Framing Analysis of Radioactive Waste Disposal Facility Placement in South Korea

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I. Introduction

The recent nuclear disaster in Japan, which is unprecedented in its size and dangerous impact on nature and human society, is becoming a focusing event that will transform the traditional way of defining environmental problems and developing solutions to the problem. Many traditional policy analyses on environment problems, especially economic evaluative studies, are conducted based on the assumption that there is an implicit agreement among the members in a society on the presence and seriousness of a policy problem. So, the impending goal is to find the most effective or efficient solution to the defined problem. Similarly, earlier analyses of the radioactive waste disposal facility (RWDF) placement case in Korea have taken the position that “finding a site for radioactive waste disposal” is a given policy task, the necessity and urgency of which has been agreed upon by everyone in Korean society. Therefore, based on the notorious 20-year history of repeated government attempts to locate a facility site, most policy analyses of the case in Korea started by defining it as a showcase of policy failure and focused on explaining why government efforts in siting the facility had repeatedly failed. Consequently, major implications from those studies were focused on providing prognostic diagnoses to avoid repeating such failures (e.g., Kim, 2002; Park and Lee, 2005; Lee, 2001; Choi, 1999; Choi, 2005; Choi and Oh, 2004).

In this study, we take a different approach. We move our analytic focus away from delineating the failure factors of the government efforts. Instead, we examine an earlier temporal point in the policy process—to the problem definition stage. We question whether the repeated efforts of the Korean government’s RWDF placement efforts were in fact “failures.” We note that the significance of presence, seriousness, or urgency of the problem of finding a place to build a facility to store radioactive waste differs according to values and perspectives of the participating actors and is reconstructed through a process of political or socio-cultural interactions among policy actors; Government bureaucrats and their supporters have defined radioactive waste as “an indispensable by-product that is inevitably generated in an effort to solve the energy problem.” On the other hand, the opposing side—environmentalists and local residents—has viewed it as “a disastrous side-effect caused by the use of nuclear energy which should be fundamentally avoided,” questioning the needs for nuclear energy itself. We behold that such markedly contrasting stances exist among participants on why it is necessary to generate and dispose of radioactive waste.

According to discourse analysis scholars (e.g., Hajer and Wagenaar, 2003; Fischer, 2003; Schön and Rein, 1994), traditional approaches to policy analysis are conducted in a way that considers policy problems and solutions to be determined by preferences and interests that are fixed externally or as a result of the rational calculation based on economic efficiency. As the approach presumes preferences that are defined and fixed exogenously

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and *a priori*, it is hard to explain when there are gaps between parties on how each one defines and interprets policy problems and solutions. In contrast, the discourse approach, based on social constructivism that regards policy ideas and knowledge as the core factor of constituting social reality, acknowledges that the interests around policy problems are not given externally, but are created in the policy-making process via discursive practice of idea generation and exchange (Braun, 1999). It notes that policy *ideas* define the identity of actors and reconstruct the meaning of “interest” for each party, thus making them act according to it (Price and Reu-Smit, 1998).

Therefore, in this study, using discourse analysis we examine how meanings of a policy problem are constructed, contrasted, and changed through dynamic and interactive discursive practices during the decision-making process of the siting of an RWDF. In particular, we focus on framing of the policy problem and solutions; thus, a major part of our analysis is about the language that is used in the debate process. This paper is organized in the following order. First, we present a brief description of the discourse approach to policy analysis and introduce framing analysis as a tool. Applying the various types and methods of framing strategies, we contrast and analyze political discourses that were manifested in the RWDF siting case. In the conclusion, we present a summary of findings and implications.

II. Discourse and Framing analysis

1. Discourse Analysis Approach in policy studies

Discourse is defined as a process through which combinations of ideas, concepts, and categorizations are produced or reproduced within a particular series of practices. Social actors produce and support discourse, which is the aggregation of particular ideas (Hajer, 1995:44). Therefore, discourse analysis mainly focuses on describing actors’ interacting discourses, rather than their behaviors or interests, and explains how such discourses are produced, compete with each other, and are transformed. The approach focuses on formulating and defining the relationships among individual actors who are supportive of or opposed to a particular policy option. Furthermore, it assumes that a certain discourse of participating actors can influence the way that other participants perceive social reality, and, as a result, change the definition of “self-interest” (Braun, 1999). In contrast to traditional policy analysis approaches that assume preferences and self-interest of the participants are determined *a priori* and externally fixed, the discourse analysis focuses on fluidity in the meaning of preferences and self-interest. In the discourse analysis approach, the role of language is understood as an instrument that forms a world view of the social actors in decision making, rather than the one that objectively or neutrally reflects reality like a mirror (Fischer, 2003).

The discourse analysis as a tool to “understand and change the world” started to draw attention in the field of polity studies in the late 1980s (Campbell, 2004; Nelson, 1996). Fischer and Forester (1993) and Roe (1994) noted the critical role of language in explaining policy conditions. Similarly, Stone (1997) and Schön and Rein (1994) explored the concept of “frame” as a useful tool for constructing a discourse. Among Korean scholars, there have been a few attempts to apply the discourse analysis to understand and analyze social conflicts (Ha, 2004; Ju, et al. 2004; Lee, 2005; Lee and Lee, 2005; Lim, 2005).

In particular, discourse analysis is a useful tool in understanding policy controversies. Shöne and Rein (1994) distinguished policy discourses into two groups,
policy disagreement and policy controversy. The notion of policy disagreements indicates differences between parties that can be solved by examining and evaluating rational and scientific evidence. On the other hand, policy controversies refer to gaps between parties that cannot be solved solely by rational and reasonable evidence. Debates on many social issues, such as welfare, abortion, poverty, and environmental pollution, are examples of the second category where more and better scientific evidence does not necessarily resolve the disagreement.

In traditional policy analyses, the RWDF case was considered as a case of policy disagreement. Most problems that exist are considered technical ones that can be resolved by producing and presenting more precise information or developing better scientific technologies. Thus, the formation of value-neutral, objective, and scientific knowledge on safe disposal of nuclear waste and technology development for nuclear energy was most crucial. On the other hand, according to discourse analysis, the RWDF case is a policy controversy rather than a policy disagreement. The RWDF case entails frequent clashes on fundamental values and ideologies about preserving nature and economic development and promoting productivity of the nation. The discrepancy between the parties is not easily narrowed down regardless of what amount of information or specific scientific data are provided. The discourse analysis framework acknowledges that policy decisions are made through adjustment of self-interests and creation of social agreement based on simultaneous consideration of political, ethical, and cultural factors, such as fear for nuclear safety, uncertainty of scientific prediction, imbalance between cost and efficiency, lack of trust, and conflicting values among diverse and proactive participants.

In sum, discourse analysis provides a useful analytic tool in understanding a complex and dynamic decision-making process like RWDF, as it focuses on “reality construction” that influences the policy decision-making process (Benford and Snow, 2000: 614). Discourse analysts focus on the role of argumentation, discussion, and persuasion as common patterns of social interactions. In the process of policy debate, tracing these patterns of discourse allows us to re-interpret policy actors’ behaviors and the situations in which these behaviors take place. Analysis of the manifested patterns of discourse also allows us to understand the actors’ strategies that are mobilized in pursuit of their benefits and interests (Braun, 1999: 22). In this research, we analyzed patterns in argumentation, discussion, and persuasion in the case of RWDF by focusing on how messages and information are framed by different policy actors.

2. Framing as a Tool of discourse analysis

Frames are “schemata of interpretation” that guide individuals “to locate, perceive, identify, and label” events and conditions around them (Goffman, 1974: 21). As a set of cognitive and moral maps, frames guide how people in a policy sphere identify problems, specify and prioritize their interests and goals, and make causal and normative judgments about effective and appropriate policies. The concept of framing has been studied in many fields including policy science (Campbell, 2004; Payne, 2001; Schön and Rein, 1994), psychology (Tversky and Kahneman, 1981), and sociology (Benford and Snow, 2000; Snow et al., 1986).

In a policy formation context, framing, a device that is used by social actors to create inter-subjective significance, refers to the process of “selective attention” of the partial characteristics of a policy problem and “naming” them according to the goal, context, and binding conditions of a policy issue. Here, creating selective attention to a certain aspect of
a policy problem and the name that is assigned to the problem, on the one hand, leads the participants to focus on the particular factor that is selected among multiple attributes of the policy issue, and on the other, lets them neglect other aspects of the problem (Entman, 1993; Rein and Schöön, 1993). In other words, framing constitutes social significance of the policy situation, redefines policy problems, and formulates strategies for solving the problem (Rein and Schöön, 1993: 153). From this point of view, public announcements in various forms (such as official announcements, statements, declarations, refutations, conference records, etc.) are effective strategies in the politics of signification (Hall, 1982: Benford and Snow, 2000). In the politics of signification, framing is a critical tool to elicit “consensus mobilization” and “action mobilization” among policy actors by constituting their interest relationship and worldview (Klandermans, 1984).

Benford and Snow (2000), focusing on the process through which policy actors form and develop frames, suggested the following four types of framing processes. First, “frame articulation” refers to the process that strengthens actors’ support by connecting and recombining separate events or experiences in a persuasive form. By assembling, connecting, and resurfacing the pieces of the reality that have been observed and experienced, phenomena are defined and described in certain ways. Next, “frame amplification” is a process whereby particular issues, events, and beliefs are selectively emphasized and noted so that they attract attention. Third, “frame extension” is a process whereby policy participants or organizations enlarge the supporting ground for their claims and form a broader coalition by expanding the frame beyond the boundary of their innate interests. Finally, “frame transformation” refers to a process whereby a new significance is created and imposed by changing the old significance or interpretation. Meanwhile, since frames are formed through interactive discourse exchange processes, once formed, they do not remain fixed. They either sift or evolve through a continual process of “frame contesting” (Benford and Snow, 2000: 625; Snow et al., 1986).

In addition, Benford and Snow (2000) described framing tasks by dividing them into three techniques, namely, “diagnostic framing,” “prognostic framing,” and “motivational framing,” according to the classification of the conventional literature on framing (Entman, 1993). First, diagnostic framing refers to the technique of defining and constructing policy problems according to their value-stance. In most policy processes, such a technique focuses on figuring out the cause and origin of such a policy problem, along with the effort to define the features of the policy problem itself. Such efforts frequently accompany a process of finding who is responsible for the problem and should take responsibility for damage compensation. Prognostic framing is a technique of re-articulating solutions for the problem. In most situations, selection of the list of solutions and behavioral strategies are determined by how the policy problem itself is defined through the process of diagnostic framing. Finally, motivational framing indicates a framing technique that uses appropriate synchronizing language to mobilize and elicit active participation from policy actors. In this case, language that emphasizes significance, urgency, effectiveness, and validity of the policy problem is often utilized. The framing types and techniques for discourse disputes and the details that are utilized in the policy process can be diagrammed (Figure 1).

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III. Characteristics of Radioactive Waste Disposal Facility Placement Policy in South Korea
Despite siting efforts in various places using diverse strategies since 1986, the Korean government has experienced repeated failures in locating the RWDF. Due to fierce resistance by local residents and organized environmental groups, the policy effort has received continuous attention from the national and local media, and is known as the most notorious policy failure in the past 20 years.

In many respects, finding a site for the RWDF is one of the most contentious and complex policy issues in the history of Korean policy making. Most of all, it involves two underlying value systems that fundamentally contrast with each other. At the same time, it also involves a variety of complex economic and political issues, which require a series of iterative processes of conflict resolution, negotiations, and compromises among participating actors. In addition, due to the uncertainties in the safety of the facility, it is a policy case where a substantial gap in knowledge of and attitudes towards the issue exists between government officials and the public.

First, in the RWDF case, at least two underlying contrasting discourses underlie the debate. The underlying discourse of the supporting side is a “developmental state” perspective. From this perspective, “economic development, defined in terms of growth, productivity, and competitiveness, constitutes the foremost and single-minded priority of state action.” (Önis, 1991: 1; Schneider, 1999) Then, radioactive waste is considered as an unavoidable by-product of nuclear development, which is essential for national economic development and prosperity. On the other hand, those who oppose the government’s RWDF plan have their foundation in ecological values. For them, excessive dependence on science and technology poses a danger to human civilization. Thus, their priority is in the conservation of nature rather than the promotion of human convenience. To them, phasing out production and use of nuclear energy is the foremost and ultimate solution to the problem. Developing safety control measures for the waste and planning for more efficient use of the nuclear plant land follow as the next steps (Kim, 1995). These contrasting views between the parties seem to be irreconcilable.

Secondly, like most other environmental problems, the RWDF case involves a wide range of sensitive issues such as how much and to whom economic incentives for the potential damage to the environment, loss of property right, and decline in the local economy should be provided (Slovic et al., 1991: 686). Providing a fair distribution of economic compensation based on the amount of risk increase (Kim, 2004: 176) and proximity is a hard-to-solve and highly contentious issue.

Moreover, there is a deeply rooted distrust problem. First, there have been a few instances when a government decision, which was claimed to be based on rigorous scientific evidence, has been found to be faulty. The case of Gul-eop do is a good example. In the beginning, the Korean government declared the island as an optimal radioactive waste repository site with strong confidence based on data collected using the most advanced technology available plus consultation with experts from the International Atomic Energy Agency. However, a year later, the siting plan was officially dropped due to a serious geological problem in the area that was found soon after they started construction of the facility.

At the same time, local residents were troubled by the undemocratic characteristics of the siting decision, including secrecy in the decision-making process, lack of disclose of rationales, insufficient provision of information, and oppressive and forceful countermeasures by the government against the local residents’ resistance. The local residents demanded more information on the size of the facility, the predicted level of
damage that would be imposed on their property and health, the safety of the facility itself and its by-products, and the specific management and maintenance plans of the facility.

Finally, there was a wide gap between the expert/public officers and the local resident/citizens in estimating the potential risk. According to the survey conducted by Kim al. (1995) of 1,685 adults on perceptions of various types of risks, there was a huge gap in risk perceptions between experts and the public. For instance, contrary to the experts’ prediction of low risks of the nuclear sector and drinking water pollution, the public perceived a very high level of risk. Such wide gaps in perceptions on the size of potential risks between experts and the public intensified the conflict between the parties and worsened the distrust of the public in the government’s claim about the safety of the facility and its by-products (Mok et al., 2000: 33).

IV. Framing analysis of the RWDF Case in Korea

1. Framing articulation: Reconstructing the meaning of the problems and solutions

1) Diagnostic framing: “What is the problem?”

Based on fundamentally contrasting ideas and value systems (i.e., economic developmentalism vs. eco-centric environmentalism), each party adopted carefully selected terms and phrases and reconstructed the meanings of problems of and solutions to radioactive waste disposal. At the same time, each party emphasized contrastingly aspects of the problem, especially in the sense of significance and urgency of the safe disposal of the waste.

Various terms such as “radioactive waste disposal site,” “nuclear waste dumping grounds,” “nuclear waste disposal site,” “atomic waste sites,” and so forth have been selected and used according to each party’s ideology and value systems (Choi, 2005). For instance, officials from the Korean government used the term, “radioactive waste,” assuming that the term is more familiar for the public. The term “radiation” is often used in our daily lives in positive ways, such as an X-ray screening or a radioactive treatment for cancer. Similarly, one of the main messages in the government promotional materials and educational programs for the local residents and the public was that radiation is not a dangerous thing, but something that is present everywhere as a component of nature. It comes from the sun, foods and even from human bodies. Also, the government often referred to the disposal facility as the Center for Management of the Nuclear Energy Residual Products in an attempt to provide a more professional image for the facility. On the other hand, anti-nuclear and environmental groups mostly used the term “nuclear waste” instead of “nuclear energy by-product.” Similarly, they called the disposal site “a place to dump the nuclear garbage” to emphasize the negative aspects of the siting plan by relating the idea to nuclear weapons, nuclear waste, and nuclear bombs so as to promote a feeling of resistance or uneasiness among the local residents and the public.

2) Prognostic framing and counter-framing: “Who is responsible for the problem?” and “How to solve the problem”

In accordance with each party’s diagnostic framing strategies that interpreted and defined the characteristics on radioactive waste in contrasting ways, prognostic framing also differed widely among the participants. For instance, making the importance and safety of the nuclear energy as the focal point of the message, the Korean government emphasized that the current disposal facilities are expected to reach the maximum capacity in the near future. The central and local governments portrayed the urgency of procuring the disposal site in the sense of
national security and economic development, as the only way to address the problems of energy shortage. According to the government official’s public statement, “should the radioactive waste disposal facility not placed this year, we will face the disastrous overflow of the nuclear wastes and spent nuclear fuel” (Hankyoreh, Oct. 22, 1994). At the same time, most of the government’s messages were focused on showing how safe the production and utilization of nuclear energy is, how friendly it is to the environment, and how economical it is.

On the other hand, the opposite party set the counter-frames against the government’s frames in the following ways. First, they questioned the trustworthiness of the government’s claim on the urgency of the problem, by emphasizing the lack of coherence in the government’s messages. According to the opposition forces, the government’s prediction of saturation time point had changed repeatedly. Also, the Green Federation, which is the largest coalition of environmental groups in Korea, contended that the Ministry of Industry and Natural Resources had been misleading public opinion with incorrect information. It said that the government’s prediction of saturation in 2008, which was made in 1995, was not valid any more as new advanced technologies to condense the waste have been developed (Green Korea United, July 5, 2005). It argued that the earliest saturation would not start until 2013 at the Wolsung Nuclear Power Plant, so that the government’s emphasis on the urgency of the problem was deceptive.

In a nutshell, while the government highlighted the potential energy crisis and upcoming saturation of waste if a new facility to store nuclear waste was not built in the near future, opposing parties, expressing their fundamental skepticism towards the use of dangerous nuclear energy, questioned the government’s statement on the urgency and significance of the plan. Environmental groups insisted on stopping dependency on nuclear energy. From their perspectives, building another facility is a sure way to fortify future dependency on nuclear energy.

2. Frame amplification: Selective attention and different interpretations

In the process of framing messages, supporting and opposing parties used various techniques to selectively choose and focus on specific aspects of the policy issue and presented different, often contrasting, interpretations of the issue, in particular surrounding the issues like “risk/safety,” “economic incentive,” and “procedural justice”.

First, the safety of the nuclear waste disposal facility was one of the issues that both sides focused on and amplified, but framed in contrasting ways. Each party has selectively emphasized, and sometimes hid critical information, as well as exaggerated or distorted facts and information about safety issues (Kim and Cho, 2004: 13). As a result, despite the additional data and information that the government officials and scientists continuously provided to confirm the safety of the radioactive waste disposal facility, the opposing party continued to believe that nuclear waste could cause serious hazard to the local resident’s health and environment, even with a thorough management plan for safety control (Kim and Cho, 2004; Byun, 2000).

Most of all, the opposing party showed their deep concerns and distrust of government’s claims on the complete safety of the facility, raising potential safety issues that could develop during constructing and managing the facility, as well as during transporting nuclear waste to the facility. They published their distrust in the government’s capability and willingness to meticulously supervise the facility. The Chernobyl disaster as well as the nuclear accident at Three-mile Island are examples that were used to create fear about nuclear
energy generation among local residents and the public. Also, accidents that occurred in Japan and on the Korea peninsular were also presented as nearby examples of unsafe features of the nuclear energy production. Finally, anti-nuclear groups warned about dangers that could occur while transporting the nuclear waste. Detrimental impacts of accidents in transition would be substantial, especially if the transporting truck was passing through the populous area, the groups argued (Green Korea United, June. 16, 2005).

Initially, Korean government officials and technocrats did not take opposing party’s defiance seriously and denounced their contentions as scientifically invalid and rootless concerns (Byun, 2000). For a while, they maintained their usual approaches of providing more scientific information about the safety of the facility. Later, however, when the government finally realized the ineffectiveness of the usual strategies, the government adopted new framing strategies. For example, as a proactive way to stress the safety of the nuclear waste facility, the government arranged special events for local residents, including field trips to nuclear waste facilities in other countries that were known to successfully and safely managing nuclear waste. Also, during the negotiation process, the government reframed the message so that economic incentives and accompanying benefits to the local area and residents, such as construction of science and technology research facilities that were expected to increase employment and boost the economy in the area, became a focal point of the message (The Daily Naeil, March 16, 2006). Arguably, the strategy seemed to work. As time passed, the focal point of the negotiation between the local residents and the government was moved from the safety issues to the level and amount of economic incentives (Kim and Cho, 2004). Unlike the previous trend of NIMBY (Not In My Backyard) among the local residents in most regions, in 2005 three cities competitively submitted application to bring the RWDF to their area, so the government had to choose an area based on the results of local referenda.

While the government was reshaping its key messages focusing on the economic re-numeration to individual residents and to the local area, the environmentalists and opposing residents reframed their messages focusing on a new issue; namely, the procedural justice in the decision-making, negotiation, and implementation process became the main point of objection to the government decision. The central government or local government administrators in Korea assumed that the attention to procedures of public participation and information disclosure would slow down the decision-making and implementation process, so they followed a pattern of traditional, unilateral decision making, consulted mostly with expert technicians, making decisions based on technical information and knowledge, or secretly contacted supporters in the local area, foreclosing opposing residents from opportunities to participate and express their concerns. Only very limited occasions of formal but superficial public hearings were arranged. As a whole, the process for locating and deciding on the facility site, as well as deciding on the level of economic compensation, left the local residents and environmentalist unsatisfied, and led them to question the fairness as well as appropriateness of the procedures (Cho, 2005; Choi and Oh, 2004).

In particular, when the opposing groups learned that the chief executive of Bu-Ahn County secretly submitted an application to site the RWDF in the country against the county congressmen’s opposition, they characterized the government decision-making approach as secretive, undemocratic, lacking transparency and accountability, and thus not trustworthy. In addition, violent government reactions to protesters in Bu-Ahn County, where hundreds of local residents were injured due to a series of violent confrontations between the local residents and the police, became a showcase for the environmentalists to question the legitimacy of the government actions. Similarly to the government’s transition of focus from
safety to economic incentives, the environmentalists moved their framing focus from safety to procedural justice and legitimacy of the government decision.

3. Frame extension: NIMBY and NIABY

Both supporting and opposing parties also used frame extension strategies to broaden the supporting base for their stances by persuading the general public. First of all, the government used a command of framing strategies to stress the importance and validity of siting efforts of the radioactive waste disposal facility as a major task that the nation was facing. The government constantly reminded the public about the imminent due date of waste saturation as a way to garner the public’s agreement to its statements that radioactive waste disposal facility placement was a very urgent and crucial issue. For example, Yon Jin Shik, the Minister of Industry and Natural Resources, made several public announcements to stress the necessity and validity of the disposal facility placement. Then, the government attributed the delays in siting the radioactive waste disposal facility to the extreme anti-nuclear movement by the environmental groups, to a lack of people’s scientific knowledge, and to NIMBY attitudes by self-interested local residents (Kim and Cho, 2004). At the same time, against the environmentalists and the opposing local residents’ criticism of the government’s violent reactions against the Bu-Ahn protesters, the government made several public statements that defined the police action as an inevitable and legitimate reaction to maintain order (Kukmin Ilbo, Sep. 10, 2003) and protect the safety of the local residents and government workers from the violent and irrational mobs who physically attacked the chief executive of the country (Dong-A Ilbo, Sep. 9, 2003).

In response to the governmental action, the opposing residents of Bu-Ahn County also used frame extension strategies to move the debate from the local one to the national level and broaden the base of support for their side to the national scope. The environmental groups extended their frame from NIMBY to NIABY (Not in anyone’s back yard) (Byun, 2000; Chun, 2003). For example, about a hundred local residents traveled to Seoul and demonstrated in front of the National Assembly Building, which was reported in the major national news media (Kukmin Ilbo, 2003). Later, secondary school students in the area also participated in silent protests by refusing to attend schools (Committee Against Nuclear Waste in Buahn, Nov. 2, 2003).

4. Frame transformation: Transformation through division and reorganization of meanings

Redefining the original concepts by decomposing and reorganizing the sub-domains of the concepts was another framing strategy that was used by both parties. The government’s plan to build the second Korea Atomic Energy Research Institute was one such example of frame transformation. When the resistance of the local residents to the RWDF became intense and was longer than the government expected, one of the strategies that the government adopted was shifting the locus of the discussion from the RWDF itself to building a research institute in the area. For example, the government framed its siting plan as building the Korea Atomic Energy Research Institute II or as a part of the grand local area development plan to construct a science and technology research belt (Shindonga, Jan. 1, 2004; Hankyoreh, Oct. 30, 1991). The idea was to create a large building zone for scientific and research activities, making the plan of constructing an RWDF a small part of a large scale development plan. However, the frame was not a successful strategy, as the plan was perceived by local residents as a shallow deception, and distrust in the government was deepened rather than
mitigated.

Another strategy of frame transformation adopted by the government was redefining the existing concept of nuclear energy and waste production by separating the sub-components in the concept. First, as aforementioned, the government tried to separate radioactive waste from the dangerous and threatening image of a nuclear bomb by naming it a “radioactive by-product.” Similarly and more effectively, the government separated the concept of low-level radioactive waste from high-level waste (e.g., spent nuclear fuel) and presented its plan as only treating and storing low-level radioactive waste. In the public relational series promoted on the national TV channels, bright yellow colored gloves, clothes, shoes, and tools were presented as examples of exposure to a minimal level of radiation (Kim, 2002). The government evaded addressing the question of how to handle the high-level radioactive waste, presumably as the government did not want to aggravate the resistance, understanding the higher level of concern about the danger of the high-level waste among the local residents. Similarly, when the Ministry of Commerce, Industry, and Energy distributed promotional materials that explained about the radioactive waste, they composed the explanation mainly around the low-level waste using gloves and jumpsuits that were used during the nuclear energy generation related activities. Also, the government enacted a law on the RWDF placement, “A Special Supplementary Act on Provision of Incentives for Siting the Low-Level Radioactive Waste,” which constrained the scope of the debate only to the low-level waste.

The environmental groups’ and local residents’ strategy for frame transformation is also notable, although not as prominent as that of the government. Their main strategy was to link the radioactive waste facility with dangers and controversies over nuclear issues as much as possible. During a series of protests in Bu-Ahn County, they intended to transform the local residents’ protest and demonstration into anti-nuclear movements (Cho, 2005). So, the title of their coalition against the RWDF contained words like “nullification of the nuclear waste disposal facility” and “removal of nuclear energy,” as an effort to relate nuclear problems and radioactive waste. In a public statement made by the director of the Coalition of the anti-RWDF at Jindo Island, the devastating accident at the Chernobyl nuclear power plant in Ukraine was cited as an exemplary accident that could happen in Korea. Also, reports of adverse effects of nuclear materials on human health, including babies with Down Syndrome and deformed fish and domestic animals, were included in the message to emphasize the potential dangers of radioactive waste (Chosun Ilbo, Jun. 28, 2002).

V. Conclusion

The recent nuclear power plant incident in Japan, a country that has been confident about the safety and reliability of its technologies of nuclear power generation, is likely to be a powerful and long-lasting reminder of the danger of nuclear power generation. It is not clear that even with a tremendous amount of effort and time, nuclear power generation would be able to regain its former image as a safe and clean energy source. The disastrous experience in Japan, in addition to the previous memories of Chernobyl and Three-mile Island, is likely to be a crucial turning point in future discourses on nuclear energy and waste disposal; not only the benefits of the facility but also the potential danger of the facility should be candidly and specifically communicated to the public.

As Hajer and Wagenaar (2003: 2) mentioned, the characteristics of modern society are changing from the authoritarian notions of the state, government, implementation, and sovereignty to the active and participatory notions of governance, complexity, discourse, trust,
deliberation, and mutual dependence. Under a complex system where diverse parties participate and take responsibility, the most challenging task is to reach an agreement and consensus among parties that define the issue in different ways and develop solutions based on diverse perspectives. Thus, policy problems are constructed through the exchanges of ideas and values amongst participants rather than dictated by the actors in a pre-defined form. By definition, good governance should allow social actors to be able to define and interpret policy problems and solutions in different ways.

Political discourse is a process and product of exchange and transformation of an array of ideas and values. As stated by Dryzek (1997), discourse is a medium through which people understand the world. It defines how each of us understands and explains things around us. Only through communication and repeated interactions can the invisible walls between parties be overcome and gaps in diverse discourses be transformed into a point of confluence. Discourse analysis allows us to see reconstruction and transformations of meanings that occur during the process of presentation, communication, and persuasion.

In this study, using the discourse analysis approach, we examined how supporting and opposing parties that participated in the process of RWDF policy formation and implementation constructed, presented, and transformed their own arguments through communications and interactions between the parties. In particular, we tried to describe and critically analyze various framing strategies that each party utilized to garner agreement and support for its viewpoint on the RWDF issue. Each party employed a variety of framing strategies, for example, one that created a feeling of urgency by emphasizing impending saturation of radioactive waste, one that created attention to or away from major issues like safety/danger of the facility, economic incentives, and procedural justice, one that selectively named a major issue at hand in different ways, such as nuclear waste, radioactive by-product, or nuclear energy collectibles, one that drew split the general public from the local residents and the environmentalists using the NIMBY concept, or one that separated low-level radioactive waste from the high-level radiation waste that is perceived as more dangerous.

In sum, while most previous studies on the RWDF first defined the government efforts of finding the site for RWDF as a policy failure and focused on explaining why the government repeatedly failed, in this study we noted that by defining the policy goals differently using different perspectives and value systems, repeated failures can be interpreted as achievements of the opposing party who successfully framed the construction of a nuclear waste disposal facility as posing harm and danger to human health and the environment. The framing analysis showed us that instead of relying on the usual practices of providing more scientific data to garner enough support from the public and local residents to achieve pre-defined policy goal of constructing radioactive waste disposal facility, the government should adopt a constructive practice of discourse with persistent efforts to narrow the distance that exists between parties through communication, exchange of ideas, and persuasion efforts in future policy efforts.

There are a number of issues that should be further developed in future framing analysis. First, our analysis is limited to the use of framing strategies in the decision-making stages, so our analysis does not include analysis of how such framing strategies are linked to the policy outcomes. Also, in this study we only relied on information collected from newspaper articles and academic journals. Personal interviews with major participants, including government officials, local residents, and representatives of environmental groups would provide a more in-depth description and interpretation of the framing strategies that each party adopted and the impact of those strategies. In addition, a study that examines systematic patterns of how framing strategies are selected, utilized, and forsaken, depending
on the characteristics of the policy issue and participants, would be useful. Furthermore, it is necessary to understand the contextual factors that allow a certain frame to persist, transform, or die out. At the same time, the potential negative aspects of the framing strategies should be noted. For example, by selectively choosing a name for an issue, unethical practices of distortion, falsification, and defamation may occur. Also, framing strategies may be used as a tool to manipulate public opinion by hiding reality and creating a false image (Campbell, 2004; Druckman, 2001). Ultimately, it is important to find a way to develop a systematic apparatus in the public sphere where differences in values and ideas are openly presented and debated so that a social consensus can be pursued. All together, these studies will provide a useful insight into policy controversies like the RWDF issue in the future.

VI. Bibliography

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Figure 1. Types of Framing Structure

Social Dialogue on Policy Goals and Values