

# IDE Research Bulletin

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## **Approaches to Address the Increasing Complexity of Sustainability Challenges in East Asia**

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### **Introduction**

East Asian countries have been facing a variety of common risks with regard to environmental, economic, and social sustainability such as human health problems caused by air, water, and soil pollution; the frequent occurrence of natural disasters because of earthquakes and climate change; nuclear power plant accident risks; and the increasing vulnerability of local communities due to depopulation and aging, all of which threaten human security, including life, subsistence, and dignity. This research project examines approaches to addressing complicated sustainability challenges in East Asia from various perspectives, including actors, the role of science, multilateral cooperation, governance, and case studies on energy transition in the region. Tackling these challenges has resulted in observable relevant public policy developments in each country; including bi- and multilateral intergovernmental cooperation and transnational cooperation between nonstate actors, such as NGO/NPOs and research groups. However, concerning national security issues in this region, non-negligible obstacles are present. Besides this, environmental sustainability issues have complex causal relations that require cross sectoral approaches. One policy suggestion in response to these complex environmental sustainability issues in East Asia is the pursuit of cooperative governance beyond geographical instability and uncertainty, as well as functional specialized approaches. This research bulletin collects abstracts of individual studies by members and summarizes their major findings.

### **New Forms of Regional Governance for Environmental Sustainability Issues in Northeast Asia: Networks of Nonstate Actors under the Complex Context (by Kenji OTSUKA and Fang-Ting CHENG)**

People in East Asia have faced a variety of common environmental sustainability challenges. To tackle these challenges, relevant public policy developments in each country have been observed, including bi- and multilateral intergovernmental cooperation; and transboundary cooperation between nonstate actors. Regional

environmental governance in East Asia has been criticized for not being as strong as in western countries. Indeed, there are non-negligible obstacles rooted in state sovereignty, especially in Northeast Asia. Furthermore, environmental sustainability issues have causal identification complexities and are therefore difficult to resolve. Due to complex environmental sustainability issues in the regional governance of Northeast Asia, we focus on new forms of governance initiated by nonstate actors, including scholars, NGOs, and businesses, in three prominent areas: transboundary air pollution, energy transition, and the green supply chain. We argue that new forms of governance such as information and knowledge-based platforms have been developed by different networks of nonstate actors, in issue-specific as well as regional contexts. However, the contributions of these networks to the effectiveness of regional governance remain uneven.

**Science and Policy Interface in Transboundary Network for Environmental Sustainability Issues in East Asia: A Transdisciplinary Research** (by Kenji OTSUKA and Hein MALLEE)

The science and policy interface is one of the focal points of environmental governance studies regarding complex systems at multiple levels and scales. This paper focuses on the science and policy interface in a transboundary network in East Asia by using a transdisciplinary (TD) approach. First, we introduce an analytical framework for the science and policy interface from International Relations, Science and Technology Studies and TD perspectives. Second, we review transboundary networks on environmental sustainability issues in East Asia and identify the research gap in terms of a science and policy interface. Third, we introduce a series of TD workshops held in South Korea, China, and Japan and identify major actors and networks involved in our research. Fourth, we analyze what issues were raised at the workshops in terms of engagement with policy process by nonstate actors. Finally, we summarize our major findings and address which tasks need to be investigated in future studies. We argue that three forms of engagement of integrating of science and policy can be found: epistemic community building; NGO coalitions; and multi-stakeholder involvement in a variety of organizational and institutional settings. Also, we identify two important factors that affect the organization and engagement of science-based knowledge with policy processes: the independence of science and the integration of different types of

knowledge across the different ways of engagement. This paper contributes to discussions not only about the science and policy interface in environmental governance but also about the development of transboundary networks addressing environmental sustainability issues in East Asia.

### **Evaluation of the Sustainability of Cooperation for TEMM TJAP 2015–2019** (by Jang Min CHU)

South Korea, China, and Japan held the first Tripartite Environment Ministers Meeting (TEMM) in 1999. TEMM is now considered the most reputable consultative institution among the 12 tripartite ministerial consultative activities. Given that the “TEMM TJAP 2015–2019” will soon be closed, it is crucial for TEMM to plan new projects based on an assessment of the current project. This paper reviews the current implementation of TEMM TJAP 2015–2019 and evaluates the sustainability of cooperation in relation to the concept of “resilience.” Additionally, it attempts to ascertain TEMM’s role in tripartite environmental cooperation and the direction that development should take. Air quality management, environmental education, and transition to a green economy were evaluated by cooperative area being highly sustainable for cooperation. In contrast, biodiversity, circulative management of resources, conservation of water and the marine environment, and rural environmental management were found to have low sustainability for cooperation. Overall, the further development of TEMM should attend to the following matters: stabilizing and institutionalizing financial and organizational bases; securing actors and channels of cooperation; materializing mutual benefits and building trust; coordinating roles with other consultative bodies; and producing outcome through select and focus.

### **Energy Transition by Necessity? The Case of China** (by Shunji CUI)

Environmental sustainability cannot be achieved meaningfully without appropriate energy policies. The nexus between energy and environment has been well demonstrated by China’s experiences in energy development and transition. By examining China’s energy development between 1949 and 2017, this paper argues that its energy development has transitioned from a national security-oriented mode of

development to an environmental security-oriented one. The turning point was in 2005, when the Kyoto Protocol came into force and China emerged as the world's largest carbon emitter in terms of annual emissions. A growing sense of urgency about environmental issues looms behind such a transition, both domestically and internationally. Domestically, China faces enormous pressure due to recurring pollution crises, as the scale and scope of protests against pollution have risen during the 21st century. Internationally, the securitization of the environment and the associated normative changes required in international society have had a significant impact on China's energy transition. Environmental ideas and norms have now become so deeply embedded into the normative structure of international society that if any country wants to be considered as a responsible player it cannot ignore such changes. It has been against such a background, and in response to both internal and external pressures, that the Chinese government stepped in to make radical changes to its economic policy. Environmental sustainability has now become a crucial part of its development, and reform toward an "eco-civilization" system is being discussed. In the process of energy transition, environmental NGOs and other actors have also played important roles in raising people's awareness of environmental issues, and they are searching for new ways to implement sustainable development. The situation is probably the same in East Asia and the whole world. Indeed, China continues to face difficulties and challenges in the process of transitioning to clean energy, but it is certain that in order to achieve environmental sustainability China has to strive for a clean and sustainable energy path. To achieve such a goal, China should strive for greater cooperation with its East Asian neighbors and others.

### **The Transition of Taiwan's Renewable Energy Policies: International Norms and Policy Learning** (by Fang-Ting CHENG)

The Transition of Taiwan's renewable energy policies has been widely discussed from political, economic, social, industrial, and environmental perspectives. Nevertheless, by assessing the decision-making process of energy policies in the past decade, the influence of international norms, particularly those adopted by the United Nations, have been significant in the transition to renewables policies. This paper argues that the acceptance of the "mutual self-restriction" principle in dealing with global energy and environmental issues serves as a driving force in Taiwan's pursuit of expanding

renewable energy. This principle has so far been practiced by the international community through the development and promotion of sustainable development goals, by limiting and reducing subsidies for fossil fuels, and acting to combat climate change. To understand why international norms are important, this paper examines renewable energy policies and legislations in Taiwan through the lens of policy learning, which has been relatively neglected in previous research. In the past decade, both the progressive and conservative parties have reached a consensus on reducing greenhouse gas emissions, expanding the use of renewable energy, and reforming fossil fuel subsidies.

### **Energy Policy Shifts and Mini-Publics in South Korea: A Case of Deliberative Polling on the Construction of Nuclear Reactors (by Noriyo ISOZAKI)**

The 2011 Fukushima-Daiichi nuclear power plant accident in Japan shocked people and built a momentum of increased concern over nuclear safety in South Korea. After the Fukushima accident, Shin-Gori Nuclear Reactors No.5 & 6, which were granted government permission for construction in June 2016, became a target of revocation suits. The country's energy policy, including this issue, became the focus of the presidential election in 2017. The South Korean President Moon Jae-in, who took office after the election, proclaimed a "zero nuclear policy" and pledged to halt the construction of the Shin-Gori Nuclear Reactors. However, due to the large impact on the local economy, public opinion was divided between for and against the resumption of construction. On June 2017, President Moon established the Public Deliberation Committee, which surveyed public opinion by Deliberative Polling, to gain a social consensus. After three months of the public deliberation process, the final survey findings revealed that the percentage of respondents who supported the resumption was higher than those who supported a cease of its construction, while most respondents supported the future policy option of decreasing nuclear power reactors due to concerns about nuclear safety. The deliberative process indicated that people's energy policy preferences were inclined toward political partisanship, but had now been transformed to consider more realistic options beyond partisanship. On this issue, public deliberation rather than expert consultation informed policy-making. As a result, domestic politics became more focused on energy policy options than before. Therefore, internal factors have become increasingly important in the management of "common issues in East Asia."

## **Conclusion**

Our two-year research project has identified some critical aspects that need to be addressed due to the increasing complexity of environmental sustainability issues in East Asia, especially in the subregion of Northeast Asia. First, we found that new forms of transboundary governance networks have been initiated by nonstate actors despite continuous national security concerns, as well as persistent state sovereignty in the region. Second, science-based transboundary networking between state and nonstate actors, whether independent from politics or engaged with the policy-making process, are interwoven intricately in the region, which will become both driving and limiting factors in transboundary cooperation in the future. Third, energy transition in China, Taiwan, and South Korea has been analyzed in terms of both internal and international factors, which implicated that the roles of those factors vary from country to country. In addition, emerging transboundary governance networks on energy transition initiated by nonstate actors should be analyzed further based on their cross sectoral and cross disciplinary complexity, which involves both internal and international politics in the region.