gaps in the monitoring of pollutants with technical and financial support from local authorities, such as those in Niigata, Hyogo, and Fukuoka (Tamaki 1998, pp. 10-11, OECC Japan 2003).

A common understanding of the importance of the acid rain issue, particularly its transboundary aspect, had come to the experts' meetings held prior to the formation of EANET. These meetings had also identified which the necessity of gathering data and building knowledge on the issue; participants noted that both knowledge of the effects i.e. acid precipitation (emission of pollutants, their transfer and transformation, and deposition) and the development of effective countermeasures were essential (Deguchi 1995, p. 31). They concluded that air pollution could impinge on the environment and people throughout East Asia and gathering data to monitor was essential (Akimoto 2000, Interview with former focal point of EANET). EANET participants thus have conducted surveys on the necessary measures for technical support on monitoring and have shared scientific knowledge and understandings on the issues raised at meetings as well as among national focal points. EANET has vindicated the efficacy of its existence at the governmental level through the constant provision of information about the network's activity, incorporating that information into statements. As for the local level, a workshop supported by the government of Thailand aimed at raising awareness on acid rain gave citizens and local NGOs an opportunity to discuss the issue as well as to learn more about the importance of countermeasure to the transboundary environmental issue.

Networking through EANET facilitates further cooperation and has effected gradual changing of behavior, leading participating countries to recognize that the advancement of regional cooperation was at least as important as the pursuit of national interest. One example is that since 2003 international negotiations have started to shift the discussions on EANET's goals from monitoring to modelling and devising of measures for reduction of pollutants. This move was led not only by Thailand and Japan, which are leading states in EANET, but also by the Philippines and Russia⁹. The establishment of the Working Group on Future Development of EANET (WGFD) in 2004 and the instrument signed by participating countries are other such examples of recent mediating roles taken by Thailand and Vietnam. In cases such as these, the regional network lays a solid foundation for cooperation through offering a place where participating countries can attain technical expertise, learn scientific knowledge, change their understanding on issues related to acid rain, and reconcile differences among them.

South Korea has endeavored to expand the Joint Research Project on Long-range Transboundary Air Pollutants in Northeast Asia (LTP) (NIER 2010). The project, led by Korea since 1995, aims to promote higher levels of joint research and modelling on transboundary air pollution in the area. It was not the country's original wish that the LTP might eventually be incorporated as part of EANET at the conclusion of the network's interim period since the latter's domain was larger. Thus, before the second intergovernmental meeting, held in 2000, Japan sent special missions to Korea to confirm a shared understanding that the two cooperative frameworks would continue to co-exist. In particular, Japan stressed the different roles of the LTP and EANET (Interview with the Japanese policy-maker).

China had originally regarded acid rain as a 'domestic issue', an effect of its prioritisation of internal economic development (Akimoto 2000, p.45). However, as data accumulated, and as EANET negotiations began to express stronger concerns about the country's transboundary effects of acid rain, possible countermeasure became the country's concern, to the greatest polluter of the world. Japan, in particular, actively encouraged China to participate, having become very concerned about the possible direct influence of transboundary air pollution derived from China. To facilitate China's involvement, it was agreed that the primary aim of activity in EANET was monitoring only according to China's wishes¹⁰. Furthermore, the Japanese government offered assistance in monitoring. In 1996, such assistance was provided in Guang Dong Province, Dalian, and Liu Zhou. Following the first intergovernmental meeting in 1998, capacity building and other schemes of bilateral-based-cooperation were provided each year in, amongst other areas of China, Jilin Province, Anhui Province, Tianjin,

Chongqing, Dalian, and Guiyang (MOEJ 2001, pp. 91-148, CLAIR 2001, pp. 5-90). Such assistance worked as practical measures on acid rain within the area covered by EANET as well providing not only technical know-how on monitoring, but also incentives to China to raise both the level and standard of its monitoring.

EANET is an impetus for activating regional cooperation on acid rain in East Asia. It has contributed to improvements in the technologies and techniques of collecting and analyzing data using a common method through technical assistance from the Japanese ODA and network center, and South-South cooperation in Southeast Asia. EANET has been expanding its discussion on pollution reduction, examining pollutants related not only to acid rain but also to other atmospheric issues such as yellow sand, Particle Matter (PM), and ozone. Progress in these other areas has been slow, however. In developing this type of extended regional cooperation with the aim of actual control in air pollution in the region, there are, of course, challenges for EANET. There are, for instance, practical challenges. For example: how extensive does the air pollution have to be to be incorporated into discussion?; how can the various regional frameworks on atmospheric issues in Asia collaborate with each other and be harmonized with similar institutions in other areas of the world (e.g. the European Monitoring and Evaluation Programme (EMEP) of the Long-range Transmission of Air Pollutants in Europe (LRTAP)); which countermeasures on different air pollutants should be implemented?; what are the responsibilities of participating countries with different levels of ratification of the EANET instrument in terms of institutional development? Indeed, it seems that the Chinese diplomatic position on acid rain is yet to have been changed drastically: China acknowledges that air pollution is a problem which requires preventive measures, yet, as noted earlier, still regards it as a 'domestic issue'. However, there has been much effective progress within EANET. Based on consensus, what was once not shared, such as resources, now is; obligations have also been shared – examples have been a distribution of the financial burden of addressing the issue as well as the formulation of a document known as the 'Instrument'. In addition, the monitoring of yellow sand and ozone using methodology developed during collaborative research led by Northeast Asia states was agreed on at the meeting of TEMM in 2007 (MOEJ 2005). It can be argued that EANET has created new relations and efficacy from the time of its formation; these relations continue to develop as the network itself does (Powell 1990, p.325).

EANET is a loosely-connected network. Participating countries have considered it vital that all states affected by the issue of acid rain remain as members. Any of states in Asia which wishes to participate can be a member of EANET (EANET 1997). This

openness of network was not always fully recognized by some of participating countries as they have claimed on the disclosure of information on performance of Network Center to maintain transparency, while it contributed to expand the participation. Nonetheless, the network attempts to be as flexible as possible to avoid disputes on differences which have arisen during negotiations on the instrument and its signing (to be discussed in section 3).

With respect to the pattern of formation of networks, in the case of EANET we can see that it expanded towards a regional network, with actors coming together from different sub-regions (Northeast and Southeast Asia) and advancing in conjunction with other regional frameworks, such as the Malé declaration in South Asia, and the Joint Forum on the Atmospheric Environment in Asia and the Pacific. Within the network, EANET has obtained at least a minimum commitment from all participating countries, and formed cooperative links between the local and the regional levels.

3. Forming a ‘Loose’ Institution

Negotiation towards the Instrument

EANET has disseminated news of its activities more quickly and in a greater variety of ways since its official launch in 2001. Some of the ideas for this improved communication have come from the WGFD established in 2004. In addition, at the intergovernmental meeting in 2005, EANET began discussions on an *ad-hoc* basis on the Instrument for the reinforcement of the institutional foundations of the network; the outcome of these discussions was known as the Niigata Decision (EANET 2005, 2006). Items on the agenda at these meetings included the need for the implementation of monitoring of air pollutants other than acid rain, the possible expansion or development of the network (this would logically follow from the previous item about extending the scope of the monitoring), the level of financial contribution by participating countries, and the strengthening of regional agreement as a consequence of constructing the instrument.

Initial discussions on the drafting of the Instrument for enhancement of EANET's foundation considered two types of documents, legal and non-legal. During the process of negotiation, differences between each participating country had been highlighted. These included disagreements about the procedure of ratification and signature, and differing demands for the levels of transparency of information and mechanisms of accountability for securing financing in some participating countries. For example, Thailand sought to include new activities, such as an emissions inventory, while Russia

was eager for the adoption of legally-binding instruments to ensure that countries committed enough in their domestic budgets to cover their financial contributions (Interview with Mr. Gromov). Throughout the negotiations on the instrument of EANET following the 10th intergovernmental meeting in 2008, flexibility was maintained in the form of 'signature through *ad rem* domestic procedure and by a person with the requisite authority, as determined by each participating country'. After the selection of non-legally binding documents, flexibility was still required because all participants had to wait for the finalization of arrangements in domestic decision making process by China and Malaysia.

At the 12th intergovernmental meeting held in fall 2010, the Instrument was adopted by all participating countries and signed by seven states: Cambodia, Japan, Mongolia, Myanmar, the Philippines, Korea, and Thailand. While Cambodia, Myanmar and other participating countries insisted on discussing the adoption of the international agreement promptly (Interview with Mr. Ken), China and Korea took a cautious stance in the formalization of the agreement, although Korea subsequently signed the Instrument later in 2010. It has been claimed by China and Russia that they would have taken longer to agree to some issues for the Instrument because of lengthy internal decision-making processes, since the meeting of WGFD started. In the following year, China and Malaysia became signatories, while Russia stated at the 13th intergovernmental meeting that it would sign within a few years of making its own domestic arrangements on the issue. Indonesia is the only state to have not declared when they will sign. However, despite a reluctance to sign the Instrument, Indonesia has stated that it has a strong commitment to remaining a full participant in EANET. The major impediment to Indonesia's signing was the national law which requires that Parliament review all international agreement in any level prior to their being ratified over time (MOEMRRI 2000). Related to Indonesia's domestic restraints on participation, existing members have been arguing lately about the differing levels of its application of the Instrument; flexibility on participation of network was maintained whether a country has or has not ratified them. Resolution about application is necessary as EANET is keen to increase the number of participating countries and enhance regional cooperation.

Analysis for 'Loose' Institutions

After reviewing the case of EANET, we can identify four factors contributing to the high demand for 'loose' institutions. The first is that the participating countries of EANET do not want to lose the momentum of regional cooperation. Participation of all

states, including both emitters and recipients of acid rain, was crucial for them because they expected to accommodate different views on the issue by fostering network activities.

The second is embedded norms on negotiation in Asia, i.e. a kind of 'Asian way' to reach at least minimum agreement. Participating countries prioritized discussions on issues on which they could agree, avoiding, or at least postponing, discussions on issues on which they can't agree. For instance, many Southeast Asian countries have often been silent during negotiations, simply because they have already expressed their agreement on earlier occasions. The 'Asian way' in this sense is not just non-intervention in domestic affairs and the influence of consensus-based discussion on the way EANET conducts negotiations, but also indicative of a preference for 'friendship' and 'collaboration/harmonization' rooted particularly in the complex history of those ASEAN states which have won independence like ASEAN Way.

The third is related to the second: flexibility. To reach agreement, participating countries had to be flexible to harmonize the diverse political systems in East Asia, while some countries (particularly emitters such as Indonesia) prefer a non-legally-binding instrument (NLBI) for two principal reasons; in the first place, as noted above, in the case of Indonesia, such an agreement may be more easily approved by Parliament; secondly, some countries have perceives a NLBI as weaker because it does not ensure the punishment in case of violations. It was still not the wish of participating countries to blame any emitting state too severely because it may have led to the weakening or loss of ties with emitting countries in network. That was because public information about the transboundary factor was limited as much as possible to minimise the possibility of press reports which would produce needless friction between China and Japan during the interim period of EANET's formation (Interview with the participants of EANET). Similarly, Singapore and Malaysia have recently delayed releasing scientific research on haze until Indonesia admitted its responsibility as an emitter. Regarding the domestic approval on Instrument, there are varied views on the reason why it has been taking a long time for Indonesian internal negotiation, which is derived from different understandings on legal status of Instrument. One of the views is that, since 2000, the Indonesian Parliament has been extremely firm, taking a long time deliberation over international pacts and agreements for ratification. Other countries have joined Indonesia in imposing domestic constraints on ratification (Interview with government officials of Indonesia, Thailand, and Malaysia). Another view of government official of Indonesia is that the Instrument itself will not be reviewed in the Parliament to receive the approval as it is not at the level of international legally-binding

treaty. Even if both factors are considered, other members have understood that criticism of individual countries (i.e. emitters) would have countered the policy of non-interference in ASEAN at the same time; in other words, regional harmony was more important than criticism (Cotton 1999, pp. 333-335, Tan 2005, pp. 647-722). This warning was because members did not want to jeopardize this first-ever international pact on the environment in Southeast Asia¹¹, although it should also be noted that Southeast Asian countries had engaged in more sub-regional negotiations on legal agreements prior to this than those in Northeast Asia.

The final factor is the lack of independent scientific knowledge at the initial stage of cooperation; evidence of the growth of awareness and knowledge about acid rain in the region is that serious occurrences of the damage caused by acid rain have rarely been recorded since the official launch of EANET. Not all SAC members are independent from participants of the intergovernmental meetings (some are in both). Scientific surveys are still limited although participating countries have acquired expertise in monitoring acid rain. However, in recent surveys, although emissions contributing to acid rain have declined, levels of other pollutants contributing to transboundary air pollutions have been increasing. Participants are therefore facing new challenges, both in monitoring and in agreeing on a direction to proceed in order to deal with these problems cooperatively¹².

Concluding Remarks

The findings from the case study of EANET imply some significance and challenges being intrinsic in 'loose' institutions via networked cooperation. First of all, the meaning of 'loose' institutions can be seen to encompass three features. The first is the maintenance of the participation of states involved in the issue around which the network was formed, acid rain in the case of EANET. Not only do the member states wish to incorporate emitting states into the addressing of the problem, but there are also those that join to avoid the domestic ratification of international treaties process. The involvement of countries implicated to the environmental issue (examples are China in the case of acid rain, and Indonesia with respect to haze) is made possible under the 'loose' institution model. In this sense, the importance of 'loose' institutions is similar to that of soft law in International Law. Apportioning scientific knowledge and understandings on the acid rain issue can be identified as the second significant feature of 'loose' institutions. In discussions of international institutions in IR, arguments center on roles in 'tight' institutions or hard law. However, as is the case in 'tight' institutions,

knowledge and recognition can be shared in 'loose' institutions. The third feature is that 'loose' institutions are, in most studies, described, in the context of hard institutionalization, as complementing 'tight' institutions. In this regard, however, it cannot be argued from the evidence in this article that an institutional nature can be changed from 'loose' to 'tight' in the way that law can be changed from soft to hard, as previously argued in IR. Study on such transformations in 'loose' institutions is required. Indeed, the feasibility of constructing 'tight' institutions on acid rain may be unlikely in East Asia while 'loose' institutions already exist. Nevertheless, in the simple comparison with the example of Europe in terms of institutionalization, the negative conclusion that responses to environmental problems will inevitably be insufficient because 'hard' institutions cannot be constructed in East Asia should not be drawn.

Next, shall we then examine arguments into two challenges that 'loose' institutions face. In the first stage, there has been much controversy about the delegation of an international pact and the responsibility for the decision-making process, when 'loose' institutions are being formed. In fact, some participating countries have claimed that discussions at the administrative level are difficult to tie directly to the enactment of the regional agreement which took place during the international negotiations at the forming of EANET.

In the second stage, there is a potential problem associated with the spontaneity of political actors. In a 'loose' system, the spontaneity of actors is to be expected. However, as seen in the analysis of EANET, this spontaneity can be diffused by activation of the network. That is to say, networks facilitate raised awareness, ability and expertise among member states and other domestic actors. Moreover, networks, such as EANET, erect a low entry barrier, simply because membership is not compulsory. This fact of non-compulsory membership implies that a consensus-like structure will result. How the spontaneity of each country is educed represents a major issue in the practical advancement of international cooperation. This question of spontaneity leads to another question: what are the major influencing factors influences once 'loose' institutions are formed? Further research on mandatory power, stipulation requirements, and other elements of forming 'loose' and 'tight' institutions need to be explored to link the discussion on soft and hard law in International Law and IR.

In addition to the significance and challenges of 'loose' institutions discussed above, this article can, based on the case study of EANET, conclude that the features of being 'loose' not only in a network but also in an institution, are entirely appropriate in varied East Asian contexts. Due to the strong tendency of non-intervention to domestic decision-making, it seems unlikely, if not impossible, that 'tight' institutions on

environmental issues would succeed in this region. At this point in time, the formation of 'loose' institutions and networks will be indispensable for the maintenance of environmental governance in Asia. Regional environmental governance in Asia is being built with 'loose' institutions overlapping via networking. Acknowledging this point will assist us in understanding environmental governance in the context of this region.

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Notes

1. Indonesia has claimed their willingness for ratification several times so far. For instance, environment minister deputy of Indonesia told that they would ratify the haze agreement (Embassy of Indonesia, Oslo).

² Features of 'loose' institutions and soft law have many similarities from a legal point of view. However, the former focuses on the process of formation and the latter interprets the contents of description in certain international pacts or agreements. (Goldstein et al. 2001).

3. EANET can be regarded as a non-regime state. However, there is no framework of analysis for this type of organization. The term, informal institution, does not always reflect the loosely connected network and its outcome. This study thus tries to bridge this practical gap using an inductive method of analysis.

4. On the effectiveness of international institutions on the environment, see, Young (1994, pp.142-152).

⁵ The term, 'normative' means more ethically-and-prescriptively-limited concept comparing to the idea of logic of appropriateness discussed in the study of social constructivism of IR.

6. Discussion on strength of weak ties, see, Granovetter (1973, pp. 1360-1380).

7. Of course, research on network also covers 'dark side' mechanism of networking like transnational organized crime (Kahler 2009, pp. 103-124).

8. Of course, there are discussions on problematic aspects of leadership on international cooperation in general (see, Hall 2010).

9. This position of Russia has partly been motivated by discussion in Europe (Miranda 2007).

10. Public information about this subject was limited as much as possible to minimize the possibility of press reports which would produce needless friction between China and Japan. (Interview with the participants of EANET).

11. Synchronized negotiations on a regional haze agreement were being conducted at that time.

12. In recent discussion in IG meetings, Asian Scientific Panel on Air Quality (ASPAQ) has been introduced as one of the options for fostering the independent of scientific body.

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List of Interviews

Mr. T. Wada (ex-Japanese focal point in EANET) [Conducted at MOEJ on 3 September 2004].

Former focal point of EANET [Conducted on 2 September, 2004].

Japanese policy-maker who was in charge of EANET at that time [Conducted on 3 September 2004].

Participants of EANET [Conducted on 2 September 2004].

Mr. S. Gromov (Head of Scientific Sector, Institute of Global Climate and Ecology, Russia) [Conducted in Thailand on 30 July 2009].

Mr. C. Ken (Deputy Director, Ministry of Environment, Cambodia) [Conducted in Thailand on 31 July 2009].

Participants of EANET [Conducted on 2 September 2004].

Government officials of Indonesia and Thailand [Conducted on 31 July 2009].

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