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Learning from an Environmental Pollution Event and Policy Change: Focused on the Saemangeum Reclamation Project in Korea*

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This study, using the Event-Related Policy Change Model, analyzes the Saemangeum reclamation project in Korea, which has been the cause of significant social debate for around 10 years. In the policy process of the Saemangeum reclamation project, the severe water pollution event at Lake Shihwa acted as a focusing event which would attract civil society's interest in the environmentally adverse effects of the project. The perception of tidal flats was changed in society, and a system of protecting and managing tidal flats rather than reclaiming them was made through the discussion process. The finding of this study is that it is to a different extent for the policy-making participants to react to a focusing event, and to learn from a preceding event. In the Saemangeum reclamation policy, environmental groups reacted to the focusing event more sensitively than other policy participants, and were motivated to engage in active discussion. As a result, they could have a decisive effect on governmental policy and civil society.

Keywords: *Focusing event, Policy learning, Saemangeum reclamation project, Environmental policy process*

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Introduction

In modern society, environmental problems are considered as significant issues having both a direct and indirect influence on human life at the national or global level. As a consequence of the compressed modernization of Korea, various environmental pollution issues arose in the 1980s. And despite the slight improvement in environmental quality, environmental conflicts resulting from large national development projects have recurred after the 1990s. The Korean government has played a dominant role in the social debate on development and environment by performing large-scale development projects such as reclamation, road and railroad building, dam construction, and nuclear power-generation projects. Another important player in the process of large-scale development projects was the civil society with NGOs at the center. They appealed to public sentiment by bringing up various environmental issues, and influenced the decision-making process of national environmental policies.

Various stakeholders such as government, private companies, civil society, mass media, and political groups have participated in the environmental policy process, and each of them would try to shift the policy direction to their desired course. Government policy affects society members. If a policy was changed as a result of learning from past failure, and to solve or prevent similar problems, social conflict and damage could be reduced. The case of the radioactive waste disposal site decision, which was an issue for a long time in Korean society, shows that a policy can indeed be changed as a result of learning from previous failures.

Since 1986 the government had pushed the policy, but it continued to fail because of local residents and the protests of civic organizations. In 2005 it selected Gyeongju for the site. According to the studies comparing Buan and Gyeongju, the proposed sites before the selection (Kang and Chang 2007; Kim 2011), the reason for the policy's success is that the government improved the policy with instruments that reflected risk perception and the demand of local residents. The government established a special law stating that waste disposal was only for intermediate and low-level waste, not high-level waste. The law also clarified economic compensation and introduced a local referendum. This institutional change led to the success of the policy. As we see in both cases, a policy decision is affected by a previous one, and influences the administration or the establishment of the next step when the decision is made. However, the type and level of learning and aspects of the

change in the process will vary depending on its character or the policy target.

This study will explore policy changes involving the Saemangeum reclamation project in Korea, which has been the cause of a significant social debate related to development and environmental protection for around 10 years, since the mid-1990s. The Saemangeum reclamation project, which is the largest project of its kind in the world, started in 1991 and is still in progress. Because the West Sea of Korea has a large tidal range, there have been not a few reclamation projects at the foreshore. But after the 1960s, and especially after the 1980s, large-scale reclamation projects led by the government have been raging (Rural Development Corporation 1995, p. 45).[1]

Reclamation has for a long time been considered as a beneficial policy enabling the securing of farmland or land for city development. But in the early process of the Saemangeum reclamation project, a severe water pollution crisis at the site of the Lake Shihwa reclamation project occurred. The water quality of the artificial lake deteriorated rapidly, and fish and shellfish died after a sea wall was built as part of the reclamation project. Facing this crisis, civil society has been concerned about the coastal marine environment following such a large-scale reclamation project. Even though environmental awareness and the conservation movement have rapidly grown in Korea after the 1990s, the focus was only on onshore pollution issues such as the establishment of a radioactive waste disposal facility and the construction of a large dam. Before the occurrence of the severe water pollution crisis at the site of the Lake Shihwa reclamation project, the main environmental concern in Korean civil society was not the value of the coastal marine environment. It was instead regarding practical interests such as contaminated water, air pollution and the pollution of the natural environment.

After the broadcast of media reports covering the black water pollution in Lake Shihwa and the deaths of fish and shellfish, civil society showed extreme concern about the Saemangeum reclamation project bringing more severe destruction of the foreshore and marine ecosystem beyond that at the site of the Lake Shihwa reclamation project. Above all things, the size of the area of the reclamation land at Saemangeum is over 2 times greater than that of the site at Lake Shihwa. Moreover the Korean government was attempting

[1] The area for the reclamation project was rapidly expanded as the government started to lead in earnest reclamation projects. The mean area for one reclamation project was 0.36 km^2 in the 1960s, 123.1 km^2 in 1990-1994 and 319.5 km^2 in 1995 (Koh 2001, p. 695).

to become a member of 'The Convention on Wetlands of International Importance Especially as a Waterfowl Habitat' when the severe water pollution crisis at the site of the Lake Shihwa reclamation project occurred in 1996 (Prime Minister's Office 2011, p. 187). Undergoing these situations, civil society, with environmental NGOs as the center, realized the value of tidal flats and marine ecosystems. For these reasons, Korean civil society consisting of environmental NGOs, professionals and religious people has begun to show concern about the Saemangeum reclamation project's causing of water pollution and its destruction of the foreshore and fishing community. Additionally, it has begun to doubt the economic feasibility of the project. As a result, the Saemangeum reclamation project in its early stage has resulted in the raising of environmental, political and social issues.

This project was chosen as the focus of this study on learning and policy change in the policy process for the following reasons: First, compared to other projects, environmental issues started to be brought up, and the project has been the cause of a significant social debate for around 10 years, since the mid-1990s. Second, those involved with the project had a chance to learn from what had happened during another project, the water pollution that had occurred at the site of the Lake Shihwa reclamation project. Chronologically, the target period of this study is the stage between the start of the reclamation project and the building of a sea-wall, which is the first stage of the project.[2]

The first research question of this study is: Why was the Saemangeum reclamation project met with the resistance of civil society during the early stage of the project, as compared with the Lake Shihwa reclamation project, which had proceeded without any critical social debate? The second research question of this study is: Did the policy regarding the Saemangeum reclamation project change as a result of learning, and if so, what were the main causes for any changes made?

To answer the questions, I will review civil participation in the environmental policy and the Event-Related Policy Change Model as theoretical references in the next section. In section 3 I will describe the responses of policy actors to the water pollution that occurred at Lake Shihwa as a focusing event. Section 4 deals with the level of learning by the actors and changes in the policy process of the Saemangeum project due to the water pollution event at Lake Shihwa. Last, section 5 is the conclusion that sums up the study and reviews the importance and limitations of the study.

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[2] Usually a large-scale reclamation project takes over 10-20 years, and proceeds with two stages. First, the seawater flow is stopped with a seawall, and then a freshwater lake and land inside.

Theoretical Background and Analytical Framework

Environmental Policy and Civil Participation

Various agents are involved in the policy decision-making process, and the policy is the product of the complex adjustment among these participants. The major agents involved in the policy process would be the government, the market and the civil society. Civil society, in a modern view, would indirectly exert its influence through political society (Cohen and Arato 1992, p. 504, citing Joo 2011). The theory on policy governance and the political opportunity structure between the government and the civil society both explain the effect of civil society as the impact power for the policy and society through participation in the policy decision-making process (Joo 2011). Environmental movement groups have especially taken interest in the commons such as the Antarctic Circle and oceanosphere, and influence environmental policies through active global cooperation with their supra-boundary nature (Yearly 1994).

Ulrich Beck (1992) defined the modern society as a risk society and saw that science was one of the risk factors. He also defined the risk through science and found a solution to counter it. It is because most risks in the modern society, including environmental issues, are outside of direct human perception; they are spread by science, and strictly speaking, they are made up in a scientific manner. According to his risk society theory, environmental problems and risks are unavoidable results arising from industrialization and instrumental rationality. To resolve these problems, reflexive modernization is required, which stresses concession and cooperation among the government, private companies, professionals and civil society.

Although science is important in recognizing and solving environmental problems, the exclusive authority of science and scientific knowledge has been threatened by the effect of the social constructivism of science and technology. Experts' disagreements on environmental issues like power plants, the building of toxic waste disposal facilities, radiation, fluoridation and so on have led the public to participate more in policy decision-making on related science and technology as they gave rise to doubts about the role of scientists as neutral arbitrators (Nelkin 1995). It is impossible to make a clear, scientific decision about potentially dangerous threats because science and technology are characterized by some uncertainty and ambiguity due to their open systems, like the environment, unlike the situation in a closed lab

(Funtowicz and Ravets 1992; Yearly 1992).

Most environmental problems are newly emerging issues, so they are still in the stage of hypothesis, which means that it has not yet been proven how to measure and predict the causes and effects. The uncertainty and ambiguity of science and technology can be causes leading up to or intensifying the conflicts between the stakeholders in the policy process related to environmental matters. Funtowitcz and Ravets (1992) define the problems linked to science and technology in the modern society as 'post-normal science' that cannot be solved by puzzle-solving. They are unclear, the level of value conflict is deep, related interests are rather huge and also a fast decision needs to be made. In most cases, they were a field led by disputes. They also argued that the general public and nonscientific factors need to be included, as experts can be mere amateurs due to the uncertainty of science. Environmental changes have a close relationship with social processes, so environmental problems have to be discussed along with their political and economic contexts.

Irwin classified the political approaches to environmental threats into expert, democratic and pragmatic approaches (Irwin 1995, pp. 64-77).[3] And he regarded the pragmatic approaches as the most desirable for environmental policy, because they could cover both the expert and democratic approaches, and could have the potential to mediate among different voices and interests through less formalized and more flexible ways. While the expert or democratic approaches stress scientific methods for managing environmental threats, pragmatic approaches could reflect various opinions as well as scientific methods.

Focusing Event and Policy Change

A policy is not fixed and can be changed as a result of various factors. Thus a policy decision is a step in a series and circle of policy process. There have been many models to describe the causes and process of policy change. Thomas A. Birkland shows the Event-Related Policy Change Model, and he argues that after unexpected events happen, various interested groups learn while they deal with them and the policy is more likely to be changed as the

[3] He criticized that the expert approach was based on the assumption that expert assessment could lead to a rational and objective policy decision, but in reality it could not. Moreover the democratic or representative approach could have appeared with the demand asking for a democratic step in the decision-making process. But this could not pass the limit for covering civil prospects, owing to its main interest in technological consult.

result of the knowledge gained. In other words, this model explains that policy change is related to a focusing event that increases people's concern, and the concept of learning in which people apply new information and ideas to the policy decision (Lee 2012).

Birkland (1998, 2006) said a focusing event prompting policy change is a sudden event that is a disaster or an accident like an earthquake, hurricane, oil spill, nuclear accident, or terrorist attack. There are, however, a lot of accidents that do not become focusing events in the policy domain. He defines a potential focusing event as "an event that is sudden, relatively rare, can be reasonably defined as harmful or revealing the possibility of greater potential future harms, inflicts harms or suggests potential harms that are or could be concentrated on a definable geographical or community of interest, and that is known to policymakers and the public virtually simultaneously" (Birkland 1997; 2006).

A focusing event draws public attention by providing the evidence of policy failure. When a focusing event happens, the public and the policymakers start to examine the issue at the same time. A focusing event such as a disaster absorbs non-policy agenda issues in the interested groups, policy activities, lobby and research into the policy domain (Birkland 2006, p. 5). Also, it brings about the change of reviewing unofficial idea and policies that were considered politically unpleasant or unnecessary before the event.[4] A focusing event provides an opportunity for a new group that verifies a new problem and comes up with a counterplan in the policy process, and gives out-of-power groups a chance to present their preference for policy (Birkland 1998; 2006, p. 159). Increased attention given to a focusing event can affect the existing policy trends.

Birkland (2006, pp. 18-23) argued that a focusing event mobilizes groups and the mobilization of the groups would increase the discussion about the policy ideas. Most of the participants, not all of them, want to explain or solve the problem that a focusing event unfolded. However, proposed solutions vary depending on the concerns and motives of the participants. If a focusing event shows the failure of the policy, it will discuss the ways that can overcome the failure and prevent it from occurring again.

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[4] According to studies on learning, regarding policy change after the September 11 attacks, all of next thing were known well before 9.11: people are not safe from terrorist attacks, and airports and critical infrastructure are vulnerable and so on. But people haven't paid attention to them. The existence of many off-the-shelf ideas in circulation before the event made the adoption of new policy instruments much easier. Above all, the perception of a terrorist attack was changed from a virtual thing to a real threat (Birkland 2006).

He defined learning as a process in which people apply new information and ideas or information and ideas promoted to an agenda by a recent event in the policy decision. He shows three types of policy learning: instrumental, social and political policy learning. The key indicators of instrumental policy learning are the media reports, testimonies in the national assembly, a change in the law and so on; a change in the law is the most immediate and important evidence of learning. Policy redefinition involved in the change of the direction, goal or scope for the policy falls under the key indicators of social policy learning. It includes the basic access methods to the policy and the contents of the essence of the government actions rather than a simple adjustment to the problem. Lastly, it is hard to find evidence for political learning. But it happens when the people for and against the policy change have changed their political strategies to accept new information (Birkland 2006, pp. 15-7).

There are some factors that promote or hinder learning in the policy process (Birkland 2006, pp. 173-7). The Media reports on which political strategy succeeded or failed and can present the matter in a specific way; thus, media attention can promote learning. On the other hand, the character of the organization can boost or impede learning. Even though there is knowledge to promote the policy outcomes, the policymakers are able to limit their selection with political or other factors.

Analytical Framework

As indicated above, it calls for the engagement of civil society, including various stakeholders, to solve environmental problems and risks in modern society because science has some uncertainty and ambiguity in its open system unlike the situation in a closed lab. In the case of environmental problems, civil society could raise issues, appeal to public sentiment, and have a decisive effect on the environmental policy-making process. Birkland argued that policy change could start from a sudden event that drew social interest, which is called a focusing event. When a focusing event happens, a variety of groups linked to the event could mobilize in the policy domain. The mobilization leads to some discussion on different ideas and the participants learn something in the process. Then the policy can be changed as a result of the learning that takes place.

The policy domain of the Saemangeum reclamation project should learn something from the water pollution that occurred at the site of the Lake Shihwa reclamation project, and the policy change could be predictable from

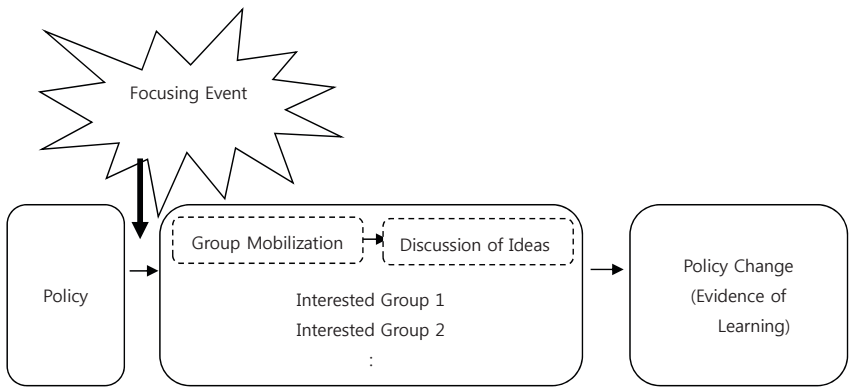

Fig. 1.—Analytical Framework: Policy change in Saemangeum Reclamation Project (Source: Birkland (2006, p. 18) revised)

the result of the learning. The agents participating in the policy-making process would react differently to the focusing event, and their impact size on policy change size would also be different. Based on the discussion above, an analytical framework was devised for this study on the learning and the change in the policy process for the Saemangeum reclamation project, and it is shown in Fig. 1.

Water Pollution at Lake Shihwa as the Focusing Event

The Lake Shihwa reclamation project, which started 4 years earlier than the Saemangeum project, is a large-scale reclamation project launched by the Korean government. It is the second largest reclamation project after the Saemangeum project. The purpose of this project was to build a 12.7 km-long seawall in the Shihwa estuary at the West Coast of Gyeonggi Province and create a 56.5 km^2-wide freshwater lake as well as to develop 110 km^2 of new tidelands into farmland and industrial complex and towns. The construction of the seawall was started in June 1987 and was completed in January 1994. And Lake Shihwa was created. It should be noted that there had been little social concern about this project during the construction of the seawall.

Until the severe water pollution crisis occurred at the site of the Lake Shihwa reclamation project, the major policy agents had been the Korea Rural Community Corporation and the Korea Water Resources Corporation, both of which are government-affiliated organizations. These organizations

had recognized the existence of water pollution through a post-hoc environmental effects evaluation, but had only considered countermeasures in their limited intra-organization territory. The Ministry of Environment should have managed and controlled these government-affiliated organizations, but was unable to perform its role in the growth-first administration system at that time (Lee 2007, pp. 25-6).

On the other hand, little effort was required for environmental movement groups to bring up the water pollution event as a social issue. The Korean environmental movement had markedly grown in the 1990s,[5] but had only concentrated its capacity on the matter of frequent onshore pollution issues. Faced with an unfamiliar coastal environmental event, Korean environmental movement groups had been unsuccessful in their ability to make it into a social issue.[6] Moreover the community residents, as those engaged in the fishing industry, had not opposed the Lake Shihwa reclamation project. They could not have had the will to oppose the national project for national development, and had vague confidence that a livelihood-threatening accident would not occur. Some had even been compensated with cash, which had made them feel more welcoming of the national project (Han 2001).

Yet even before the development of the tidal flats, on April, 25th, 1996 the media reported that the contaminated water of Lake Shihwa was released to the open sea so that the water pollution of Lake Shihwa[7] was on the rise. The creation of land through reclamation was delayed for quite a long time[8]

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[5] The Korean Federation for the Environmental Movement, the most representative environmental movement group, was established by unifying localized anti-pollution movement groups in 1993, and most of the local environmental movement groups at Lake Shihwa ware established in the mid-1990s.

[6] In the interviews with some environmental movement group activists (Lee 2007, p. 54), an activist from a civil environmental research institute said, "We had internally discussed the water pollution at the site of Lake Shihwa, but it was not in-depth." And an activist from An-San YMCA said, "Some professions predicted that water pollution would occur after building a seawall, but as a local organization, we could not actively cope with that owing to our lack of capability."

[7] The water quality of Lake Shihwa was 17.4mg/L of mean COD (Chemical Oxygen Demand) concentration in 1997 after the construction of the Shihwa seawall even though the water quality was 2-3mg/L of mean COD before the construction (Ministry of Land, Transport and Maritime Affairs 2011, p. 35; 2012). The water pollution of Lake Shihwa was caused because sea water circulation in the lake was blocked due to reinforcement work of the seawall, and industrial waste and domestic sewage was released to the lake in the lake watershed (Ministry of Environment 1996).

[8] Farmland development was started comparatively earlier because the plan of utilizing Lake Shihwa for agriculture had been nixed. But the development of an industrial complex and towns has just started in 2007 and 2012, respectively.

after the water pollution event occurred at Lake Shihwa.

The media continues to report the inflow of industrial waste from neighbors, ten thousands of dead fishes and so on. The media has referred to Lake Shihwa as "the dead lake," "the rotten fresh water," and "the environmental disaster." The reports made the entire country aware of the water pollution at Lake Shihwa, and interested groups immediately responded to the event.[9] Because of the water pollution event, the original plan of using Lake Shihwa for agriculture was nixed in 1998, and in December 2000, the government announced the decision that the lake would remain as a sea water lake, not a freshwater lake (Ministry of Environment 2000).

As a social agenda, the severe water pollution crisis that occurred at the site of the Lake Shihwa reclamation project resulted in the expansion of social concern so that questions arose about the Saemangeum reclamation project. The media referred to Lake Saemangeum as the second Lake Shihwa after the completion of the seawall. And it expressed concerns that the same problems that had occurred at Lake Shihwa might occur at the site of the Saemangeum reclamation project. Prior to the water pollution event at Lake Shihwa, there had hardly been any press coverage about the Saemangeum project. However, the event resulted in an increasing number of media reports on the Saemangeum project. The reports also changed in that they now focused on the negative or irrational aspects of the project instead of the positive ones (Park 2007, pp. 93-4). Politicians also expressed concerns about this problem in the parliamentary inspection of the administration in 1997. NGOs held a nationwide protest against the project as well as local ones and were supported by experts in various fields. The water pollution event led to critical discussions about the effects of the reclamation projects, including the water pollution of a freshwater lake, and the effect on mud-flat and coastal environments, which had never been discussed before.

[9] The president ordered measures for water improvement to be set up. The Board of Audit and Inspection conducted a special inspection of the water pollution. The Ministry of Environment set up the Water Quality Improvement Plan of Lake Shihwa three months after the event (Prime Minister's Office 1999). Fishermen near the seawall were asking for compensation for the damage caused, and NGOs claimed that the seawall had to be removed or the gate should be open to allow seawater to flow.

Learning and Policy Change in the Saemangeum Reclamation Project

Overview of the Saemangeum Reclamation Project

In 1989, the decision was made to start the Saemangeum reclamation project, which is the largest project of its kind in the world. The goal of this project was to close the sea between Gunsan City and Buan City in Jeollabuk-do province with a 33.9 km-long seawall and create an 118 km^2-wide freshwater lake and 283 km^2 of farmland. According to the original plan, the project was planned to proceed from 1991 to 2004, and the seawall was planned to be constructed until 1998.

The construction of the seawall started in 1991, and was finally completed in 2006. During this period, NGOs' resistance to the project, stimulated by the water pollution of Lake Shihwa, caused three interruptions. After the water pollution event, construction was interrupted when a public-private co-investigation was held at the demand of environmental groups and the governor of Jeollabuk-do. The project was also interrupted twice due to a lawsuit. Some environmental organizations and fisheries in that region brought up a lawsuit for canceling the Saemangeum reclamation license in 2000-2003. The construction of the seawall was restarted in March 2006, and it was completed in April. After the seawall construction was completed, the government began to discuss the Saemangeum Lake development strategy and then the Master Plan was established in 2011. The area within Saemangeum Lake has partially been developed since 2010, and seawater has

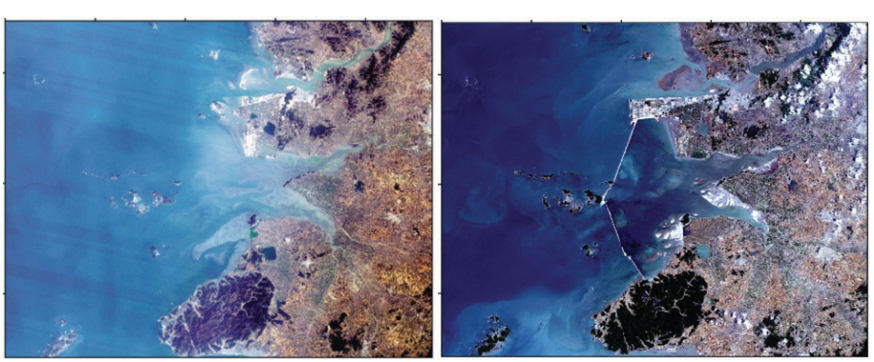

Fig. 2.—The area of Saemangeum Reclamation Project (Left: 1990, Right: 2007) (Source: Korea Ocean Satellite Center at KIOST)

periodically been circulated to improve water quality (Prime Minister's Office 2011).

Group Mobilization and Change in the Dominant Topic

It was the environmental groups that first reacted to the water pollution event at Lake Shihwa and raised protests about the Saemangeum reclamation project. When the event occurred, a local environmental group first argued that Saemangeum Lake could be the second Lake Shihwa.[10] Thus, environmental issues about the Saemangeum reclamation project became a social agenda. NGOs claimed the possibility of the water pollution of Saemangeum Lake and the importance of tidelands, and they demanded the reexamination and cancellation of the project. In 1998 the "Civil Committee for rescinding the Saemangeum reclamation project" was organized at the national level and the "Civil Society Joint Committee" was organized in Jeollabuk-do. The "Civil Committee for rescinding the Saemangeum reclamation project" was expanded to the "Life and Peace Alliance of the Saemangeum Tidal Flat," and it was composed of more than 200 environmental, social, and religious organizations (Park 2007, p. 141).

Environmental groups exerted their influence on the decision-making process through their association with domestic NGOs and foreign environmental groups. Korea-Japan environmental groups published a joint declaration for summoning the cessation of the Saemangeum reclamation project in 1991, and maintained their opinion at the Ramsar Convention that Saemangeum should be an internationally important wetland. In 2001 some activists of Friends of the Earth visited Korea, and took part in a demonstration for the cessation of the Saemangeum reclamation project (Lee 2003).

Besides NGOs, experts in the fields of environment, economy, and society participated in this debate. As the government established a public-private co-investigation in the Prime Minister's Office in response to the requests of NGOs, experts became officially involved in this debate. But as they could not come to an agreement, more and more experts became involved. In October 2001, more than 100 experts in the fields of environment, economy, and society established the "Korean Society of Saemangeum Life."[11]

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[10] *The Dong-A Ilbo*. December 9, 1996

[11] *The Hankook Ilbo*. October 12, 2001.

After the Lake Shihwa water pollution event, the government took a look at this project again because of the critical media reports. The Board of Audit and Inspection conducted a special audit on the Saemangeum reclamation project in 1998, and announced that there were problems with the freshwater quality countermeasures and the economic feasibility of this project (Board of Audit and Inspection 1998). But the Ministry for Food, Agriculture, Forest and Fisheries and the Korea Rural Community Corporation had continuously argued that the water pollution of Saemangeum Lake would not occur because the conditions are different.[12] As for the government, the Prime Minister's Office was to take a leading role in this debate because the position of the government's departments was different on the possibility of water pollution occurrence at Saemangeum Lake.

Political circles also took notice of the Saemangeum reclamation project. The worries about water pollution at Saemangeum Lake were proposed in the parliamentary inspection of the administration, and the 15th presidential transition committee defined the Kyung-Bu High Speed Railway project, the Lake Shihwa reclamation project, and the Saemangeum reclamation project as 3 insolvent projects. But the Saemangeum reclamation project had been a regular subject in parliamentary elections, local government elections, and even non-related counties' local parliamentary elections. And since the Saemangeum project plan had been announced, every president had promised to support this project[13] (Choi 2009, pp. 68-70). Besides political circles, regional parliament, media, and the "Saemangeum comprehensive development projects Committee," which was composed of local residents and the local Chamber of Commerce & Industry, had worked to carry this project forward.

As for this, various groups interested in the Saemangeum reclamation project were mobilized in the domain of discussing possible environmental problems. Before the event, a debate on the utilization of the reclaimed land had proceeded among some of the stakeholders. Distinct from the situation of the Lake Shihwa reclamation project, environmental groups developed an opposition movement against the Saemangeum reclamation project through banded activity with foreign environmental groups, professionals as well as domestic professionals, local residents and religious people. This response occurred because the severe water pollution crisis acted as a focusing event,

[12] *Maeil Business Newspaper*. June 6, 1999.

[13] Various presidents had promised to support the Saemangeum reclamation project, expressing it to be "A new origin of Jeonbuk development," "an advanced base of production and trade in the pan-Western ocean region", and "a growth engine for national development".

showing that a reclamation project could be transformed into an environmental crisis. And because Korean environmental groups had abruptly grown from the mid-1990s to the mid-2000s (Ku and Hong 2013), they could lead the formation of public opinion against the Saemangeum reclamation project.

Before the water pollution event, a debate on the utilization of the reclaimed land had proceeded among some of the interested groups. But after the event, the debate topic changed into whether "the Saemangeum reclamation project should be interrupted or not considering the environmental aspects." The specific main discussion topics were as follows: first, whether Saemangeum Lake would be polluted after the completion of the seawall; second, how great the value of the tidal flats was, in other words, which was more valuable between the tidal flats and farmland; third, whether the seawall construction and tidal flats' conversion into land would have adverse effects on the coastal ecosystem.

Learning and Policy Change

Has the Saemangeum reclamation policy indeed changed through the discussion process with various stakeholders about the possibility of environmental problems arising from the Saemangeum reclamation project? If so, what were the driving causes for the change?

First, as the result of social learning, the opinion of tidal flats changed from the view of them as wilderness areas to as somewhat valuable resources. There is a special meaning of reclamation in areas in Korea of high population density in the sense of making new farmland. So a reclamation project which can make rice and land has been viewed as a natural and beneficial project. But the Lake Shihwa water pollution event resulted in a dramatic change regarding the opinion of tidal flats. Tidal flats are no longer seen as wasteland, but as playing an important role in purifying pollutants from land, and forming fish and helping to develop fisheries' resources.

Awareness transition on the view of tidal flats was reflected in actual policy. The Public Waters Reclamation Act, which was enacted in 1962, was the only law on tidal flats. This act was made for promoting the interests of the public and contributing to the development of the national economy through reclaiming public waters and using them efficiently. This act was made for defining how to develop and use tidal flats, not for defining how to protect and manage them (Moon 2000, p. 365). In the process of social debate about the Saemangeum reclamation project, tidal flats became recognized as

treasures for biodiversity and implements for purifying polluted areas. In 1999 the Public Waters Reclamation Act was revised, and the Wetlands Conservation Act was made for the systemic management of wetlands and coastal tidal flats (Yun, Park and Shin 2009, p. 15).

The reason for revising the act was to strictly assess the environmental impact of the reclamation of public waters as environmental destruction has been a serious problem due to the reclamation of public waters such as tidal flats. The Wetlands Conservation Act, in fact, was to be introduced by the government, which was planning to join the Ramsar Convention at that time. The act was brought before the National Assembly in 1997, but the deliberation process was delayed because members of the National Assembly were aware that most voters preferred economic development over environmental protection.

Even though instrumental learning following the discussions on the Saemangeum project may not have had a direct influence, the Revising Public Waters Reclamation Act and the Publishing Wetlands Conservation Act are evidences that such discussions can affect policy. More direct evidence of instrumental learning is that the government established the "Saemangeum Environmental Countermeasures Committee" in the Prime Minister's Office and devised water quality improvement measures. The management of environmental problems in the Prime Minister's Office, not in a governmental department, was a significant change. Because it is the reality that departments related to development are more influential in policy decision-making than the departments related to the environment, such a change was meaningful although it was a superficial change.

Examining the contents of the water quality improvement measures, we noted that the government directly learned from the Lake Shihwa water pollution event. Saemangeum water quality improvement measures were prepared by separating measures for lessening influent pollutants within the lake and in the coastal sea. The most important part is that water quality is managed by sea water circulation through the gates of the seawall until the desired water quality at Saemangeum Lake is achieved (Prime Minister's Office 2011, pp. 189-203). Because there were few pre-measures for improving the influent water quality before the desalination of Lake Shihwa, the government could learn about rapid water quality pollution.

In the domain of Saemangeum reclamation project policy, it is difficult to find evidence of political learning after the Lake Shihwa water pollution event. According to Birkland, political learning happens when the people for and against the policy change have changed their political strategies to accept

new information. Interested groups involved in the policy domain hardly changed their stance on the project. In political circles, however, some politicians asked for special measures following the criticism of the media and NGOs, but the majority of them were still emphasizing that the Saemangeum reclamation project should be continued. This is because there existed lots of groups seeking regional economic growth such as the "Saemangeum Comprehensive Development Projects Committee" in Jeollabuk-do.

Conclusion

According to this analysis, we could figure out why the Saemangeum reclamation project had desperately been opposed by civil society in contrastt to the situation surrounding the Lake Shihwa reclamation project. We also concluded what had been learned from the severe water pollution crisis at the site of Lake Shihwa, and how the policy was changed.

Civil society could recognize that an environmental disaster might occur during the reclamation project, because the severe water pollution crisis at Lake Shihwa had arisen at the seawall-building stage of the Saemangeum reclamation project. That is, the severe water pollution crisis at Lake Shihwa acted as a focusing event which would concentrate civil society's interest on the environmentally adverse effects of the Saemangeum reclamation project. And from the mid-1990s to the mid-2000s, environmental movement groups had rapidly grown so that they could have a decisive effect on the policy-making process with public opinion. This could also contribute to the change.

The severe water pollution crisis at Lake Shihwa allowed the environmental, social, and economic problems of the reclamation project to become a social agenda though the project had rarely received attention prior to the crisis. Various stakeholders participated in the Saemangeum reclamation policy, and discussed controversial issues. Most of all, environmental groups led a crusade against the Saemangeum reclamation project along with foreign environmental groups, professionals as well as local residents, professionals, and religious people. They discussed various ideas about the possibility of water pollution of Lake Saemangeum, the adverse effects of reclamation on the foreshore and marine ecosystem, and the value of the foreshore to prevent the repetition of a severe water pollution crisis. The policy domain of the project learned socially and instrumentally

through the discussion process. The perception of tidal flats was changed in society, and the system of protecting and managing tidal flats rather than reclaiming them was made through the discussion of ideas. Also, Saemangeum water quality management measures were directly influenced by the Lake Shihwa water pollution event.

The finding of this study is that it is to a different extent for the policy-making participants to react to a focusing event, and to learn from a preceding event. In the Saemangeum reclamation policy, environmental groups reacted to the focusing event more sensitively than other policy participants, and were motivated and active in discussion. As a result, they could have a decisive effect on the government policy and civil society. On the other hand, the government, as a main agent, reacted to the focusing event less sensitively than civil society, and could get little learning effect due to the focusing event. Political groups have rarely changed their strategy in spite of the learning effect owing to the community groups who desired local economic development.

This study is meaningful in that two large-scale reclamation projects caused significant social debates for around 10 years, from the mid-1990s to the mid-2000s. One was seen as providing opportunities for learning and the other as changing its policy due to the lesson learned from the earlier project. Like this, the Event-Related Policy Change Model is useful for the research of policy change due to the learning effect because this model analyzes the series of policy processes including agenda setting, group mobilization, ideas discussion and policy adoption. But there is a limitation in that every relation between learning and policy change is not clear in this model. The process of discussion after a focusing event is affected by social and political factors outside of a specific policy domain, and this aspect is also a part of driving policy change.

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