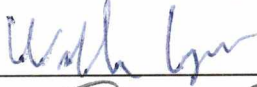


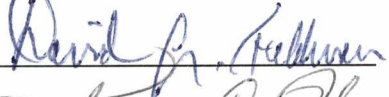
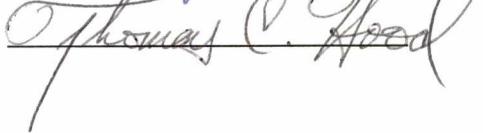
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I am submitting herewith a dissertation written by Sung Roe Lee entitled "A Policy Deadlock in South Korea: The case study of siting nuclear facilities." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Political Science.

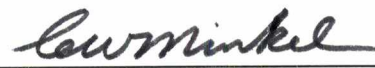

Michael R. Fitzgerald, Major Professor

We have read this dissertation
and recommend its acceptance:



Accepted for the Council:


Associate Vice Chancellor and
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**A POLICY DEADLOCK IN SOUTH KOREA:
THE CASE STUDY OF SITING NUCLEAR FACILITIES**

A Dissertation
Presented for the
Doctor of Philosophy
The University of Tennessee, Knoxville

Sung Roe Lee
August, 1997

DEDICATION

To my parents

The greatest parents I have ever known

ACKNOWLEDGMENTS

There are several people to whom I owe a great deal for this work and my life. This work would be absolutely impossible without my parents who provide me with unlimited support in my life. I am also fortunate to have good brothers who always support me. I sincerely thank my major professor, Dr. Michael R. Fitzgerald for his untiring pursuit of accomplishment and excellence. He virtually made me what I am today as a scholar. I also thank the other committee members, Dr. William Lyons, Dr. John Scheb, and Dr. David Feldman for their help. I am especially grateful to Dr. Thomas Hood, the outside field member of my committee. His encouragement and diligence greatly improved this work. My special thanks go to my wife, Jung-Inn, for sharing the turbulent and difficult days that brought this project to fruition. I appreciate her sacrifice and service to my life and my family. I thank, finally, all those who helped me during the years of education in the United States for their support and encouragement.

ABSTRACT

This study explores how rising public participation, exemplified by that manifestation of mass mobilization known as the *not-in-my-backyard* (NIMBY) syndrome constitutes a profound challenge to the policy systems of newly industrialized, democratizing nations. That is, scientific and technological policies of a rapidly developing country are likely to face many difficulties because of expanded public interests and involvement in the policy process. This phenomenon is investigated through a systematic study of nuclear energy policy and the nature mass mobilization in South Korea. Specific attention is paid to the siting of nuclear power plants and nuclear waste disposal and storage facilities. This study analyzes the factors associated with mass mobilization against the siting of nuclear facilities, such as threats to the livelihood of local residents, the public's risk perception of nuclear energy, the government's secret administrative practice, public trust in the government, the role of mass media, and the role of environmental groups, in a changing political and administrative environment. These factors greatly affected the dynamic interaction between the national nuclear energy program and the local residents who were most directly affected by its facility siting efforts.

Five cases of mass mobilization are presented. These demonstrate how soon the government's nuclear energy program, particularly the siting of a nuclear waste facility,

can lead to a virtual policy deadlock. In these cases, the primary concerns of local residents involved two basic issues: (1) the arbitrary and discriminatory imposition of central administrative authority to the detriment of their communities, (2) the expected damage to the local livelihood. The abject failure of the Seoul government to take seriously local residents' rights and power invited more determined and violent resistance to the imposition of national power. In each case, the dominant motivation for most participants in the mobilizations was the protection of economic interests. Particularly, the Wooljin case demonstrated clearly how public attitudes can swiftly shift toward determined opposition when the type of nuclear facility changes from a nuclear plant to a nuclear waste facility.

This study shows that the NIMBY Syndrome in South Korea is a product of socioeconomic, political, and historical conditions in addition to the profound public fear of nuclear radioactivity. In the era of Korean democratization, scientific and technical policies--once so easily settled by technobureaucrats in closed administrative settings, now trigger mass mobilization in which solutions entirely rooted in the scientific and technical values of technocratic elites become virtually impossible.

PREFACE

There are many consequences of democratization, both good and bad. From the late 1980s, people in a more democratic South Korea began to hear the voices of opposition to its nuclear facility siting programs. The programs, which the government expected to meet with widespread public approval, faced instead bitter resistance from local residents near the proposed facilities. There have been a number of studies examining the issue of NIMBY or mass mobilizations against nuclear programs in the United States. This has been also flourishing field of study in South Korea. But few American scholars have drawn from the literature of South Korea in a comparative perspective. This research is an effort to principally introduce South Koreans' experiences of siting nuclear facilities, as well as to examine the case of policy deadlock, to the American students of public policy. It is meant neither to praise nor take side with any parties. It is meant to provide an analytical framework for understanding the policy dilemma in South Korea and to draw lessons for policy students in the future around the world.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Introduction

Many public policies of the industrialized western democracies increasingly have been affected by an intense public involvement in the policy process. This is especially apparent with respect to nuclear energy policy, a typical scientific/ technological policy in modern time. In the United States and Western Europe since the 1970s new nuclear facilities have almost always met fierce opposition from local residents. In the United States, local residents aborted nuclear projects at Bodega Head, the Nipomo dunes, Point Arena, Diablo Canyon, and Malibu in California; Queens and Lake Cayuga in New York (Pijawka 1984; Nelkin 1984, 1981, and 1977). Local residents also forced extended delays in the construction of nuclear facilities in West Valley of New York, Seabrook Station of New Hampshire, Oyster Creek Station of New Jersey, and Three Mile Island (Bedford 1990; Price 1982, Nelkin and Pollak 1981). In Germany, antinuclear groups resisted construction of nuclear facilities in Mulheim-Karlich, Kaiserstuhl, Wyhl, Brokdorf, Esensham, Hanover, and Grohnde (Nelkin and Pollak, 1981). In France, mass protests erupted against the government nuclear programs in Alsace Fessenheim, Bugey-Cobayes, Gironde, Normandy, and Cres-Malville (Nelkin and Pollak, 1981). As a consequence, the nuclear energy policy of the western democracies practically is deadlocked. The problem of nuclear energy policy, however, is no longer limited to the industrialized western democracies.

This study is concerned with how rising public participation profoundly challenges to the policy systems of newly industrialized, democratizing nations such as the Republic

of South Korea. That is, it appears as if scientific and technological policies of a rapidly developing country are likely to face many difficulties because of expanded public interests and involvement in the government policy. This concern is explored with a systematic study of the nuclear energy policy, and examination of rising mass mobilizations (*NIMBYism*) against the government's nuclear energy programs in the Republic of Korea (South Korea), with specific attention to the siting of nuclear facilities.

For nearly three decades, South Korea had been a model of third world industrialization and economic growth. More recently, during the Sixth Republic, South Korea has sustained a tremendous political transformation toward a democratic regime. However, once a model of rapid economic development, the more democratic South Korea, now tends to model the profound policy challenges facing newly industrialized, democratizing nations.

In the past, the Seoul government had little trouble with formulating and implementing nuclear energy policy. However, this is no longer the case. Today, Seoul is having tremendous difficulties in siting new nuclear facilities. Because of mass mobilizations against implementation, Seoul's new nuclear proposals are either deadlocked, as is the case for nuclear waste facilities, or face tremendous difficulties in the case of nuclear power plants. Most especially, the Seoul government has not been able to find sites for nuclear waste facilities. South Korea's political system and government agencies appear unable to resolve conflicts in the face of strong local resistance. Nuclear waste stocks (including high level, medium, and low level waste) continue to grow at a fast rate at temporary storage adjacent to nuclear power plants. The government has

passively dealt with the problem by merely expanding existing interim storage almost every year. According to a government report, the interim storage capacity for high level radioactive waste (HLRW) or spent fuel will be exhausted by 1999 at Kori and Youngkwang. Storage space for medium and low level radioactive waste (MLLRW) at Youngkwang and Wooljin also will be exhausted in 2018 and 2014 respectively (KEPCO, 1995).

These problems are likely only to be aggravated in the future. Given the expanding scale of the South Korean economy, the unabated energy-intensive nature of the economy, and the government's continuing emphasis on the nuclear option, on the one hand; the expanding influence of anti-nuclear groups, increasing public awareness and fear of nuclear energy, and increasing political activation of the public on the other hand, future policy deadlock appears inevitable. From this perspective, *policy deadlock* may be defined as *the political situation in which government cannot proceed in its policy process in the face of strong oppositions from critical stakeholders*.

Rising public interest and intervention in the policy process has provided the ground for active research for students of politics and government. From a slightly different angle, it also provided rich soil for policy analysts who are interested in studying policy-making and policy implementation. Studies show that throughout the west, national scientific and technological policies are increasingly affected by public participation at the local level (Rabe, 1994; Bedford, 1990; Price, 1982, Nelkin and Pollak, 1981). At this point, certain questions arise. Are western patterns being repeated

in developing countries like South Korea? Why is a developing country like South Korea experiencing the problems of "policy deadlock"?

This study investigates one intriguing political phenomenon associated with citizen participation in cases involving nuclear facility siting. The focus of investigation is on growing demands in South Korea for public participation in the policy process, as exemplified in the mass mobilization and *NIMBY syndrome*. It analyzes the possible causes of mass mobilization against policy implementation, such as the changing political, administrative environment, the public's risk perception of nuclear energy, the government's secret administrative practice, public trust in the government, and the role of environmental groups and mass media. These factors, we expect, have greatly affected the dynamic interaction between Korean nuclear energy policy and the local residents who are most directly affected by its facility siting programs.

In pursuing the investigation, this study seeks to formulate and apply the model of policy deadlock in South Korea presented in Figure 1.1. It examines various factors that have impact on the implementation of nuclear facility siting policy, which, we posit, leads ultimately to the explosion of political participation on the one hand, and the birth of a *NIMBY syndrome* on the other.

1.2 The South Korean Case

The research questions that the study addresses are:

1. What is South Korea's nuclear energy policy, especially with regard to nuclear facility siting? How is it formulated and implemented?

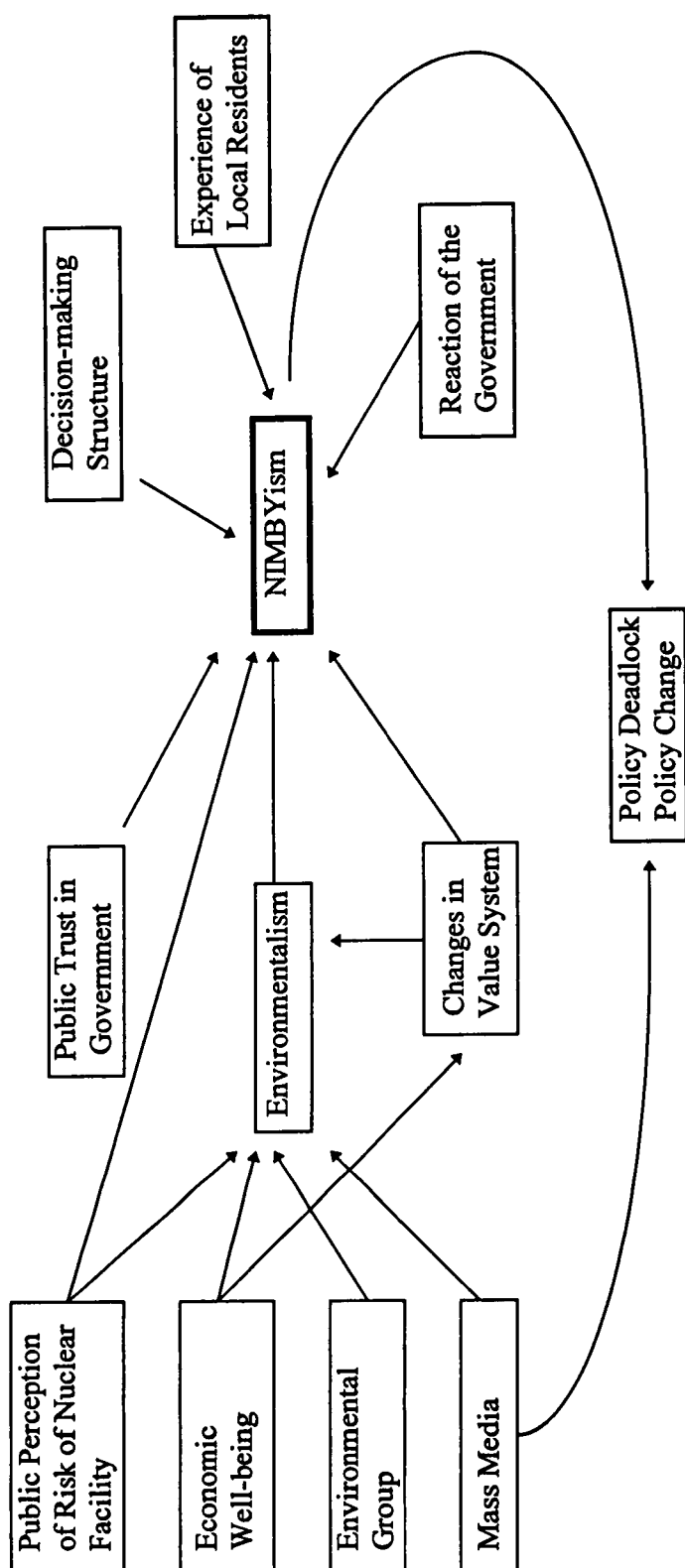


Figure 1.1 Model of Policy Deadlock in South Korea
The Case of Nuclear Facility Siting

2. To what extent, how, and why does the South Korean nuclear facility siting programs manifest the tendency toward nuclear energy policy deadlock that characterizes other industrialized nations?
3. What conclusions and lessons are to be drawn from the South Korean effort to forge energy policy based on a heavy reliance on nuclear power in the face of rising public concern for health, safety, and the environment?

Answers to these questions are sought via (1) the analysis of policy environment of South Korea that dramatically changed over the last decades and (2) the analysis of cases in which mass mobilization took place against the Seoul government's decisions to construct nuclear facilities. For the analysis of policy environment, this study examines the Korean political culture in general, freedom of the press, and public policy process in Chapter 2; the nuclear energy policy in the context of energy policy in Chapter 3; and the public's risk perception of nuclear energy, public trust in the government, and the Korean journalism in Chapter 4. In Chapter 5 the cases involving mass mobilizations against nuclear power plants are presented, and Chapter 6 offers the cases regarding mobilizations against nuclear waste facilities. Taken together these five case studies involving the communities of Kori, Youngkwang, Youngduk, Wooljin, and Anmyon demonstrate the dynamics, perils, and pitfalls of nuclear energy policy implementation in contemporary South Korean politics.

South Korea is chosen for this study for several reasons. First, in this work we contend that South Korea's recent experience with economic growth, democratization, environmentalism, and nuclear energy programs helps clarify the politics of democratization as a contemporary global phenomenon. Thus, we chart the

democratization in South Korea by focusing on how, in the instance of nuclear facility siting, changing political culture, a shifting socioeconomic environment, and mass mobilization, affect the public policy process. Friedman (1994:4) has observed that "political action can rapidly change the conditions that matter." The South Korean cases are studied because they exemplify this situation and offer valuable insights into its dynamics. Second, the investigator is from South Korea. This means that, by virtue of being a native speaker, he has many natural advantages in collecting data for this research (such as in conducting interviews using his native language and in understanding what interviewees mean when they say something). Third, South Korea represents rapidly industrializing countries which have been struggling with domestic sociopolitical instability. This means that South Korea provides a good policy case in which to evaluate how the scientific and technological policy process directly are affected by socioeconomic and political factors. Finally, there has been growing concern among the South Korean public for the environment in recent years. Recently, this concern has produced organized environmental groups against growing problems of pollution. These fledgling groups have tried to exercise influence on government policies. The nuclear energy policy domain is an arena in which those environmental groups have worked hard. It offers an opportunity to evaluate how and to what effect this new political mobilization works. All of these reasons make South Korea a useful case for studying public policy implementation..

The nuclear energy policy area is especially important in the life of modern states. Today, many countries are concerned with the stable and cheap supply of energy. For those countries the nuclear option seems quite attractive. However, most industrialized

nations suffer problems with siting nuclear facilities. In many countries, governments have been swirling with policy alternatives and rife with conflict and debate. The South Korean case is especially intriguing because there has been a radical shift in the policy environment recently. Suddenly, siting nuclear facilities became an important South Korean political problem in the late 1980s. Why is this the case?

The Korean case illustrates that technological and scientific policy-making in a democratic society is essentially social and political in nature. It can be turned into polemics in which a scientific/technical solution to policy problems becomes virtually impossible. It demonstrates that, in order to implement scientific and technical policies, public policy makers need to take into account socioeconomic, cultural, and political factors surrounding the policies. When these factors are ignored, a public policy tends to drift, especially when it is under constraints from a fast changing political environment.

Thomas Dye once suggested that policy analysis in broad terms involves among its various aspects "a description of the content of public policy: an assessment of the impact of environmental forces on the content of public policy" (1975: 5). Accordingly, this study describes the content of nuclear energy policy and nuclear facility siting program in South Korea. It will evaluate the impact of environmental forces on the outcome of nuclear energy program. Within the policy analysis perspective, there are three major themes in this study. First, nuclear energy policy, like any other, is influenced by the general political culture of a society. "Differences in public policy and policy-making in various countries can be explained at least partially in terms of political cultural variation" (Anderson, 1984: 25). Second, nuclear energy policy also reflects the general

socioeconomic conditions of a society. This is because public policies can be viewed as a product of social conflicts between or among different groups of people in a pluralist democratic society (Anderson, 26). Third, the institutional structure of the political system, which affects nuclear energy policy, varies from society to society. The roles played by individual actors, legislators, executives, administrators, and judges, are different from society to society (Anderson, 29).

This study seeks to develop a model of policy deadlock in a rapidly democratizing society, identifying critical variables involved. In testing the model in the South Korean context, it is hoped that this study will contribute to developing a theory of policy deadlock, or policy failure when applied to other political systems.

1.3 Research Design and Methods

A basic problem of most policy studies is that, while the various policies and systematic relationships of the people and institutions are interrelated, most studies have been narrowly focused on one policy area, as if they were born without parents. Each has been conceived to be isolated and self-contained. Furthermore, each stage of policy process is compartmentalized and thus analyzed separately. This perception of unrelatedness of one policy to another has caused problems in understanding the interdependency and relationship between one policy and the other. For instance, Jessen (1981: 104) argued that: "Energy and environmental-protection policy, as well as community planning, must be considered together, not separately. This study follows the presumption that policy studies must be carried out in relation with other policy or within

the general socioeconomic, political context. Similarly, nuclear facility siting policy, whether siting nuclear plants or nuclear waste repository facilities, must be examined in the broad context of energy policy. Thus this study seeks to relate the issue of nuclear facility siting to the problems of energy policy.

The nature of the research questions and objectives in this study require the use of a qualitative research method, specifically an exploratory case study (Yin, 1984: 30). It aims primarily at discovering and generating, rather than explicitly testing hypotheses (Bolgat 1965). The case study is widely used to study policy implementation. "Case studies do not lend themselves to broad theoretical generalizations, but they do often point to factors that must be considered in the development of a theory" (Palumbo and Harder 1981: xii). The South Korean cases are presented, therefore, not to generate generalizable findings as such. Rather, they should provide the kind of information and insights that will contribute to model-building and empirical comparative studies later.

Methodologically, this study considers the interpretive perspective as a legitimate scientific realm. Thus, the goal of this study is to understand and explain the policy deadlock in South Korea (Burrell and Morgan 1979; Schutz 1963). For this purpose, the study needs to be systematic and thorough. It will fully examine the evolving context, its dynamics, the major players, the key issues, the policy-making process, and the history of Korea.

This calls for the employment of a method which uses more than one kind of data to support research findings. Yin (1989) argues that the multiple-source method of case study is better than single source studies: "A major strength of case study data collection

is the opportunity to use many different sources of evidence. The opportunity to use multiple sources of evidence far exceeds that in other research strategies, such as experiments, surveys, or histories" (96). Yin identifies two advantages of the multiple-source method approach: (1) it broadens the range of "historical, attitudinal, and observational issues"; (2) it encourages the development of "converging lines of inquiry" (Yin, 1989: 97).

Yin (1989) notes that case study evidence may be developed from six sources: "documents, archival records, interviews, direct observation, participant observation, and physical artifacts" (84). In this study, documents, archival records, publications, and personal interviews with local residents and policy experts are the principal sources of evidence. Documents include almost any form of printed materials such as white papers by government agencies, reports by independent research organizations, administrative documents, and formal studies of sites. Archival records include clients records, hearing records, transcripts of town meetings, maps and charts, survey data, personal public speeches, fliers, communiques, memoranda, and personal records. Publications include newspaper reports, magazine articles, journal articles, and academic publications.

Along with the system level analysis, this study includes personal interviews (face-to-face and by telephone) as a primary unit of analysis (Harmon, 1981). The interviews for this study use the method of focused interview. It can be used to develop specific information around the investigation's research questions. It is especially helpful for clarifying and completing existing knowledge by examining the extent to which interviews

are consistent with other sources knowledge such as press reports and journal articles.

Interviews in this study have four characteristics. They:

1. Take place with individuals known to have been involved in a particular experience;
2. refer to situations that have been analyzed prior to the interview;
3. proceed on the basis of an interview guide specifying topics related to the research hypotheses;
4. focus on the subjective experiences regarding the situations under study (Merton and Kendal, 1946; Nachmias and Nachmias, 1987: 237).

Respondents are given considerable liberty in providing information. Respondents are encouraged to relate their experiences, to describe whatever events seem significant to them, to provide their own definitions of their situations, and to reveal their opinions and attitudes. The interviewer has a great deal of freedom to probe various areas and to raise specific queries during the course of the interview.

Among those interviewed are individuals drawn from several groups--five activists of national environmental groups (the Movement League to Expel Pollution and the Korean Pollution Institute), five senior researchers in nuclear research institutions (the Korean Nuclear Energy Institute, the Korean Nuclear Safety Agency), four high-ranking employees of the Korean Electric Power Corporation, six local government officials, seventeen local residents, and three professors of public administration and public policy in Seoul. Each group represents the most influential players in the nuclear energy policy process either for individual members' professional expertise or from their activities.

In identifying subjects for interviews, this study uses a snowball technique. It is conducted in stages. In the first stage, the researcher identified a few key persons with most influence in each group and interviewed them. Then he used these persons as informants to identify others who qualify for inclusion in the study. The second stage involved interviewing these persons, who in turn lead to still more persons who can be interviewed in the third stage, and so on (Baily, 1982). Interviews ranged from fifteen minutes to thirty minutes and were conducted in February through May, 1996.

1.4 Limitations of the Study

This study is subject to the inherent weaknesses of a case study. As one analyst suggests, the case study suffers from the problem of external validity. It would be very difficult to generalize the research findings of this study, however significant they may be, to other countries. “[M]uch of the criticism leveled against the case study method of research is based on the accepted cannon that it is impossible to generalize from one case” (Bolgar 1965: 30). Especially, those researchers committed to hypothesis validation may have problems with this study. But the power of case study method is its exploratory nature and its potential to open the way for important discoveries. For example, the case study is one of the most popular methods for clinical psychologists. Science involves not only hypothesis validation but also hypothesis generation.

As a qualitative study, the investigation is subject to the customary weaknesses. Qualitative studies are usually rich in context and detail. However, this rich context and detail leads to codification and subsequent interpretation difficulties. This study is also

subject to such weaknesses. Since this is a study of South Korean politics and government, it is difficult to extrapolate behaviors of individuals or organizations to other cultures and systems. This is especially problematic when there is almost no research available systematically comparing the American and South Korean systems. There are substantial differences between the United States and South Korea--size of territory, geographical environment, administration, socioeconomic condition, culture, history, and so forth. These differences lead potentially to different individual reactions against government actions and difficulties in interpreting and generalizing this case study. Qualitative approaches do not offer a technique for weighing differences.

This study also suffers the problems of time limits. Because it has been more than five years ago since the mass mobilizations in South Korea took place, the people tend to forget initial memories and attitudes surrounding the issues. This may lead to a reinterpretation of the case substantially different from that five years ago. This study is also based upon a number of second-hand materials which may be biased. Especially the works by academics and journalists are not always value free in Korean context. Finally, this study tries to explain the phenomenon of policy deadlock by employing numerous complex variables at once. This confounds causal inferences, but this study does not attempt to establish a bivariate causality. It describes and explores the dynamics of complex sociopolitical forces in a series of cases that should generate information upon which later, more systematic and hopefully cross-cultural inquiry can be based.

1.5 The Organization of the Study

This study will take the following steps. The second chapter examines the traditional Korean political culture, democratization, the public policy process, and the recent socioeconomic changes in South Korea. The focus is the impact of the changing political and administrative environment on the public policy process. The third chapter explores South Korean nuclear energy policy in the general context of energy policy. It discusses the formation of nuclear energy policy, nuclear waste disposal policy, the issue of nuclear weapon development, and problems with Korean nuclear energy policy. The fourth chapter reviews the elements of the cultural bias against nuclear energy in South Korea. They are public perception of risk, popular distrust of government, and the operation of Korean journalism. The fifth chapter examines mass mobilizations against siting nuclear plants at Youngkwang and Kori. This chapter demonstrates the significance of political factors in administering scientific and technological policy in a rapidly democratizing nation. The sixth chapter examines mass mobilizations against the proposed nuclear waste facility at Youngduk, Wooljin, and Anmyon Island. These cases are chosen to demonstrate why and how the local residents resisted siting nuclear facilities near their hometowns. The final chapter reviews briefly the impacts of mass mobilizations on the government policy and summarizes the findings of the study. It also draws implications of the study and policy recommendations for public policy practitioners.

CHAPTER TWO

CULTURAL BIAS IN SOUTH KOREA: THE CHANGING POLITICAL AND ADMINISTRATIVE ENVIRONMENT FOR POLICY FORMULATION AND IMPLEMENTATION

2.1 Introduction

Michael Thompson (1980) discusses a theory of cultural bias focusing on the influence of experience on one's view of the world and on preferred strategies of action. Three blocks of quotations, while somewhat lengthy, by Rob Coppock (1984) summarize succinctly the basic ideas behind the cultural bias:

There are only some *cultural biases* which can be shared with others in any given social configuration. Only when a cultural bias is shared is it viable, or stable. The stabilization of cultural bias can be recognized through the emergence of a shared cosmology, or world view. Those with the same cultural bias share the same cosmology (239).

These cosmologies are made up of beliefs and convictions about the nature of the world which provide the basis for judgment. Each cosmology, since it is associated with a particular *bias* concerning the basis for judgment, also leads to what may be called a preferred strategy for action. The combination of judgmental bias and preferred strategy found in this political theory of culture constitutes a potentially valuable tool for the description of contextual influences on *individual and group response to technological hazards* (239).

Each stable *cultural bias* (including both the cosmology and preferred strategy) derives from the social context or the pattern of experience of the individual (240, emphasis added).

Koreans have formed their unique cultural bias based upon shared a "social context or the pattern of experience of the individual." This cultural bias is important because it provides "the basis for judgment" and a "preferred strategy for action" for Koreans when they face a new stimulus from outside world. Based upon their cultural bias, Koreans

have shaped the "individual and group response to technical hazards" such as one we are discussing, the negative response to nuclear energy (Coppock, 240).

This chapter examines several of the major sources of cultural bias in South Korea. It discusses the country's political culture, recent political developments, the emergent freedom of the press, the public policy process, and the political and administrative environment that have significantly changed over the last decade.

2.2 The Korean Political Culture

The political culture and tradition of their native land continues to influence the political behavior of Koreans. S.C. Yang characterized the Korean political culture as comprised of: authoritarian political order, centralized bureaucratism, factionalism and regionalism, land-based power dynamics, peasant rebellion, and the tradition of public ownership (Yang, 1994).

First, the Korean political culture is characterized as an authoritarian political order. The Korean masses have long been excluded from the political process. In Almond and Powell's (1966, 23-24) typology, traditional Korean political culture was a prototype of a "subject political culture." The mass public passively obeyed governmental authorities and laws. Citizens did not have opportunities to participate in the political process. The roots of authoritarianism run deep and are in large part the result of domination by external power rather than self-government. One astute observer of Korean politics wrote that:

The Korean political tradition of an authoritarian order under a centralized bureaucracy has existed throughout 2,200 years of its recorded history. In other words, Korea lacks democratic and liberal political traditions embodied in concepts such as law and justice, civil liberties and civil rights, local autonomy, decentralization and political pluralism (Yang, 1994:16).

On the other hand, the democratic experience is short and is largely of recent western origin. Surveys on the South Korean political belief system indicate that Koreans have a weak commitment to and respect for fundamental democratic values and beliefs such as political competition, majority rule and minority rights, political accountability and assertive self-role perception (Yang, 1994).

Second, to some extent as a byproduct of the long domination by China which encouraged it, Korea has a long tradition of centralized bureaucracy aided by the longevity and stability of the dynastic rule. This means that the political system had dualistic characteristics of stability and stagnation, hierarchy and inequality, efficiency and red-tape, conservatism and rigidity, expertise and arrogance and procedural due process and formalism (Yang, 1994). This tradition has lasted more than a thousand years and continues to this day.

Third, the Korean political culture is characterized by factionalism or regionalism. Conflicts among contending groups for power is an universal phenomenon. The Korean factional struggles have been acute and fierce due to the scarcity of public offices. This factional struggle has taken place along the line of territorial regions. In the last several elections, region played a critical role in determining voting patterns. In the presidential elections in 1987, a majority of Korean voters showed a strong regional attachment in

their voting. The four major candidates--T.W. Roh, Y.S. Kim, D.J. Kim, and J.P. Kim--gained the majority of votes in their regional origins, North Kyungsangdo, South Kyungsando, Chollado, and Chungchongdo respectively. In the 1988 National Assembly election, the pattern was repeated. Each party performed exclusively well in its party leader's home regions (Bae and Cotton, 1993). Moreover, Korean regionalism has developed in association with the personal leadership imposed in the person of the politicians known as the *Three Kims*--Y.S. Kim, D.J. Kim and J.P. Kim. In the gubernatorial and local elections of 1994, the *Three Kims* gained majority votes for their parties. Despite considerable political cynicism and discontent among the electorate, the *Three Kims* have remained as the prominent leaders of each region.

Fourth, historically Korea has experienced a number of internal conflicts including armed regicide, palace coups and conspiracy, military *coup d'etat*, peasant rebellions and brigandage. The primary objective of these periodic peasant rebellions and mass uprisings was not to seize power or to challenge the central government's legitimacy. They erupted when there is usurpation of power, and/or discrimination against certain regions and/or people by the central government. They also occurred when plundering and abuse of power by the government or by the invading foreign forces, often coupled with natural calamities such as flood, drought, and accompanying famine, were too severe to endure. Unlike palace coups and military conspiracies, peasant rebellion and mass uprising usually erupted at the *periphery* of power, not at the center (Yang, 1994: 59). In association with peasant rebellion, Koreans have shown strong resistance against foreign forces as well as excessive foreign linkage throughout their history. The peasants persistently survived a

number of crisis when the nation was faced with foreign forces which attempted to subjugate Korean independence (Yang, 1994).

Finally, Korea has a tradition of public ownership. Public ownership in Korea dates to the *Korea Dynasty* (918-1389) when the government ran its own establishments to produce luxury goods for the royal family and aristocrats. The modern sector dates to the Japanese colonial period (roughly 1905-1945). The Japanese colonial government ran both the Railway and Communication Bureaus. The Monopoly Bureau monopolized the trade of ginseng, salt, opium, and tobacco. The 1948 Constitution specified public ownership of a broad range of economic activity and included open-ended provisions allowing nationalization of any other industries "related to the public welfare" or where "required for vital and urgent needs for national defense or the livelihood of the people. Typical provisions for public ownership in the 1948 Constitution are presented in Table 2.1.¹ The 1972 Revitalizing Constitution changed these provisions slightly but retained most other provisions. In practice, the economic order was not changed much (Jones and Sakong, 1980).

2.3 Democratization

The modern political history of South Korea may be characterized as the progress toward democracy. Since the establishment of the republic in 1948, South Koreans have struggled against authoritarian dictatorial government. The progress to democratic rule, or democratization, has been a crucial factor in shaping a new political and administrative

¹ All tables are in the Appendix.

environment. It has changed the fundamental nature of public policy environment. This section briefly describes the history of democratization in South Korea.

2.3.1 Recent Political Change in South Korea

In 1987, the long-lasting bureaucratic-authoritarian military regime finally disintegrated. Before this happened, a short history is in order. In 1945 Korea was liberated from Japanese colonial rule and divided into two occupation zones with the U.S. in charge of the southern area and the Soviet Union in the northern. Eventually, the country was formally divided into North and South. The Rhee government, elected in the U.N. supervised election of 1948 and the first administration in the South, practiced fundamentally undemocratic rule until it was toppled by the Student Revolution on April 19, 1960.

South Korea then experienced a brief period of democracy until a military *coup d'etat* led by General Park Chung Hee in 1961. The Park government marked a second phase of undemocratic rule, one of both authoritarian and oppressive rule, during his eighteen-year reign. President Park was determined to achieve rapid industrialization and economic growth. To do this, Park emphasized social stability based on traditional Confucian values of social harmony. He regarded any disagreement with government policy as an obstacle to the realization of the national interest. Park effectively utilized the Korean Central Intelligence Agency (KCIA), the secret political police, to deal with opposition. In 1972, Park set up an institutional mechanism called "October Revitalizing

Reforms," that in essence paved the way for his life-time tenure. It also eliminated political dissent through various mechanisms including strict censorship of the media.

The Park regime came to an end on October 26, 1979 when he was killed by the Chief of the KCIA. Many Koreans believed that democracy would return to the nation for the first time in twenty years. Their aspirations were shattered by the appearance of General Chun Doo Whan when he engineered a *coup* under the guise of investigating Park's death. Chun put himself in the presidency after quelling the Kwangju Uprising in which hundreds of protestors were killed. President Chun's rule followed the footsteps of his predecessor, Park. Chun replaced the KCIA with the Korea National Security Agency (KNSA) to secure his position against any potential opposition. As had Park, Chun found his legitimacy in the provision of social stability and economic growth rather than political freedom. Korea was democratic in name only.

South Korea transformed itself dramatically toward more democracy as it approached 1990. Nineteen eighty-seven particularly was a momentous year. While the confrontation between the ruling Democratic Justice Party (DJP) and the opposing New Korea Democratic Party (NKDP) on the issue of constitutional reform deadlocked the political map, the infamous affair of the torture-death of Park Chong Chul, then a student of Seoul National University, shook the landscape. The government initially covered up the case fearing that it would give momentum to the incipient anti-government movement. But a later autopsy revealed that Park was tortured to death. The incident exploded into anti-government sentiment among even the more moderate factions who were willing to compromise with the military regime (Han, 1988).

The political situation on the eve of the Park murder was tense. President Chun Doo Whan had declared on April 13, in the face of mounting pressure for constitutional reform, that he would maintain the existing constitution. Chun's declaration stimulated even stronger anti-government protests among already restive students. Many sympathetic citizens, who previously had stayed away from demonstrations now joined the protest. The disclosure of Park Chong Chul's murder threw gasoline into the fire of the anti-government movement. Chun removed three of his closest aides, including the prime minister. But this did not help Chun restore order.

The anti-government movement reached its peak after June 10, 1987. Chun handpicked his successor, Roh Tae Woo, under provisions of the existing constitution that allowed indirect election of the president. Hundreds of thousands of people poured into the streets, many hurling fire bombs. The riot police were outnumbered by the protestors who included among their number many middle-class citizens--a new element in the anti-government movement. Several hundred people were injured and put into prisons. The downtown of Seoul was turning into a "war zone."

In a dramatic turn of events, Roh Tae Woo, the DJP's presidential candidate and a former military colleague of Chun, announced *The June 29 Declaration* in which he accepted the opposition's demands for the speedy amendment of the constitution to allow for direct presidential elections, as well as amnesty for many political prisoners including Kim Dae Jung and the restoration of his civil rights. This effectively cleared the streets of protestors. South Korea adopted a new constitution by a national referendum following a series of negotiations between the government and opposition parties. The military

dictatorship essentially collapsed in the face of strong anti-government movement. This opened the way to a more democratic country. Even after *The June 29 Declaration*, the military government was maintained by the Roh's victory in the presidential election held in the next year. But the Roh Tae Woo's government was vastly different from that of his predecessor.

2.3.2 Freedom of the Press

In South Korea's progression toward democracy, the most distinctive aspect has been the expansion of freedom of press. Until the 1987 democratization, the freedom of the press was merely in name--a matter of form without substance. Then it was regarded as an unnecessary provision of democracy which could be used by the opposition to instigate the masses and split national consensus.

During the reign of President Park, South Korea maintained the 1962 *Standards for Implementation of the Press Policy*, a decree formulated by the Military Revolutionary Council. It basically regulated the press by prescribing the standards for publication facilities and discouraging the growth of existing papers as well as the founding of new papers. In 1980, Chun enacted *the Basic Press Law* (BPL) specifying the rights and responsibilities of the press. However, the primary purpose of the law was to impose various constraints on the press. It included a number of provisions that regulated press facilities and specified the "obligations" of reporters and publishers. Unsurprisingly, not a single additional newspaper obtained a license until 1987 (Kim, 1993a: 48). Under the BPL, the Ministry of Culture and Information (MOCI) could cancel the registration of

publications and suspend them for various reasons, such as "encouraging and praising violence or other illegal acts disturbing public order" (Youm, 1986: 872).

Chun effectively utilized BPL to curb opposition. The media was censored systematically by the "guideline" provided by the MOCI. One constant guideline was to label all anti-government protestors as "procommunist." KNSA often intimidated and assaulted outspoken journalists. In May 1983, for instance, KNSA arrested and tortured a *Chosun Daily* (a major daily newspaper) reporter for breaking the guideline. Another instance of press censorship occurred in February 1986, when the newspapers were instructed not to treat the collapse of the Marcos regime in the Philippines on the front page. The press was told, instead, to highlight Chun's visit to Europe (Youm and Salwen, 1990).

The government frequently invoked the *National Security Act* to regulate the press. The Act included this key provision:

Any person who has benefitted the anti-state organization by way of praising, encouraging, or siding with or through other means, the activities of an anti-state organization, its member or a person who had been under instruction from such organization, shall be punished by penal servitude for not more than seven years (Law No. 3318, art. 7(1) 1980, taken from Youm, 873).

The government did not hesitate to utilize the vagueness inherent in the provision and extensively interpreted the provision against any elements it considered to be in opposition --including any "unfriendly" press.

In the process of democratization, the freedom of press played a central role. After Roh came to power, the press recovered its freedom to a considerable extent. The

BPL was replaced by *The Act on the Registration of Periodicals* and *The Broadcast Act*.

Under these laws, anyone who met the basic requirements could open a printing business.

The new laws led to a proliferation of mass media. The total number of South Korean daily newspaper soared from 32 in 1987 to 111 in 1992 (Kim, 1993a: 49). The

government has permitted the publication of progressive newspapers such as the

Hankyora, whose editorials tended toward more radical anti-government perspectives.

Moreover, as part of the general liberalization of the political system, the KNSA was

restrained from activities in the civilian sector and limited to the military sector only. *The*

National Security Act was significantly revised to allow opposition forces to speak out.

As a result, the South Korean news media have been free from government control since 1987. The press became free to report any incidents and social problems. One journalist commented, "there certainly exists an unprecedented freedom of the press in contemporary South Korea" (Kim, 1993a: 49).

2.3.3 Evidence of Democratization

Many observers noticed that South Korea became far more democratic in the late 1980s. The *Country Reports on Human Rights Practices* issued by the U.S. State Department in 1987 reported that "the year 1987 saw dramatic political change in the Republic of Korea (ROK), resulting in significant development in the human rights situation there" (728). The report continued, noting that in 1989 that "The Republic of Korea is moving away from its authoritarian past and has made great strides towards attaining full democracy" (885). By the end of 1980s, South Korea became a more

tolerant and open society than it was in the mid-1980's. By then the Korea press became freer, the judiciary more independent, and workers more assertive.

The report *Freedom in the World Political Rights & Civil Liberties, 1990-1991* by Freedom House categorized South Korea as a "free country" during the period 1987 through 1990 for the first time in its 19 years of surveying freedom (McColm, 1991: 463). The report noted that "[The South Korean] people feel free to speak their minds, within some broad limits, and the Agency for National Security is not as pervasive as it once was"(McColm, 234).

A recent survey conducted by the Social Science Research Center at the Seoul National University is noteworthy in assessing the development of South Korean democracy. The survey found a considerable signs of democratization in the heart of the people. Table 2.2 indicates that 91.9 percent of respondents replied that South Korea five years ago was not democratic. But the number is considerably reduced to 54.3 percent in five years. Initially, only 7.7 percent of the respondents said South Korea was nondemocratic, 6.6 percent said the country was democratic-authoritarian, and only 1.1 percent said the country was democratic. Five year later, 45.5 percent said the country is basically democratic, 34.9 percent answered the country is democratic-authoritarian, and 10.6 percent said the country is democratic.

As shown in Table 2.3, a study conducted by Shin et al. (1990) found that about 73 percent of the respondents said that South Korea would change in five years. Shin reported that about two-thirds who expected change felt it would move toward more democracy (1990: 28). In another study, nearly half of the respondents (46.7%) believed

that South Korea had become democratic as can be seen in Table 2.4. Finally, based on his longitudinal study of democratization in South Korea, S.M. Pae (1989) concluded that South Korea, despite a late start, is one of the most rapidly and dynamically democratizing countries in the world. He argued that using Gastil's political rights and civil liberties index to measure the degree of freedom in 1987 and 1988, South Korea may be categorized as a "near-full and complete democracy" (Pae, 1989).

All these studies lead to a conclusion that South Korea was remarkably democratized in the late 1980s. This democratization has a crucial policy implication. That is, given the remarkable popularity achieved by the democratization movement, it is easy to see that the mass public would become "politically activated" (O'Donnell, 1972). One would expect a growing sense of political efficacy and an awareness of the possibilities of democratic action. With the breakdown of the old military authoritarian regime, one expects a significant political transformation of the society that may be characterized as one "from traditional and deferential political culture and organizational modes to the citizen as autonomous man" (Krauss and Simcock, 1980: 189).

2.4 The Public Policy Process in South Korea

A major characteristic of the Korean political system is that the executive branch, the President and the central bureaucracy, have been the predominant actors in the public policy process. The government in Seoul felt that to survive competition in a rapidly changing international environment required speedy policy decision-making and implementation. Thus, it concentrates power in the executive branch. More than 90

percent of legislation is initiated in the executive branch. Within the executive branch, the ultimate power rests with the president. Major decisions are made by the president, leading Yang to observe:

In theory, a semblance of the separation of powers also exists, at least to the extent that the government is formally structured in such ways. In reality, however, the single most persistent characteristics of the South Korean politics for the past forty years has been the concentration of power in the presidency. In other words, the institutional checks and balances based on the principle of the separation of powers do exist, on paper, but the political dynamics favoring the concentration of powers in the executive branch, i.e., the president, have constantly overwhelmed the former (Yang, 1994: 463).

The last three Presidents (1961-1992), since they all came to power through military coups, strongly felt a need for a source of political legitimacy. They have sought to create this political legitimacy by rapid economic development and social stability. This created a very significant role for the government bureaucracy (Park 1993: 137). In other words, there has been little room for the legislature, political parties, and interest groups to participate in making major policy decisions. The public has been a target of policy (Kim, 1991a: 426; Jung, 1993:143). Particularly, the pluralistic approach to policy-making and implementation has been regarded as something to be avoided because it would be ineffective (Kim, 1991a).

Until the 13th National Assembly which ended in 1992, the power of the legislative branch in policy-making was very weak. Even if the National Assembly passed a law, its implementation was entirely at the discretion of the administration. There were some cases, for example, in which the administration simply did not implement the law at all (Park, 1993: 137). But some policies have been actively pursued without the consent of

the legislature. The National Security and Planning Board spent as much as 15 times of its budget under the administration's approval (Kim, 1989: 111).

Political parties played little role in the general policy process. It was the case not only for opposition parties but ruling parties. "There is a tendency to treat the Legislature, the arena where political parties are most active, not as a co-equal branch of government representing the will of the people but as a necessary evil of democratic government" (Koh, 1967: 37). Political parties could not play an independent role, but only a legitimizing role in the closed process transactions between the president and the administrative bureaucracy (Jung, 1993; Koh, 1967).

Interest groups were not a significant factor, either. Interest groups could not articulate their policy preferences nor represent the interests of the group members. They were mobilized rather by the bureaucracy in the pursuit of government policy. This is clear when one looks at the motivation behind organizing various industrial associations and trade unions. They were faithful followers of the government policy, instead of being pressure groups to make inputs in the government policy based on their interest (Park, 1992; Choi, 1993).

The majority of the Korean people, who had lived in poverty, were uninterested in exercising power in the policy process. They have implicitly supported the government policy of rapid economic growth. Indeed, they feared excessive liberal democracy and a pluralistic policy process, which might, they believed, create problems and obstacles in the road to economic development (Han, 1992; Kim, 1991a). Within this environment, the government bureaucracy has been virtually free from the external political influences and

often enjoyed the privileges of ruling status over the people (Huh, 1988). Since the Seoul government was established in 1948, the public policy-making and implementation have been dominated by the central bureaucracy in Seoul. The centralization of bureaucracy was especially strong during the successive military governments during the 1961-1987 period (Pak, 1992; Park, 1988).

The centralized bureaucracy was based upon the superior-subordinate relationship of two unequal offices. The relationship between the national government and the subnational (provincial and local²) governments was very unequal. South Koreans elected their provincial governors and Kun directors for the first time in history in 1995. Before then, according to the Constitutional Law, they were appointed by the interior minister, who was directed by the president. The relationship between the national government and subnational governments was one that may be characterized by the chain of command. The Seoul government gave orders to the subnational governments to carry out. The primary method for the national government to control subnational governments was the personnel power as well as budget appropriation power. The minister of interior at the direction of the president, appointed, transferred, and fired provincial governors and local Kun directors. Consequently, the supreme power resided with the president and the interior minister. This granted the Seoul government with a supreme implementation power. It could implement whatever policies it wanted, even though the policies might be against local interests. At the same time, the supreme national power led to little

² The local autonomy system (or federal system in the United States) in South Korea consists of national government, province (state), and kun (local).

discretionary power for the officials of subnational governments. That is, there was little room for local officials to take the local political situation into consideration in making and implementing policy, and there was little opportunity for diverse social sectors outside the local governments to participate in the policy process (Park, 1993).

The Korean bureaucracy has been inculcated with the ethos that its job is to *rule* the people. This is far from the democratic idea that it was created to *serve* the people. This ethos has emphasized the attainment of national goals, loyalty to strict hierarchy, and the maximization of administrative efficiency. It has been long sustained by the historical experience that the Korean bureaucrats have effectively ruled the people by regulation, mobilization, and planning of the civil society (Kim, 1991a; Kim, 1991b). Even during the Japanese colonial period, the ruling status of the bureaucrats was not disturbed. On the contrary, the power of bureaucrats was augmented further. Of course, the Confucian cultural influence also played a critical role in socializing the Korean bureaucrats into an authoritarian ethos (Lee, 1991; Han, 1989, Ahn, 1992).

The power of the Korean bureaucracy is grounded on special social status enjoyed by the bureaucrats. Traditionally, the government bureaucrats have been regarded a privileged social class. Taking and promoting to ranking bureaucratic positions have been regarded as the final goals of life among the noble class. According to a study (Yang and Ahn, 1991), bureaucrats comprised the single largest group (23.8 %) of the South Korea's ruling elite. The bureaucratic elites consisting of ministers and vice-ministers of the cabinet, other high-ranking bureaucrats, provincial governors, and mayors of the cities exercise enormous influence in policy making and implementation. They are far more

educated (84.4% have a college degree or more) than others. Most especially, they tend to be graduates of the most prestigious universities such as Seoul National University (22.9%).

Accordingly, before democratization, the South Korean bureaucracy would not be responsive to anyone other than the president (Ahn, 1990). This explains why many bureaucrats have regarded public policy as the execution of the political agenda of the rulers and why they have placed the first priority on the effectiveness and efficiency of policy (Kim, 1991a; Ahn, 1992). This further explains why the Korean bureaucracy has been largely immune from political influences other than the president in the political process (Jung, 1988; Han, 1989; Lee, 1991).

This does not mean that, even though they were appointed by the Seoul government, the officials of subnational governments did not feel any moral obligations or political pressure at all to protect their regional interests from national intrusions. This was in fact the case. As we will see later, when mass mobilizations took place against the Seoul government's plan to site nuclear facilities, the officials of subnational governments showed ambivalent and uncertain behaviors between the direction from the Seoul government to host a nuclear facility and local pressure not to do so. Today, after the local autonomy system was fully implemented in 1995, the political pressure on the officials of subnational governments to protect regional interests is greatly aggravating the problem of siting unwanted public facilities, including nuclear plants and nuclear waste disposal storage.

In summary, the public policy process in South Korea has been dominated by the executive branch, i.e., the president and the central bureaucracy. In an authoritarian environment, the central bureaucracy has operated without any semblance of public control. It has exercised enormous power through its expertise and scientific knowledge. One analyst (Park, 1993) characterized the Korean bureaucracy in terms of inflexibility, collectivism, exclusiveness, and uniformity. Presidents have executed their political wills through a highly centralized bureaucracy that was exclusively loyal to the chief executive.

2.5 The Great Change

During the 1980s, a new policy environment emerged in South Korea. By the end of the 1980s, South Korean society in general had undergone a significant cultural change which may be attributed to socioeconomic, technological, and political change. As a consequence of this transformation, South Korea has become economically more wealthy and politically far more democratic. These changes contributed to the creation of a variety of new values in a fashion quite similar to what happened earlier in industrialized nations of the west.

Many scholars have examined the relationship between economic conditions and individual value systems. Generally it has been suggested that economic well-being leads to higher order values in a hierarchy of values akin to those described by Maslow (1954). In his *The Silent Revolution*, Ronald Inglehart found that the absence of war and the economic prosperity in Western Europe after World War II brought about changes in individual value system. Inglehart wrote that:

The values of Western publics have been shifting from an overwhelming emphasis on material well-being and physical security toward greater emphasis on the quality of life Today, an unprecedentedly large portion of Western populations have been raised under conditions of exceptional economic security. Economic and physical security continue to be valued positively, but their relative priority is lower than in the past (1977: 3).

The younger generation of cohorts born and raised after World War II showed value orientations reflecting *higher order needs* such as civil rights, quality of life, and ecological balance than older generational cohorts. In contrast, the older generation cohorts showed concerns for *lower needs* such as security and sustenance (Inglehart, 1977 and 1981).

Inglehart characterized these two fundamental value structures as "post-materialist" and "materialist." He explained the change in the public value structure in terms of *the hierarchy of human needs* propounded by Maslow (1954), who argues that some needs are more important than are other needs. Generally, physiological needs are more fundamental, more basic than are the social, intellectual or aesthetic needs. Inglehart notes that "the fact that unmet physiological needs take priority over social, intellectual or aesthetic needs has been demonstrated all too often in human history; starving people will go to almost any lengths to obtain food" (1981: 881).

According to Inglehart, the relative proportion of materialists and post-materialists varies from society to society, even among the post-industrial societies (1981: 331). As of 1972, according to Inglehart, the ratio of materialists (31%) to post-materialists (12%) in the United States is 2.61, one of the lowest among 13 countries. In contrast, in Japan the

ratio is 9.21 (46% to 5%), the highest of the 13 countries studied. The Inglehart's study did not include any industrializing countries such as South Korea.

The advance of post-industrialism brought significant changes in modern politics, in terms of the nature of political issues, the social bases of politics, support for national institutions, and styles of political participation (Inglehart, 1977). In Flanagan's words,

[In] such issues as pollution, the quality of life, participatory democracy, and general sociopolitical reform, progressive parties in both Japan and Western Europe have seized upon some potentially powerful political issues that are very much in consonance with the value reorientations presently taking place within these advanced industrial societies (1980: 205).

According to Inglehart, changing values and skills are driven largely by technological innovation manifested by economic development, expansion of secondary and higher education, and the expansion of mass media. He said that:

The thread of technological innovation ties these changes together. Technology has made possible the unprecedented productivity that underpins advanced industrial society; it renders expanded educational opportunities both necessary and possible; it has created the contemporary mass media; and it involves men and women in drastic shifts in personal environment that uproot them from previous patterns (1977: 7).

The post-war economic growth in South Korea has been remarkable. Never before have the subsistence needs been secure for such a large share of the population. As a consequence of rapid industrialization, the per capita GNP of the nation dramatically has increased. As shown in Table 2.5, in 1962 South Korea's per capita national income was \$958, but by 1990 it soared to \$5,569. By the beginning of the 1990s, South Korea was being categorized as an "upper-middle-income" nation (World Bank, 1991).

Changes in occupational structure is another source of value change according to Inglehart. Industrialization brought changes in occupational structure. The employment focus moved from the agricultural to the industrial sector and eventually developed into the tertiary sector. As Daniel Bell (1973) describes the new *post-industrial* society, one may anticipate a continuing displacement of the agricultural employment into industrial and the tertiary sectors in South Korea. The share of the agricultural sector in terms of gross national product (GNP) has dropped from 38 percent in 1965 to 10 percent in 1989. During the same period the share of industrial, manufacturing and service sectors have increased from 25 to 44 percent, 18 to 26 percent and 37 to 46 percent, respectively (World Bank, 1991: 205).

Changes in material well being and occupational structure are closely tied in with the expansion of education. Numerous studies (Inglehart, 1977) have demonstrated the impact that higher education has on the development of political consciousness and the development of cognitive skills. Indeed, education turns out to be one of the most important variables in almost any cross-national analysis. Table 2.6 and Table 2.7 show that education has been extended rapidly to age cohorts in South Korea. Primary schooling became universal. All eligible children were enrolled in middle school by the late 1980s. This increase in educational opportunity has resulted in a dramatic rise in literacy. The illiteracy rate decreased from 78 percent of the adult population in 1945 to less than 12 percent in 1970.

The expansion of the communication networks such as that experienced in South Korea makes information dissemination possible on a national and even international scale.

But, the role of mass media is mixed in its effect on shifting values. On the one hand, the mass media serve to incorporate more and more people into larger communication networks. They undoubtedly have increased the knowledge and sophistication of the South Korean population, especially through their impact on the young. They probably have stereotyped and conventionalized many areas of Korean life. Yet, at the same time, they communicate a great deal of opposition to conventional values, particularly when they are tailored to specialized audiences. There is a evidence that post-material values are being developed through the mass media (Inglehart, 1977).

The mass media in South Korea played a significant role in setting the environmental policy agenda. According to a study by Kim (1993b), as media coverage on environmental issues has increased, environmental issues became an important social issue. Since the early 1980s, the mass media in South Korea has made an effort to inform the public about the seriousness of environmental problem caused by ozone depletion, greenhouse effects, and global warming. While a newspaper reports an environmental problem as a citizen complaint emphasizing the seriousness of the damage, the report consequently served to support the development of an environmental movement among citizen and special interest groups (Kim, 1993b).

According to the Ministry of Information, in early 1986 there were 8.2 million TV sets in South Korea. This is equivalent to one TV set per 1.2 households. Television has become an important mass medium due to its obvious audio-visual effect. The initial primary function of television has been entertainment, but increasingly it has served as a medium for information and education (Korean Overseas Information Service, 1994). The

most popular mass media is radio. Every household had more than one radio receiver by 1969.

In summary, a new policy environment emerged in South Korea during the 1980s. The country had undergone a significant cultural change which may be attributed to changes in socioeconomic and political factors. The economic growth, changes in occupational structure, the expansion of higher education, and the expansion of mass media in the 1970s and 1980s greatly contributed to the value change of South Koreans. By the end of the 1980s, South Koreans were subject to the influences that had produced post-materialism in the industrialized west.

2.6 Consequences of Change: The Challenge to Old Regime

The consequences of value change are great. They can be characterized into two aspects, as Inglehart stated:

Support for National Institutions--Apparently, nationalistic sentiments are not being transmitted to the young with the same fidelity as in the past. Governments traditionally have exploited patriotic symbols as sources of legitimacy for their actions. As popular support of these symbols declines, governments can no longer draw so easily on this resource (1977: 14).

Changing Styles of Political Participation--The politics of classical industrial society were based on mass parties and associated movements such as trade unions and church-related organizations that were generally bureaucratic and oligarchical in structure. Emerging cultural values emphasize spontaneity and individual self-expression. Furthermore, the expansion of education means that increasing numbers of people are available with political skills that enable them play roles previously limited to a small political elite (1977: 15).

Ruling elites in most industrialized democracies have faced challenges from the masses. Inglehart explained this challenge in terms of a new "distribution of political

skills." This new distribution of political skills has a major implication for policy-making and policy-implementation. He stated that:

[A] significant shift is also taking place in the distribution of political skills. An increasingly large proportion of the public is coming to have sufficient interest and understanding of national and international politics to participate in decision-making at this level. Mass publics have played a role in national politics for a long time, of course, through the ballot and in other ways. Current changes enable them to play an increasingly active role in formulating policy, and to engage in what might be called "elite-challenging" as opposed to "elite-directed" activities (Inglehart, 1977: 3).

By the end of 1980s, a new policy environment emerged in South Korea. The political relationship between the civil society and the state, and internal relationship among the ruling apparatus have been redefined (Han, 1992, Park, 1992). The civil society has increased its influence on the public sector as it had happened in most western countries much earlier.

As the traditional authoritarian governing system collapsed and the society democratized, the mass public have increased their influence on the policy process that was traditionally monopolized by government elites. The Seoul government began to lose their traditional control over public policies including the siting of new industrial projects. Within the Seoul government, the National Assembly has strengthened its position *vis-a-vis* the president and the bureaucracy with regard to the policy process (Ahn, 1990).

Ironically, this dramatic democratization has contributed to a tendency toward policy deadlock. One newspaper reported that:

If [the late President] Park Chung-Hee . . . and authoritarian government were still here, the nuclear power plants would go where the technical people thought they ought to go--and the same for the nuclear waste sites," said one Western diplomat who wanted to remain anonymous. A top

engineer agreed with the diplomat and attributed the new troubles "30% to Chernobyl and 70% to democracy" (Jameson, 1992: H2).

The years of the government monopoly over scientific knowledge and legal expertise have passed. There are several civilian organizations that now can influence government policies and challenge its authority. One such organization is the Korean Movement League to Expel Pollution (MLEP) which challenges the government and powerful business groups. Composed of a thousand dues-paying members including working journalists and academics, it poses a considerable threat to government dominance over technological policies. Another organization is the Citizens' Coalition for Economic Justice (CCEJ), founded in July 1989 by a group of lawyers, academics, and church activists. While its main concern is a broader range of social, economic and political reforms, CCEJ is a potential anti-nuclear activist. Although smaller in size, the Citizen's Solidarity for Self-rule and Participation (CSSP) has similar characteristics with the MLEP and CCEJ.

As Inglehart elaborated earlier, the end of the presidential and bureaucratic elite monopoly in the public policy process is closely related with the rise of post-materialist values. The unprecedented economic growth, the expansion of the second and tertiary sector, the expansion of secondary and higher education, the expansion of mass communication media created a new desire to take a part in political matters, leading to a major shift in their value system. Consequently, this posed a great challenge to the traditional power elite's monopoly in the public policy process. Students of South Korean politics tend to agree that the time of government monopoly is over. As one professor of

public administration expresses it: "We can no longer ignore the people. Koreans have been oppressed for a long time. They would not tolerate further oppression any more." (Interview with a college professor in Seoul, February 1996).

2.7 Conclusion

In summary, Koreans share a cultural bias based upon the country's particular experience and history. The cultural bias may be characterized as authoritarian political order, centralized bureaucracy, factionalism, and state activism in economic affairs. Especially, democratization has been a crucial factor in shaping a new political and administrative environment. Newly obtained the freedom of the press contributed greatly to the growing sense of political efficacy and an awareness of the possibilities of democratic action. A major characteristic of the Korean public policy process is that the executive branch has been a predominant actor in the overall policy process. There has been little room for the legislative, political parties, and interest groups to play any significant role in the policy process. The centralized bureaucracy loyal to Presidents, has played a major role in all policy process.

This chapter suggests that to understand the emerging policy deadlock over siting nuclear facilities in South Korea, one must consider the rapid socioeconomic changes in the end of 1980s. Due to the rapid economic growth, changes in occupational structure, expansion of education, and mass communication development, most South Koreans have changed significantly their political values. One discerns in this political shift the rapid development of post-material values that support a higher level of political consciousness

among the general population and a rising environmentalism consistent with the experience of western nations. As the traditional authoritarian regime collapsed and the society democratized, the central government began to lose a significant amount of its traditional control over public policies.

CHAPTER THREE

NUCLEAR ENERGY POLICY IN SOUTH KOREA

3.1 Introduction

In order to examine the South Korea's policy deadlock over nuclear facility siting policy, one must first consider its energy policy in general. This is because the deadlock is a direct consequence of the specific energy policy of the country. For a country, such as South Korea, which is striving toward becoming an advanced industrialized nation, energy policy is crucial and strategic to continuous economic development. This chapter reviews the South Korea's energy policy in general and the nuclear energy policy in particular.

In the 1970s most oil importing countries of the world, including South Korea, were faced with the common problem of assuring its supply of energy source in a stable manner. Once OPEC began to control oil supply, most nations realized that they could no longer take their oil supply for granted and therefore had to manage carefully both supply and demand. Several strategies drove nation's energy policy. They were:

1. To minimize the cost of long-term energy supplies;
2. to minimize the waste of primary energy;
3. to minimize the negative effects on the environment;
4. to minimize the rapid consumption of premium fossil fuels;
5. to minimize the reliance on unproven new technologies;
6. to minimize dependence on insecure energy supplies (Evans, 1979: 25).

Those nations began to look for an alternative energy source that can supplement oil, if not entirely replace it. For them, nuclear energy seemed to be quite attractive.

3.2 Energy Policy in South Korea

South Korea did not establish a comprehensive energy policy when the First Five Year Economic Development Plan, the nation's first comprehensive industrialization plan, was created in 1962. Energy needs were met by constructing oil-refinery facilities as the demands increased with industrialization. In 1966, when this plan ended, the supply of coal, the major energy source of the country, could no longer meet the demands of rapidly expanding economy. From 1967 to 1973 South Korea became heavily dependent upon oil imported from OPEC nations. When Oil Shocks hit the nation, Korean policy makers sought to reduce the share of oil in the total energy supply. In 1973, the Seoul government prepared measures to curb all energy consumption, especially oil. In 1974 Seoul set up a long-term energy supply-demand policy aimed at the development of alternative energy sources, the maximum development of *domestic* energy source, and the reduction of energy consumption.

The Seoul government has vigorously implemented its national energy policy. As political conditions were destabilized in the Middle East during the oil shock, Seoul feared an energy supply cutoff due to international turbulence. Subsequently, Seoul sought to assure supply through direct government actions. It also sought to reduce the role of foreign-based oil companies in national matters. Especially, Seoul has made efforts to avoid purchasing oil through the international oil *spot markets*.

When Seoul created the national energy supply plan in the 1970s, it was a time of a broader trend toward economic nationalism and protectionism worldwide, driven by unprecedented inflation and economic stagnation. Pressures mounted on the government

to protect economic groups from suddenly higher prices and possible supply cutoffs.

Seoul felt the need to set long-term policy for resource conservation and conversion to more desirable fuels. During the 1970s, the Seoul government sought to develop all possible domestic oil and gas sources and to introduce new energy technologies. Since the 1970s South Korea's energy policy objectives may be summarized as follows:

1. To increase the reliability of energy fuel sources by increasing the variety of fuels and by increasing supply sources;
2. By diversifying potential supply sources to increase competition and thereby reduce costs;
3. To use new Korean markets to build closer political ties with the producing countries including those which have been traditionally hostile;
4. By increasing energy fuel supply sources, to increase the demand for Korean goods in the exporting countries;
5. To counter North Korean influence in those countries that are energy fuel exporters (Stern, 1986:139).

These objectives reflect the specific circumstances faced by the nation. South Korea's energy situation differs from many countries in two major ways; first, the Korean economy is relatively energy-intensive compared to other countries at a similar economic level. Second, Korea's energy import dependence remains significant (over 94.6 per cent in 1993). Most importantly, South Korea possesses few indigenous energy resources but needs to sustain a rapidly developing economy. Taking all this into consideration, the Seoul government developed two strategies of diversification. It sought to diversify both the *sources* of energy and the energy *suppliers*.

Seoul found its alternative source of energy in nuclear fission. Seoul figured that too heavy reliance on oil was risky thus it increased the share of nuclear energy. Since 1978, when the first nuclear reactor went into operation, the share of nuclear energy in the total supply of electricity has increased dramatically as shown in Table 3.1. Seoul also sought to diversify the suppliers of uranium--the United States, Canada, Australia, France, and Russia. Since South Korea joined the Nuclear Nonproliferation Treaty, it cannot perform either transition or the enrichment of uranium. But it utilizes the competitive bid system in the international market to help contain costs.

Under the grand scheme of diversification, Seoul has prepared a long-term plan for its energy supply policy and electricity demand. According to the Ministry of Trade, Industry and Energy (MOTIE) and Korean Electric Power Corporation (KEPCO), the government plans to build 122 new power plants in the country with a combined capacity of 57 million KW by 2010 at a total cost of 46.5 trillion Won (roughly \$59.6 billion). The new energy infrastructure is to be comprised of 19 nuclear units (19.3 million KW), 29 coal-fired plants (15.5 million kW), five oil-fired plants (1.2 million kW), 40 liquefied natural gas (LNG) combined cycle units (17.4 million kW), and 29 hydro plus other plants (3.5 million kW) (*The Korea Herald*, December 15, 1995).

According to the long-term national power development plans issued by MOTIE and KEPCO, the total electric power demand in Korea is estimated at some 61 million kW in 2006 and 70.8 million kW in 2010. Even if the government curbs the rising power demand by adjusting the structure of electricity charges and expanding the supply of gas-propelled air conditioners, the total power demand is expected to reach 57 million kW in

2006 and 65 million kW in 2010. To ensure facility safety and effectiveness, the state-run KEPCO will take full responsibility for the construction of nuclear power plants and coal-fired plants with a capacity of more than 800,000 kW.

Meanwhile, some 50 percent of the projected 122 power plants, including 500,000 kW-class coal fired plants and LNG combined cycle units, will be built by private enterprises. In keeping with the worldwide campaign to protect the environment MOTIE and KEPCO decided to reduce the proportion of coal-fired plants from 29.8 percent of the total power facilities in 2006 to 27.3 percent in 2010. Instead, they will raise the portion of LNG combined cycle units from 22.4 percent of the total in 2006 to 32.1 percent in 2010, according to the government (*The Korea Herald*, December 15, 1995).

The South Korean energy policy has developed rapidly in the process of meeting the demands for domestic energy and in adjusting to international political situation. To meet increased demands for electric power, the long-term national energy plan has increased the share of nuclear energy in the total supply of electricity.

3.3 Nuclear Energy Policy in South Korea

In 1955, South Korea established a nuclear energy treaty with the United States. In 1956, the Korean Bureau of Nuclear Energy within the Department of Culture and Education was established. Its mission was to develop and utilize nuclear energy. Later in that year, South Korea gained a full membership of the International Nuclear Energy Institute. In 1958, the Seoul government proclaimed the *Nuclear Energy Law*. Seoul in

1959 established the Nuclear Energy Center by Executive Order 394 and created the government financed Korean Energy Corporation.

It was after 1960 when the Seoul government became seriously interested in the commercial use of nuclear energy. In 1962, the Nuclear Energy Center formed the Committee for Nuclear Plants and prepared a master plan to develop nuclear plants. The Committee concluded that nuclear energy was the most promising future energy source. The Committee recommended the early construction of the first nuclear plant and the education of nuclear engineers.

Accordingly, from 1964 to 1965 the Nuclear Energy Center, the Korean Electric Power Corporation, and Korean Coal Corporation in a joint project began a preliminary study for siting nuclear plants. The *Second Five Year Economic Plan* included the project to construct nuclear plants. The Seoul government in early 1968 established the Committee for Nuclear Power Generation with the Vice Prime Minister as its head. It finalized the plan to construct a pressurized light water nuclear plant at Kori, the first South Korean nuclear power plant. The Committee divided works among offices related with the construction of nuclear plants for the more efficient implementation of the projects. This remains effective today. The division of works is described in Table 3.2.

Since the enactment of the *Nuclear Energy Law* in 1958, the Seoul government established the Nuclear Energy Board (NEB), which has been upgraded to the Prime Minister's responsibility. The Chairman of NEB is the Vice Prime Minister. The Members are the Minister of Science and Technology, the Chief Executive of KEPCO, and two others who are appointed by the President and recommended by the Vice Prime Minister.

Those two members are normally the Chairman of Nuclear Energy Institute, and the Director of Administration for the Prime Minister. According to the Nuclear Energy Law, NEB has responsibilities to deliberate and decide following matters.

1. Those concerned with the use of nuclear energy;
2. The coordination of the concerned institutions with the utilization of nuclear energy;
3. The regulation of nuclear energy and nuclear reactor;
4. The test and research about nuclear energy;
5. The management of nuclear waste disposal.

NEB has two working committees, the Utilization and Development Committee and the Safety Committee.

In 1967, NEB and the Nuclear Energy Center were reorganized into the Ministry of Science and Technology (MST). In 1973, the size of the Nuclear Energy Board increased from 7 to 9. The Nuclear Energy Center was also reorganized as the Nuclear Energy Bureau. Consequently, the function of NEB as a policy-making institution decreased as the number of meetings it held annually decreased from 18 to 3 or less.

As the concerns about the safety of nuclear energy increased in 1979, the Nuclear Energy Bureau was reorganized again into the Bureau of Nuclear Energy Development and the Bureau of Nuclear Energy Safety. The Bureau of Nuclear Energy Safety became independent and reformed into the Nuclear Energy Safety Center.

In terms of the government organization structure, the nuclear energy policy system has two dimensions. Nuclear energy policies are set up and managed by the

Ministry of Energy and Resources (MER). In 1993 the MER was merged with the Ministry of Commerce and Industry and renamed MOTIE. The safety regulation and the inspection aspect of nuclear power is handled by MST and the Korean Nuclear Energy Safety Center which was renamed the Korean Institute of Nuclear Energy Safety in 1989.

Nuclear energy policy in South Korea has evolved adapting to changing economic environment. As the economy needed more energy and the concern about nuclear energy grew, Seoul vigorously pursued nuclear energy policy by creating new government agencies, enacting laws, and implementing organizational restructures. A more detailed description of organization structure and the administrative process of constructing nuclear plants is shown in Table 3.3 and Figure 3.1.

Most nuclear energy projects have been carried out by the Korean Electric Power Corporation (KEPCO), a public corporation run by MER, and its subsidiaries (the Korean Nuclear Energy Corporation and Korean Electric Technology). KEPCO was established in July 1961, when three private electric power corporations were merged into one and was renamed as Korea Electric Power Corporation, Ltd. (KEPCO). It became a public enterprise in 1982, when the government, which felt that it was necessary for the nation to take control over one of the most crucial economic function of electrical energy supply, purchased all of its stock. This company has grown steadily. This enterprise has shown improved managerial performance and improved financial structure over its predecessor. As of December 1994, its asset is estimated as 23,626 billion Won. The

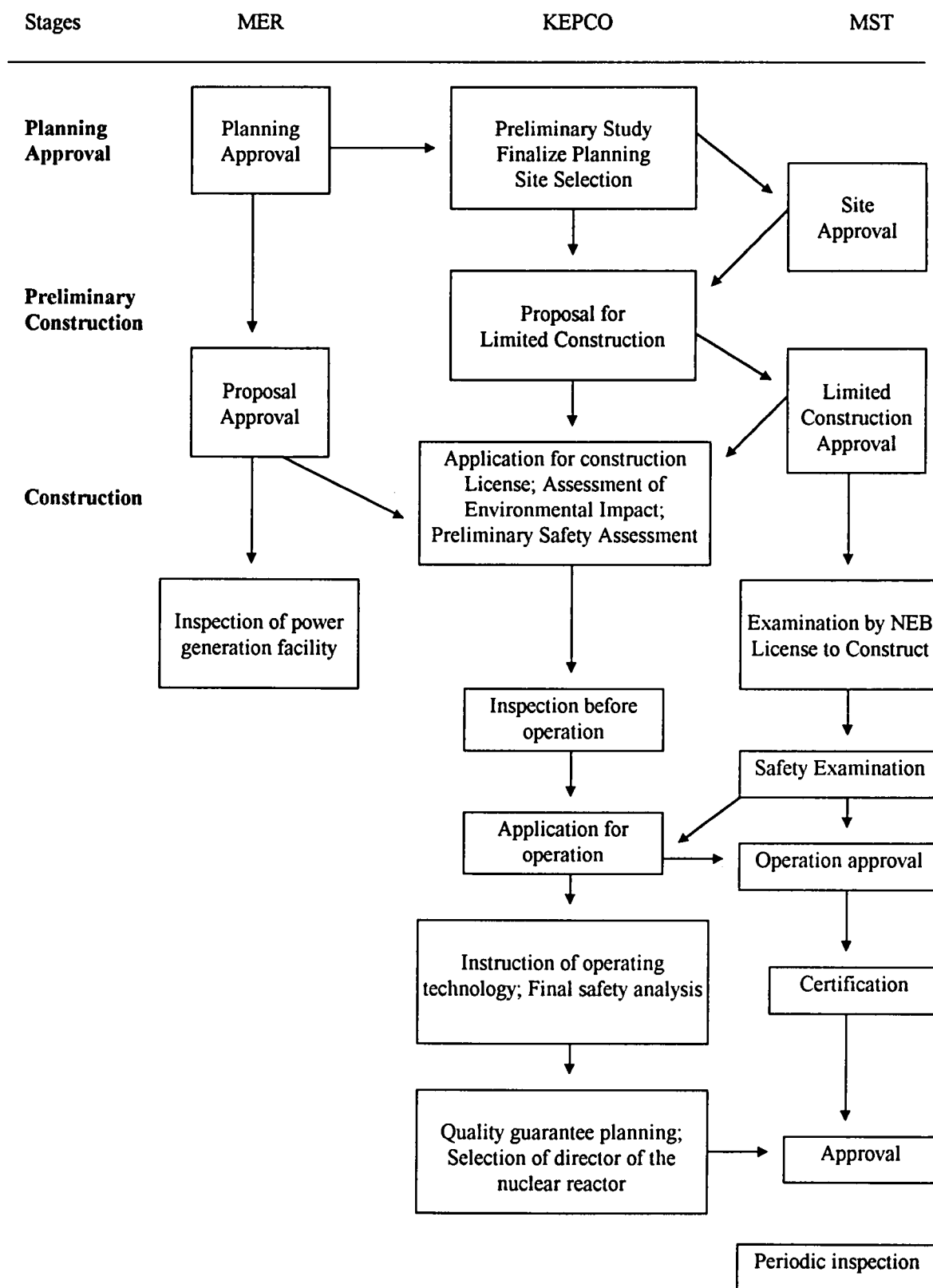


Figure 3.1 The Administrative Procedure for Nuclear Plant Construction

paid-in capital of KEPCO amounted to 3,079 billion Won. This is a growth of 802 times compared with the 3,840 million Won at the time of KEPCO's founding in 1961. In terms of manpower, there are 5,721 employees on the administrative staff, 18,053 engineers, and 6,406 skilled laborers. Total number of employees is 35,960 (KEPCO, 1995). As such, KEPCO became a major player in nuclear energy policy, especially in the implementation process, due to its enormous economic power and expertises.

Since 1978, when the commercial operation of the Kori station started, nuclear power generation has steadily grown. As of the end of 1994, KEPCO's total nuclear capacity was 7,616 MW with 9 operating units. Nuclear power generation was 58,651 GWh or 35.5 percent of the total national power generation. Nuclear energy now plays a leading role in the production of electricity in Korea. The process of South Korea's nuclear energy policy development may be characterized into three stages in terms of the types of nuclear projects or contract type (KEPCO, 1995). The objective of nuclear energy projects has been the achievement of technological independence from foreign nations. The first stage of South Korea's nuclear energy policy development is the total dependence on foreign technology. Until late 1970s South Korea did not have the capability to construct nuclear plants by itself. Nuclear plants were introduced from abroad. Foreign companies as a major contractor were responsible for project management, design, supply of equipment, and construction. KEPCO, however, gained knowledge and experience in nuclear plant construction by taking a part in the project management and initial construction activities. Domestic companies only took a part as subcontractors. During the first stage, Kori I and II and Wolsung I were built.

In the second stage (from late 1970s to 1987), South Korea began to host major nuclear projects. KEPCO led the project management while learning from foreign contractors. Still, major equipment and architectural design were supplied by foreign companies. Domestic companies took a part in the projects as a subcontractor of the major contractors from abroad. Kori III and IV, Youngkwang 1 and II, and Wooljin I and II were built during the second stage.

In the third stage (1987 - present), KEPCO accomplished most of its desired technological independence in nuclear plant design and construction. Heavy chemical industries were simultaneously developed to support this hard-won technological independence. According to KEPCO (1995), South Korea has successfully completed its "localization program" for fuel fabrication technology, which began in the late 1970s. This means that all nuclear power plants in South Korea now use domestically fabricated nuclear fuels.

South Korea decided to push the development of next generation nuclear reactors, including the passive type, as part of the national G-7 project for the development of advanced technologies. Officials at the MOTIE said the development project had been halted initially by opposition from MST, but after final deliberation the project was approved. The next generation of nuclear reactors, namely passive and evolutionary type advanced reactors, are to be developed for commercial operation by the year 2007. An investment of 154 billion Won (200 million dollars) is to be made by KEPCO for the design of the first unit by the year 1998 (*The Korea Times*, October 11, 1995). South Korean nuclear technology has developed fast as the government vigorously expanded

nuclear power generation. But, the issue of nuclear waste disposal has never become a policy issue until lately.

3.4 Nuclear Waste Disposal Policy in South Korea

Because of the necessity for power generation using nuclear energy and the rapid increase of radiation technology in hospitals and research institutes, the nuclear waste produced in South Korea has increased rapidly. Since 1978 when the Kori nuclear plant, the first nuclear reactor in the nation, started operation, a total of 44,802 drums of medium and low level radioactive waste (MLLRW) have been generated. It is expected that by the year of 2000 the nuclear power plants will generate 169,235 drums and others will generate 28,532 drums (197,767 drums in total) of MLLRW. By 2025, it would be 1,038,488 drums in total (KEPCO, 1990). In terms of high level radioactive waste (HLRW), according to KEPCO's estimate, current interim storage facility will be exhausted by the end of 1990s. KEPCO has expanded almost annually the interim storage facility within the nuclear plant station. Since 1978 the total stock of HLRW accumulated until 1994 was 2,381 tons. Tables 3.4 and 3.5 show how imperative it is to handle the problem of storage of low, medium, and high level nuclear waste by nuclear power plants.

MST has prepared plans for the disposal of nuclear waste. In 1982, it directed the Korean Energy Institute to prepare measures to manage nuclear waste. MER which is responsible for supervising the nuclear power industry, also began to study nuclear waste management. A more comprehensive nuclear waste disposal management policy was set up in 1983 when NEB formed a contingent committee and special subcommittees to

handle the problem of nuclear waste. As a result, in 1984 the 211th meeting of the NEB decided upon the basic principles for handling nuclear waste:

1. Low and medium level nuclear wastes will be disposed in land.
2. Waste disposal storage will be a central permanent disposal type outside of nuclear power plant.
3. A non-profit organization for nuclear waste disposal will be established under the government authority.
4. The expenses for handling nuclear waste will be paid by the generators of the waste.
5. A preparation committee will be established.
6. Additional measures will be taken to handle spent fuel discharged from nuclear plants (KEPCO, 1990, 140).

These principles obviously did not include any provision concerning sociopolitical impacts of siting nuclear waste facilities. The NEB decision hardly expected that sooner or later local residents were going to be confronted with a policy implementation very adverse to their interests.

In accordance with this decision, the 213th meeting of NEB passed in 1985 a resolution providing that the Korean Nuclear Fuel Corporation, a subsidiary of KEPCO, would be in charge of the project of finding nuclear waste sites. This project was carried out by the assistance, largely human resources, from the KNEI.

In 1985, a motion was initiated in the National Assembly's deliberation on the issue who would handle the nuclear radiation management. It was passed with slight revision following year. According to the revised Nuclear Energy Law, MST would be in charge of

nuclear waste management and raising public funds, KNEI would carry out the project, and producers of nuclear waste (KEPCO) would pay for the expenses.

In July 1988, the 220th meeting of NEB finalized the long-term plan for nuclear waste disposal. Among its important provisions:

1. The construction of an underground permanent storage facility to dispose the low and medium level nuclear waste would be finished by December 1995.
2. Until the final government policy concerning spent nuclear fuel or permanent disposal facility is made, an interim storage facility would be constructed to store high level nuclear waste away from nuclear power stations by December 1997.
3. Until permanent and interim storage facility are constructed, all nuclear waste would be managed by KEPCO within the existing nuclear plant stations.
4. All offices concerned with nuclear waste disposal would cooperate with the Korean Nuclear Energy Institute (KEPCO, 1990: 142).

In December 1988, the 221th NEB meeting approved the nuclear waste management program prepared by the KNEI. Other concerned agencies such as MER and KEPCO participated in the review of the project. Since 1986, KNEI has surveyed the entire Korean territory and limited candidate land to 89 regions. Two criteria have been applied. First, any candidate sites must meet geological and climatic conditions. Second, population density has to be less than 185 per square KM. After careful study, KNEI selected 15 regions in the east coast and 10 regions in the west coast.

As we will see later, the government's plans to site nuclear waste facility were faced with determined opposition from local residents and postponed indefinitely. It is urgent for the government to find the sites for storage facilities as was seen in Chapter 1.

As of early 1997, the Seoul government has not made final decisions about what to do with spent fuel and HLRW. In fact, it has few options but to use an underground permanent storage facility for HLRW because reprocessing of spent fuel is strictly prohibited by the International Atomic Energy Agency (IAEA) which is concerned with the proliferation of nuclear weapons. The Seoul government has claimed that the nuclear waste storage that it is looking for would be used for the MLLRW only, and not HLRW. Most experts in nuclear waste disposal and concerned scientists doubted this government claim. Given the locations of all proposed storage sites in coastline, these experts expect the government to use an underground permanent storage facility to dispose HLRW as well as MLLRW once it finds a place to host the facility.

3.5 The Issue of Nuclear Weapon Development

The South Korean nuclear energy policy has been developed in close connection with nuclear weapon development. One analyst wrote that:

The merits and feasibility of many of the possible international movements, including some in energy, may depend on how they affect this domestic political struggle. . . . Some of the energy-related activities of South Korea and Taiwan are designed to counter actual or anticipated moves of their Communist national rivals as well as to increase the reliability of energy supplies (Yager, 12).

It is almost an open secret that the successive presidents of South Korea have been interested in the development of nuclear weapons. Preoccupied with the national security, the first president Seng Man Rhee and the late Park Chung Hee sought to produce nuclear bombs as a deterrent to North Korean invasion. Because of the American pressure against

the development of nuclear weapons, South Korea's presidents pursued their goals under the guise of peaceful uses of nuclear energy.

President Rhee was anxious to have nuclear weapons during the Korean War. The Yongdae Yee scandal was only one episode of President Rhee's desire for a nuclear bomb. Yongdae Yee was the name of a Japanese mechanic who specialized in manufacturing batteries. In 1950 President Rhee invited Yee, believing Yee to be a genius nuclear engineer, to South Korea with a generous research grant to manufacture a nuclear bomb. Acting his part as a genius nuclear engineer, Yee had good time until his true identity was revealed in 1953. During his stay in Korea, Yee cheated President Rhee with phoney A-bomb tests using hydrogen gas (You, 1992).

The issue of nuclear weapon development under Park's regime was a delicate diplomatic and political issue that strained the relationship between the United States and South Korea for a long time. But Park's determination to possess a nuclear bomb was known to be deadly strong. There are several episodes that can demonstrate president Park's will to produce a nuclear bomb. From the early 1970s, President Park began to be interested in "nuclear independence" from the United States as a part of a self-reliant national defense policy. Park himself stated in a speech that:

We, a country of small territory, must become a porcupine. We must cover our whole body with needles so that big animals such as lions or elephants could not look down us just because we are small (You, 1992: 97).

Park ordered a heavy water type nuclear reactor from Canada that could easily be used to produce plutonium, an essential ingredient of A-bomb. In the deal, Park was more interested in the 30,000 kW capacity nuclear reactor (NRX), designed for research only,

than in nuclear power plant reactors. At the time, India was successfully developing nuclear weapons using plutonium drawn from the NRX. Despite pressure from the U.S., Park attempted to introduce a reprocessing facility from France and Belgium. In the late 1970s President Park moved closer to the goal of "nuclear independence" by developing a missile system. At the time of Park's assassination in 1979, a rumor was spread that Park's desire to develop nuclear weapons contributed to his demise (You, 1992).

In Korean political culture, the will of president is the will of the administration. The administration has to prepare all the necessary measures to carry out his will at all cost. At the same time, most government employees concerned with nuclear energy programs enjoyed special privileges that others could not have. Their morale and pay were higher than those of other government agencies. For instance, the employees of the Nuclear Energy Center were paid three times as much as other government agencies during the Rhee administration. Under President Park's rule those concerned with nuclear energy programs were again honored with special social treatment. A senior researcher in the Korean Nuclear Institute, who has Ph.D. in nuclear physics, recollected that:

When I attended the Department of Physics of the Seoul National University, President Park visited the research lab a couple of times a year and encouraged us patting our shoulders. Later, when I was working at research lab related with a nuclear energy- development, the government issued a special ID card that granted special privileges for the holders. It allowed free pass in the midnight curfews. Even police could not touch us on minor felonies (You, 1992).

In South Korea, the presidents' will to develop nuclear weapons has greatly affected the nature of public administration in nuclear energy development programs. As

in the nuclear weapon development program, the principles of secrecy and bureaucratic privileges have been fully applied in the administration of nuclear energy programs.

3.6 Problems With Korean Nuclear Energy Policy

Several problems plague the Korean nuclear energy policy. In South Korea two "energy ideologies" compete to dominate the nation's energy policy. One is "promodernism"--the endorsement of modernization (the institutional commitment to technologically induced economic growth) as redemption and hope. The other is "postmodernism"--shaping or constructing the future by controlling or containing the fruits of modernization (technology) and using values perceived to be independent of it. It is different from so-called "antimodernism"--opposition to modernization, seeing it as damnation, advocating a return to traditional values by destroying modern things/ ideas/ inventions/ technology and the values that go with them (Jessen, 1981: 109-110).

Promodernism is shared by those involved in nuclear energy policy community (or "nuclearcrats") and the public at large. Most people, including the nuclear physicists and KEPCO employees interviewed for this study, expressed their optimism about technological future. One senior KEPCO employee stated that "Our nuclear policy is perhaps the most appropriate given the circumstance we have faced in the world competition. Once we are talking about environment protection, no development is the best" (Telephone interview with KEPCO employee, April 1996). Most people interviewed do not oppose the development of nuclear energy. They lend support to the government policy of power generation using nuclear energy. "We are living in a small

country. We do not have many choices" said another KEPCO employee. Nelkin and Pollak described succinctly what the Korean promodernists would believe:

National independence and international competitiveness are related concepts that reinforce each other: independence can only be achieved by reducing imports of raw materials (especially oil), increasing internal nuclear energy generation. The nuclearcrats take these objectives for granted and assume they are synonymous with the public interest (Nelkin and Pollak, 21).

The number of the people who have postmodernist energy ideology in South Korea seems small. The postmodernist energy ideology is largely shared among antinuclear activists and those living near the nuclear facilities. A local resident in Youngkwang said, "We cannot let our hometown become abandoned because of nuclear radiation. No matter how good the money may be, we cannot sell our land on which all our ancestors have lived since thousand years ago and all our descendants will live on for thousand years to come" (Interview with a local resident at Youngkwang, February 1996).

Another problem is that the nuclear energy policy has been pursued under the authoritarian military government in close relations with nuclear weapon development. Since the nuclear energy industry has been monopolized by the government, Presidents have had almost an absolute control over the industry. As a control mechanism, Presidents have made an effective use of their appointment power. Especially, the presidents have favored the people in the military. According to one study,

Public enterprises are often held to be inefficient because managers are constantly rotated and are appointed for political reason rather than managerial skills. In Korea two-thirds of the presidents of public enterprises (and half of the vice presidents) were formerly either military officers or civil servants (Jones and Sakong, 1980: 161).

KEPCO has been a typical public enterprise. Until 1992, when the current civilian government came in, all the CEOs of KEPCO except one, were ex-generals and hard-line techno-bureaucrats believing in the merit of maximum economic growth. Those CEOs have been understandably loyal to the presidents and social elites in Seoul. In a sense it is virtually impractical to expect to see general political considerations from the CEOs for non-elites, such as residents living near nuclear facilities around the coastline, in their management practices.

A Korean Atomic Energy Research Institute (KAERI) report points out that the Nuclear Energy Board has functional problems. It lacks a professional expertise to set up the complex work of making and implementing nuclear energy policy and coordinate the diverse organizational interests involved. One major reason is that the function and responsibility of making nuclear energy policy are distributed to several government agencies. Another problem identified is that NEB has few staff members working for it. As a consequence, its activities have tended to emphasize the role of deliberation, instead of policy-making and coordination. It has shown a tendency to avoid difficult and complex problems such as selecting the type of nuclear reactor.

The report also points out that the NEB has some political problems. NEB in practice has been dominated by the bureaucratic establishment in Seoul. Most of the board members are techno-bureaucrats striving toward "the national goal." For instance, it provides full membership with KEPCO's CEO, which is supposedly ministry level position. The successive KEPCO's CEOs have well represented the techno-bureaucratic

vision of a public enterprise. The purpose of establishment of KEPCO, says the CEO of KEPCO;

Korea Electric Power Corporation (KEPCO) a government owned enterprise, is committed to contribute to stable growth of the national economy. Its purpose is to promote the electric power resource development and to operate the electric power business in a manner that secures a stable and economical supply of electrical power (KEPCO, 1995: 5).

The management goals also reflect the vision:

The long-run objective of KEPCO management is to become "A Bellwether First-Class Enterprise in the World Electric Power Business" by the year of 2000. This goal can be achieved by supplying economical and stable electric power and by acquiring international competitiveness (KEPCO 1995, 5).

KEPCO's management has successfully represented the corporate interest of KEPCO. Making profits is another ultimate goal of KEPCO. "KEPCO is a corporation, whether it is public or private, interested in mainly making profit" (Telephone interview with an ex-KEPCO employee, April 1996). In fact, KEPCO has made huge profits since its establishment in 1961. In 1994 KEPCO made approximately 8,865 billion Won in net profit (KEPCO, 1995).

Second, the KEPCO as an organization seeks to expand the area of business activity. It would like to venture into virtually any place as long as it would bring profits and power to the organization. Currently, KEPCO runs 13 subsidiaries and affiliated companies. This could cause a significant problem because corporation' behavior of profit-maximization is inherently in contradiction with the democratic responsiveness of a public agency.

Another problem is that the current nuclear energy law has been poorly designed. It distributed the authority for making and implementing nuclear energy policy to three different agencies. This inevitably creates major coordination problems and contributes to the neglect of important questions such as the consideration of local political preferences and conditions.

For KEPCO the nuclear energy industry is a very lucrative field. It brings a tremendous amount of money, resources, and power to KEPCO. As a consequence, however, KEPCO is not held accountable for their actions to the public. KEPCO is a huge conglomerate that makes important policy decisions. But, it is only responsive to top government officials such as the president, secretary of MER, and the prime minister. In the words of a former KEPCO employee: "The opposition by the residents near the power plant station are basically a second concern. We have not paid enough attention to what the people thought about, especially the welfare of local residents near project sites. We did not have to" (telephone interview with an ex-employee, April 1996).

The nuclear energy policy of South Korea has been plagued by several problems, which are ideological, functional, managerial, legal and political, and organizational in nature. On the surface, Seoul enjoyed peace and success in its nuclear programs, but underneath people around nuclear facilities were very much discontented and ready to confront with the government at just the right moment..

3.7 Conclusion

This chapter reviewed briefly the history of the South Korea's nuclear energy policy in the general context of energy policy. Viewing nuclear energy as having a strategic importance in its continuous economic development, Seoul actively implemented nuclear energy policy adapting to changing economic environment. As the economy needed more energy and the concern about nuclear energy grew, Seoul vigorously pursued nuclear energy policy by creating new government agencies, enacting laws, and implementing organizational restructures. The Seoul government's nuclear energy policy has been handled by three primary actors: MER, MST, and KEPCO. Seoul has been under tremendous pressure to handle the issue of nuclear waste disposal, because of the necessity of expanding power generation using nuclear energy. It is now imperative for the government to find site(s) for both HLRW and MLLRW facility storage. Korean nuclear energy policy has been shaped mostly by the President's will. In particular, the issue of nuclear weapon development has expedited the development of nuclear energy policy. But Seoul's nuclear energy policy has several problems resulting from the dominance by the bureaucratic establishment. The principles of secrecy and bureaucratic prerogatives have become a tradition. As we shall see, this tradition imposed significant costs and eventually compromised effective, long-term nuclear facility siting policy implementation.

CHAPTER FOUR

NUCLEAR ENERGY AND SOUTH KOREAN SOCIETY

4.1 Introduction

South Koreans since the late 1980s have witnessed several major incidents of mass mobilization against the government's unfolding nuclear programs. Residents in the town of Youngkwang, Wooljin, and Kori took to the streets in explosive protest against the construction of nuclear plants. Later, at Youngduk, Wooljin and Anmyon Island, violent mass movements erupted against the government's attempts to locate nuclear waste facilities near these communities. To understand and explain the proliferating phenomenon of mass mobilizations against nuclear facilities in South Korea, one needs first to understand why the people in general perceived nuclear energy negatively. As we discussed earlier, this is basically a cultural phenomenon based upon history and unique experiences of the people. This chapter therefore reviews the some of the elements of cultural bias against nuclear energy in South Korea. They are public perception of risk, popular distrust of government, the operation of Korean journalism, and the emergence of antinuclear groups.

4.2 Risk perception

The public perception of risk is very important in explaining the mass mobilization of local residents against the government programs to build nuclear facilities in South Korea. We will discuss the meaning of risk perception, some essential characteristics of

Korean perception of risk, and the historical origin of the risk perception. In short, South Koreans associate nuclear energy with very high level of risk.

4.2.1 Meaning of Risk Perception

The term "risk" in the discourse of public policy study usually refers to risk *perception* or *risk assessment*. How one perceives an object in terms of risk is determined by his or her risk assessment. Risk assessment may be defined as "the process of obtaining quantitative measures of risk levels, where risk refers to the possibility of uncertain, adverse consequences" (Andrews, 1990: 169). The term means somewhat different things for different people. Engineers use it as a "methodology for estimating probabilities of technological failures through fault-tree studies." Life insurance actuaries use it as a "standard practice for estimating life expectancy." Cognitive scientists use it as "a more general psychological process that shapes every individual's perceptions of, and behavior toward, choices that may bring gain or pain." For toxicologists and epidemiologist it primarily means quantitative health risk assessment (Andrews, 1969). To them, risk means "the probability of injury, disease, or death under specific circumstances," and risk assessment means "the characterization of the potential adverse health effects of human exposure to environmental hazards" (Andrews, 170).

Risk assessment is permeated by value judgments. Such judgments in practice are based not only on preliminary evidence of risk but also on publicity, lawsuits, and other political pressures. In conducting each risk assessment, the analysts' personal value judgments come into play whenever they must make assumptions or draw inferences in the

absence of objective facts. In practice, data are scarce. Even if they exist at all, the analyst must make numerous judgments about their applicability (Andrews, 173).

Human response to a hazard is characterized by uncertainty. Ravetz (1980) in describing aspects of risk assessment notes that risks are universal, unavoidable, and conceptually uncontrollable. A decision to act in response to a hazard interacts with all other areas of an individual experience, for the individual tends to view each decision as yet another element in his or her total experience. Risks are generally incalculable. Being exposed to a major hazard is often rather like taking a chance in a gigantic lottery (Ravetz, 1980). Potential damage would be very great but the likelihood of occurrence is quite small. The accident is viewed as depending upon luck. For an ordinary event, such as the risk assessment involved in an automobile trip, the information available is generally inadequate for a proper calculation of the odds of hazard. Hazards are conceptually uncontrollable. One can never know whether enough has been done to prevent a hazard from occurring (Coppock, 1984: 149-150). Douglas and Wildavsky (1982: 8) point out that the selection of particular kinds of danger for public attention and action is a cultural phenomenon. They aver:

The choice of risks and the choice of how to live are taken together. Each form of social life has its own typical risk portfolio. Common values lead to common fears (and, by implication, to a common agreement not to fear other things). There is no gap between perception and reality and no correct description of the right behavior, at least not in advance. The real dangers are not known until afterward (there always being alternative hypotheses). In the meantime, acting in the present to ward off future dangers, each social arrangement elevates some risks to a high peak and depresses others below sight. This cultural bias is integral to social organization.

In short, to what extent one perceives risk from an object is very subjective. It is permeated by value judgment and, to a great extent, determined by culture.

4.2.2 Characteristics of Korean Perception of Risk

In South Korea, one of the most important reasons for policy deadlock in siting nuclear facilities is the highly negative mass perception of risk about nuclear energy. Since the 1960s, Koreans have had a passive attitude toward risk involved in the development of technology in the process of rapid industrialization. Despite a notorious reputation as the top ranked nation in automobile accident rate, South Koreans regard the auto accident as personal misfortune or fate. Koreans take pains not to accept an industrial accident as something that cannot be avoided. They also tend to focus on the recovery after natural disasters such as hurricanes regarding such misfortunes as a will of the nature, instead of preparing for such events so as to reduce the damage as much as possible (Kim 1994).

Y.P. Kim's study of risk assessment among Koreans revealed interesting patterns. Kim argued that Koreans reversed the subjective risk and objective risk. According to Kim's study, the results of which are presented in Table 4.1, Koreans tend to regard transportation as the safest area. They regarded travel by train as the safest among the top 20 sources of risk. Air travel and ship travel also belong to the safest groups of risk. In contrast, drinking water contamination was regarded the most dangerous source of risk.

This is entirely *inconsistent* with the reality revealed by transportation system statistics. Statistics, for example, show that automobile accident caused 17,000 death and more injuries per year in South Korea. Yet, the public considers environmentally-related risks, such as drinking water contamination, ozone depletion and general waste disposal

as far more hazardous than transportation. It must be noted, however, the South Korean's fear of drinking water contamination is understandable due to the highly-publicized pollution incidents such as the Penol Spill Incident in which the polluter, Doosan Corporation, was severely penalized for spilling toxic materials in Nakdong River and Yongsan River in 1993.

Koreans view nuclear power generation as relatively safe, ranking it fifteenth out of twenty hazards. It is regarded as safe next to travel by ship. This suggests that Koreans more or less accept power generation using nuclear energy as inevitable and have normalized the risk. Koreans, however, conceptually distinguish nuclear power generation from nuclear waste disposal and nuclear radiation. In contrast to nuclear power generation, nuclear waste storage and nuclear radiation are regarded as very dangerous. As shown in the Table 4.1, nuclear radiation ranked third (score=1.38), and nuclear waste disposal storage ranked sixth (score=1.47) among the most dangerous source of environmental pollution. It is notable that nuclear radiation is regarded by the public as dangerous regardless of the extent of radiation. This result contradicts the experts' argument that nuclear waste disposal storage is much safer than nuclear power generation (Kang, 1993; Kang, *et al*, 1992; KEPCO, 1992b).

Risk perceptions differ across countries. Table 4.1 shows, for example, that there were significant differences in individual risk perception between America and South Korea. While a direct comparison between the two countries is difficult, the study shows that people in America and South Korea think of different things when they are asked what is most hazardous. In America, people consider smoking, alcoholic beverages,

handguns, and electric power, among others, to be hazardous; these are not even included in the list of hazardous things in South Korea.

The survey by Park and Yi (1992) further developed Kang's study. The survey indicates that the Korean public perceived a much higher risk from a nuclear waste facility than from nuclear power plant. Table 4.2 shows that while the opposition to siting nuclear plants near one's residential area is 9.3 percent, the opposition to a nuclear waste facility is 44.4 percent.

Moreover, Table 4.3 shows that there are significant differences in risk perception based on education. Those with a high school education or less take more seriously the risks of nuclear radiation, nuclear waste disposal storage, and nuclear power generation than those with a some college or more education. Those with college or more ranked the nuclear waste disposal storage sixth while those with a high school diploma or less ranked it third among the 20 sources of risk. In summary, the studies by Kim and Park and Yi lead us to conclude that an individual's risk perception against nuclear energy is a sociopolitical and cultural product.

4.2.3 The Cultural Origin of the Negative Perception

Despite the heavy reliance on nuclear energy for their energy source and detailed explanations by scientists and public officials on nuclear energy, South Koreans have many problems with accepting it entirely. Most Koreans perceive nuclear energy as a very dangerous object. This negative perception about nuclear energy is based upon several historical, social and political factors (Kang, 1993).

Many Koreans who were conscripted by the Japanese colonial power during World War II and subsequent experienced the nuclear bomb. They are actual victims of the nuclear radiation and thus understand the serious consequence of a nuclear disaster. Koreans have lived under the danger of general war since the Korean War. The successive governments in Seoul have stressed the threat of war. They have feared that the country might become a war zone among the nuclear super powers. The fear has been symbolized by the presence of the U.S. military force stationed in the country. Many antinuclear groups suspected that the American force on the peninsula were armed with tactical nuclear weapons. The recent conflict with North Korea over the development of nuclear weapons has been well publicized. The continuous media coverage of the issue contributed to the negative image of the nuclear energy among the South Korean public. The peace movement, along with the democratization movement, has evolved into an antiwar and antinuclear movement. These movements publicized the negative aspects of nuclear energy among the public. As environmental pollution has emerged as the international problem of our time, environmental movements have stressed the negative aspects of nuclear energy. This has affected public attitudes in South Korea. Finally, news media coverage in Korea about nuclear energy has focused on the accidents or near accidents. The accidents in Chernobyl and Three Mile Island were classic cases of such news media coverage. This has strengthened the antinuclear sentiments among the Korean public (Kang, 1993).

It is certain that these historical experiences and sociopolitical circumstances have shaped and reinforced the perception that Koreans have about the nuclear energy. The

perception is characteristically negative rather than positive. According to a survey by the Seoul National University (1991) Koreans have a negative image about nuclear energy as shown in Table 4.4. The survey found that more than half of the respondents (52.5%) have a negative perception about the nuclear energy. Koreans think of nuclear war, Hiroshima, Chernobyl, nuclear radiation contamination, ecosystem change, environmental destruction, and so forth, when they hear the term nuclear energy. In contrast, only about ten percent (9.9%) said the term nuclear energy reminded them of national development, science and technology, medical treatment, alternative energy, electricity, and non-pollution. This survey discovered that Koreans are suspicious of the safety of nuclear plants and nuclear waste management. Many Koreans believe that nuclear energy can be managed safely; yet, they do not believe that nuclear plants in South Korea are safely constructed and operated. Similarly, many Koreans do not believe that nuclear wastes can be safely managed. As shown in Table 4.5, about 42 percent of respondents answered that the operation of nuclear plants in South Korea was *dangerous* or *very dangerous*.

The survey also found that, as shown in Table 4.6, Koreans do not trust the domestic nuclear plants in general as compared to those in industrialized nations. Roughly half (48.6%) of the respondents believed that nuclear plants can explode like a nuclear bomb. Over half (55.2%) believed that residents around nuclear plants create a higher chance to contract cancer. Substantial proportions of the public (40.2%) believed that nuclear plants leaked enough radiation to harm humans and they polluted the sea around nuclear plant sites.

The public's perception about the management of nuclear waste disposal is similar to that about the nuclear plant operation, as is apparent in Table 4.7. About 70 percent of the public expressed skepticism about management capability. Only 30 percent believed that the disposal of nuclear waste is well managed.

Many Koreans have a shallow understanding about the issue of nuclear waste disposal. Nearly six-of-ten respondents (57%) admitted that they *do not know anything* about nuclear waste disposal. Only four percent said they know about it. Nevertheless, the Korean public perceive nuclear energy as a very dangerous object.

4.3 Public Distrust in the Government, Public Participation, and Regionalism

As long as people believe that a political system is trustworthy, they are more likely to be hopeful and try to support and contribute to the system. Many Koreans today express deeply rooted distrust toward existing political parties and institutions. They question whether the government represents their true interests. The notion of interest representation by the government analytically has two meanings. One involves an ethical consideration: Is the government willing to help social inferiors and political minorities? The other is more technical: Is the government capable of carrying out its policies? This distinction is important because Koreans tend to emphasize intention rather than capability as a basis of individual judgement when they evaluate persons or things.

Most Koreans are far more concerned with the government intention than its capacity. Public trust in government seems to have an enormous impact on public policy implementation. One study, for example, suggests that "public confidence in the fairness

of public decision-making--in the way decisions are made, and in their outcome--is vital to the success of the democratic political process" (Mazmanian and Morell, 1990: 131). This suggestion is quite appropriate and applicable to the South Korean situation. According to a recent study, South Koreans in general have a low level of confidence in their government. Park (1989), in an extensive study of political support and governmental performance in South Korea, discovered that nearly three-quarters (73%) of those citizens who were dissatisfied with governmental performance viewed the government as "untrustworthy, unfair, and dishonest" (752). Park also reported that about eight-in-ten (78%) South Koreans who rated government performance as poor also viewed the government "biased" in terms of interest representation (752). Park sought citizen evaluations of the government's performance on economic and political dimensions. He found that both dimensions had significant effects on the public's level of trust in government; South Koreans who less favorably reviewed the economic and political performance of the government tended to have less trust in the government, and less support for the Seoul regime. The correlations among trust, regime support and performance were far stronger for political than economic dimensions (754).

Those dissatisfied with the government's performance, Park found, were most likely alienated from the proclaimed benefits of economic growth and scientific and technological development over the last generation. Their perception of the central government was very negative and untrusting. Park's research shows that the South Korean government is not trusted by a substantial portion of population. Distrust is

especially widespread among those discontented with the Seoul government's economic and political performance (Park, 1989).

The low level of public trust played a critical role in the policy deadlock in South Korea. Because the public could not trust their government, they could not trust what the government was doing. More importantly, the public distrust led to the explosion of public participation in the policy process.

4.3.1 Public Participation

As the national political culture changes, the public in general came to have different ideas about who should make, and what should be the basis for policy decisions? In the United States, a major mechanism making key decisions about new industrial facilities was the market (Mazmanian and Morell, 1990: 128). In South Korea, by contrast, the government bureaucracy was largely responsible for the decisions concerning the location, design, technology, cost/benefit calculations, management, and operation of industrial facilities. No one could challenge the authority of the government bureaucracy because it virtually monopolized information and scientific expertise concerning these matters. The government bureaucrats virtually were free to choose any site. The primary criteria used for the decision was economic efficiency. New industrial projects, whether those for chemical waste disposal, nuclear power plants, or radioactive waste disposal, were justified politically in the name of national development and economic growth. For years, the local residents tended to welcome such projects because they brought new jobs, increased income, and provided other fringe benefits accompanying community development.

Under the new politics of democratization, almost all industrial projects are subject to close public scrutiny and resistance from local communities. The notion of *the mandate of state* has vanished and few government industrial siting projects are accepted now without resistance from the local populace. The South Korean people no longer show a great deal of deference to the government bureaucracy. Public authority itself is considered now to be a source of corruption representing only the interests of the powerful. Political slogans such as economic growth and national development are no longer accepted as absolute values. A consequence of the new society is the decreasing support for national institutions and their policies. That is to say, South Korea today fits well what Inglehart described as a general phenomenon of post-industrialism. He said that:

Apparently, nationalistic sentiments are not being transmitted to the young with the same fidelity as in the past. Governments traditionally have exploited patriotic symbols as sources of legitimacy for their actions. As popular support of these symbols declines, governments can no longer draw so easily on this resource (Inglehart, 1977: 14).

Today, as the popular support to the government decreases, the public no longer is passively accepting of governmental decisions in public policy process. The public is now so likely to become so vocal that the government can accomplish little without their consent, explicit or implicit. A study of the mass uprising at Anmyon Island by Kim and Yoon (1992) shows that many Koreans view citizen's demands to participate in policy-making as the primary reason behind the Anmyon incident. Table 4.8 shows that, among those who were aware of the incident, 36.1 percent said the exclusion of local residents from public policy-making was the primary reason for mass uprising. Another 35.1

percent said the mass uprising took place to prevent environmental pollution. Only 13.7 percent said it was a result of local residents' misunderstanding of nuclear waste.

The social and theoretical basis of the policy decision process has changed significantly in many regimes. New standards of substantive and procedural fairness are being applied. For example, Mazmanian and Morell (1990) observed a major shift in America. In their view, Americans now hold "new definitions of individual and community political rights" and pay more attention to the equal treatment of minorities (132). Under this new trend, the utilitarian notion of justice (*the greatest happiness for the greatest number of people*) no longer justifies the sacrifice of the rights of minorities for the benefit of the majority. "The economic well-being of the majority has come into direct conflict with the growing political and social rights of various other interests, and the latter often prevail in a siting controversy" (132). This observation well suits the present South Korean situation.

4.3.2 Regionalism

What complicates matters more is the persistence of *regionalism* in South Korea. The extent to which the public trust the government varies across the regions. The issue of siting nuclear facility has been greatly affected by regional culture. This is particularly true because South Korea has a long historical tradition of regional antagonism. The country has been sharply divided between southwest Cholla Province and southeast Kyungsang Province for more than three decades over the issue of national political hegemony. Many people in Cholla Province have felt they have been discriminated against by the Seoul government. There is particular resentment against elites from the Kyungbuk area who

have dominated politics and government for decades. The discrimination is most evident in economic disparities that fuel regional resentments and rivalries. Table 4.9 shows, for example, that nearly three-quarters (73%) of the people living in Cholla Province believed that they were more underdeveloped than other areas. People now believe that regional discrimination also applies to nuclear facility siting decisions. Local residents near the Youngkwang nuclear power station, which is located in Cholla Province, feel that recent attempts at siting a nuclear facility at their town was largely a matter of long-term regional discrimination—this will be further explored in detail in Chapter 5.

The proliferation of public demands to participate in the policy process, and since democratization, expanding expectations that this participation will have a real impact on the system, is deeply affected by long-smoldering suspicion of political elites operating in the national capital and drawn from certain regions of the nation. Expanded participation by an *untrusting* public is now a central feature of South Korea's policy process. This effectively has reduced the ability of central government officials totally to control the policy process. As we shall see, this domination is further challenged by regionalism as is aptly illustrated by South Korea's unfortunate recent experience with nuclear facility siting policy.

4.4 The Role of Mass Media in South Korea

Mass media reports are based upon their own interpretations of program implementations and thereby shapes the perceptions of the public, interest groups, and policy implementor as well. Nakamura and Smallwood (1980) observe that the mass

media has the capacity to exercise tremendous influence on the implementation process. It not only serves to monitor the policy implementation process, but also can have a direct impact on the outcome of policy.

According to a study conducted by Ki Sik Lee (1994), the Korean mass media plays several critical roles in environmental decision making. First, the mass media helps set the environmental agenda by providing information. Agenda-setting is a critical step directly related to a policy-making. The mass media set the agenda in the case of the collection of construction materials at Lake Parldang. Second, the mass media can define and redefine the issue, thus restricting policy alternatives. The Korean mass media saw the collection of construction materials at Lake Paldang from an environmental perspective, not from that of a city manager concerned with assuring a clean water supply. Third, the mass media simplifies complex policy issues by analyzing, interpreting information, and providing the basis for judgements. This simplification of complex policy issues provides a motive for non-governmental players to act. Fourth, the mass media enables players to act strategically. Once information is provided the players can know what is their stake at the game. Without information and feedback, the players can not make judgements about what to do because they do not know how other players would react. Fifth, the mass media organizes players of the game. For instance, the mass media brings environmental groups together on a particular issue, facilitating a coalition formation between environmental groups and expert groups. The organizing function was well exemplified when the civic and environmental groups made a coalition with academic expert groups by opening the hearing on the water pollution at Lake Parldang, which led

to the birth of the Group for Clean Water. Finally, according to Lee (1994), the mass media plays a role of *judge*. When the Environmental Department decided to exclude those who opposed the collection of construction materials at a hearing in order artificially to create a more supportive atmosphere, the mass media criticized the decision as unfair and unjust. Newspaper editorials especially were vocal critics of the government and served as a rallying-point for mounting public opposition.

The power of the mass media is enormous in the area of nuclear energy policy. It is evident when one considers where Koreans obtain information about nuclear energy. A survey by Park and Lee (1992) showed that, as Table 4.10 indicates, most Koreans obtain this information through the mass communications media--TV, radio, and newspapers (70.9 percent). Another 11.5 percent relied upon friends. No other source of information, schools, family, government agencies, and antinuclear groups was cited by as much as five percent of respondents. Clearly, as filtered through the cultural biases described earlier, the mass media's role in shaping public images of nuclear energy is critical. In the same survey, as Table 4.11 indicates, among those who indicated a shift in opinion about nuclear energy as a result of media coverage, the public was somewhat more likely to be negative (26%) than positive (21%) in their view.

In Table 4.12 we see that South Koreans place a relatively high level of trust in the mass media as an information source regarding nuclear waste management. Nearly eight out of ten respondents in the national opinion survey indicated that they considered television and radio (77.4%) and newspapers and magazines (79.4%) as *credible* sources on this issue. It is revealing that the public considered antinuclear groups as a *far more*

credible source of information (84%) than the government (58%). The high degree of public distrust for the government in nuclear affairs is reflected in the fact that four-in-ten South Koreans indicated they found it an incredible source of information regarding nuclear waste management--this is double the incredibility rate among the other sources.

The importance of the role played by the mass media as a *credible and commonly accessible* source for public perceptions about nuclear energy cannot be overemphasized. Lee (1994), however, in a study of South Korean journalism discerned three critical problems with reporting nuclear energy. First, Lee found a lack of scientific and technical expertise among journalists which tended to induce inaccuracy and distortion into reporting about subjects such as nuclear energy. He found, for instance, that newspapers might well provide headlines announcing problems at nuclear power plants when engineers were simply performing routine maintenance--such as nuclear fuel replacement. Or, for another instance, radio reports at the time mistakenly reported that Three Mile Island and Chernobyl had identical reactor systems due to their lack of technical competence. Such errors, contends Lee, are common in Korean journalism.

Second, Lee found that even the most objective reporting (from the perspective of reporters) could nonetheless distort reality on nuclear issue. In spite of many rules of objective reporting, it is the reporters who decide what to write about. For instance, a newspaper article reporting a high incidence of birth defects among newborn infants in the area of nuclear power plants may not be false. Yet, the article implies, although it may not be intended, the presence of nuclear plants is the cause of malformation.

Third, the nature of mass media is one of accusation. Journalists may very well be aware of the necessity of nuclear power as an energy source for a country like South Korea. But, they are interested in unusual conditions such as accidents rather than in ordinary events. This tends to exaggerate public perception of nuclear hazard incidents.

The attitude of the Korean mass media toward nuclear energy changed significantly in recent years (Choi, 1993). Until the late 1980s, the mass media's coverage of nuclear energy policy was positive, representing the nuclear energy community's perspectives. It largely focused on the development of nuclear technology, or events within the nuclear energy community such as the construction of nuclear plants and signing contracts with foreign corporations. After 1988 as the press emerged from decades of strict censorship, however, the mass media's coverage of nuclear energy became negative. It started reporting the problems with nuclear plants, the mass demonstration of the local residents near nuclear plants, and critiques of general nuclear energy policy. In 1990, when the Anmyon Island Incident took place, most major daily newspapers and radio and TV broadcasting companies in Seoul sent teams to cover the incident. At the height of the disturbance most daily newspapers treated the Anmyon Incidents as headline news.

In summary, the Korean mass media, through its enormous power, played an important role in shaping a negative perception about nuclear energy and, subsequently, facilitated mass mobilizations against the government nuclear projects. Most Koreans are dependent upon the mass media for their source of information about nuclear energy. The mass media has developed its own culture regarding nuclear energy. Consequently,

overall impacts of the mass media on the public's perception of nuclear energy is clearly negative.

4.5 The Emergence of Antinuclear Groups

Although the Korean antinuclear movement has a short history, it has greatly contributed to the mass mobilizations against the government nuclear programs. Although there had been some informal environmental organization earlier, a meaningful environmental movement started in 1982 when the Korean Pollution Institute (KPI) was established. The goals of KPI were to help people to understand and realize the importance of environmental pollution, and assist victims of pollution. Thus it studied the condition of environmental pollution, provided consultation for pollution victims, and delivered public lectures on pollution. The environmental movement at this time was by and large a nonpolitical social movement, meaning that it did not challenge government policy or the legitimacy of the government. Of course, had it done so during the time of authoritarian rule it would have invited swift reprisals from the regime.

The antinuclear movement in South Korea, unlike the early generic environmental movement, developed in close relationship with the political struggle against the military authoritarian government. Seoul officials believe that the antinuclear movement was in fact a political movement; the official view is that it disguised its real objective by targeting a policy issue. But in reality its real purpose, from the perspective of those in power, was to challenge the government. South Koreans had not heard about the antinuclear movement until 1984. Then KPI issued a communique to oppose the further construction

of nuclear power plants in the country. This was the first time that a social group openly expressed opposition to the government's nuclear energy policy. It was a bold move at the time. Thereafter, antinuclear positions, slogans and catchwords often appeared in the democratization movement. The antinuclear movement gradually attracted attention and gained some supports among intellectuals, college students, religious groups, and some of the public. Yet until quite recently, the antinuclear movement largely was an element in the larger effort to attain the goal of democratization.

Eventually, the public began to be concerned with the government's nuclear program when a variety of incidents and scandals associated with nuclear plants were revealed to the public, such as the incident of a heavy water leak at the Wolsung Nuclear Plant and scandals surrounding the introduction of Youngkwang 3 and 4 reactors¹. These incidents considerably damaged the public perception of nuclear energy in terms of its safety, provided credibility to the antinuclear movement, and seriously undermined the political legitimacy of the government's nuclear program.

After democratization in 1987, several antinuclear groups were created and some existing environmental groups were transformed into antinuclear groups. They contributed greatly to the spread of antinuclear movement among the public. Among others, a group of senior physicians, the *Insoohoi*, joined the International Physicians for the Prevention of Nuclear War (IPPNW), which had local chapters in 55 countries including as the United States and the Soviet Union. The Physician Association for Humanism, organized largely

¹ It is widely believed that a government agent took \$100 million as a kick-back from an American contractor in the early 1980s.

by young physicians in 1987, established a Committee on Nuclear Energy to deal with the issue of health of employees working in nuclear power plants. In September 1988, the Movement League to Expel Pollution (MLEP) was created through a merger of the Youth Coalition to Expel Pollution and the Citizen Coalition for Antipollution. MLEP, the most active antinuclear group, created the Committee for Antinuclearism within the organization to promote its proclaimed opposition to nuclear power plant. The Prist Association to Expel Pollution also observed the Week For Antinuclear Power to arouse public awareness about the danger of nuclear power. These groups helped to mobilize local oppositions against the government's nuclear energy policy. Besides these, the Information Center for Antinuclearism, the Study Group for Environment and Pollution, and the Committee for Antinuclearism and Peace followed MLEP's lead. The environmental groups were supported by some members of various groups--social, feminist, religious, health, political, academic, and journalist. They are also allied with local groups fighting against the government plan to site nuclear facilities.

The antinuclear groups in South Korea argue that nuclear energy is not a good source of energy. They point out several problems with nuclear energy. First, nuclear power plant is a potential factory for the assembly of a nuclear weapon. It can serve as a means to obtain plutonium to manufacture nuclear bombs. Second, since humans are not perfect, no matter how well nuclear plants are designed and managed there is always a possibility of accident. Given the tremendous destructive power of a nuclear plant and Korea's limited territory, a single catastrophic accident would be enough to destroy the whole country. Third, using nuclear energy creates several other problems, most

especially nuclear waste disposal. The devastating radioactivity of spent fuel and high level nuclear waste can last up to one million years. Fourth, the radioactivity of nuclear energy puts the people around the facilities, particularly workers at nuclear plant, at a great risk. It poses a great threat to the environment. Fifth, nuclear energy is not a cheap source of energy *vis-a-vis* other source of energy such as fossil fuel. The proponents of nuclear energy, for example, deliberately distort the way to calculate the cost of producing a unit of electricity by leaving out the cost of decommissioning of nuclear plants.

A study by L.P. Gerlach and V.H. Hine (1970) suggested that a social movement is "composed of a great variety of localized groups or cells which are essentially independent, but which can combine to form larger configurations or divide to form smaller units" (41). In their study of the Pentecostal Movement and the Black Power Movement, the analysts found that a social movement is *reticulate*. It resembles a network with crossing and intercrossing lines. That is to say: "The organization segments of a movement are linked into one reticulate structure by personal ties between members and between local group leaders, by the activities of traveling evangelists or spokesman, by some cross-cutting organizations, and by certain basic ideological themes" (78). Generally speaking, the antinuclear movement in South Korea is tied together by an alliance among independent groups on a national scale. The ties are based upon shared ideology, personal kinship among the leaders, large scale organizations, and activities of traveling agents. This in effect greatly expands the influence of relatively small national organizations with comparatively limited resources.

The antinuclear movement in South Korea has been propelled by a powerful political ideology that comes from the country's political situation and its association with the democracy movement. In a report the MLEP (1988-1990) summarized its ideology as follows: Nuclear power plants were introduced from abroad in the absence of people's consent. This is sold the people's survival to a foreign power. The purpose of the antinuclear movement is to reveal this fact to the people and to establish a democratic government for the people. MLEP also argued that the *Basic Press Law*, which blinds the people's eyes and ears, must be abolished. All secrets associated with nuclear plants must be revealed. The antinuclear movement is dedicated to confirming the sovereignty of the Korean people. In MLEP's view, the peaceful use of nuclear energy is to camouflage the real purpose of the nuclear energy program. It considers a nuclear power plant as a potential nuclear weapon manufacturing factory, and nuclear waste as the ash of death. This ideology is the key to the infrastructure of the antinuclear movement in South Korea.

The leaders of antinuclear movement maintain close contact with each other at both the national and local level. At the national level, the leaders have known each other for a long time through the prolonged struggle against military authoritarian governments. They come from virtually every element of society--cultural, legal, political, religious, medical, and academic--in and outside of the established system. In their struggle, many of them share bitter experience from periodic imprisonment and a compassion for "the oppressed." Most of them are highly educated intellectuals with a deep commitment to democracy and Korean nationalism. Thus, leaders such as Jee Ha Kim from the cultural community, Kee Wan Pack, Lak Joong Kim, and Jong Tae Park from the political

community, and Wool Byung Jang and In Ho Yoo from the academic community, were well known intellectuals imprisoned together for their activities against the government.

At the local level, movement leaders are close to each other. Similar to their national counterparts, they have known each other for a long time through regional proximity, employment in the same or similar occupations, and the lack of mobility that typifies rural areas. Most decisions are made at a council of elder, wisemen, but the young activists are very influential. The leaders pursued political careers and many of them were student activists and veterans of the democracy movement. As one government official saw it: "Once the democracy movement was over, they tried to find new political issues in which they could be engaged. And it was antinuclear movement" (Interview with KAERI official, March 1996).

In terms of organization structure, environmental groups are multi-headed and largely independent from each other, although they are organized in a national scale. There are two cross-cutting organizations in a national network that links segments of antinuclear movement. First, the government believes that antinuclear groups, especially MLEP, were behind most local antinuclear organizations and mass mobilizations. MLEP has several collaborators such as the National Farmers Alliance (NFA), Catholic Farmers' Association (CFA), the National Teachers' Union for Education Reform (NTUER), and the National College Association (NCA). It is also supported by eleven professional associations such as the Workers Union in Mass Media. On April 15, 1989, groups which were engaged in fighting nuclear plants gathered in Seoul to establish the National Center to Expel Nuclear Plants. It set as its goals as the cancellation of the construction of the

Youngkwang 3 and 4 reactors, the resistance to nuclear waste facility construction, and the assurance of the rights of the people living near nuclear plants. The gathering elected three prominent figures as joint chairmen including Choi Yo, chairman of the MLEPI.

Antinuclear groups have used a coalition strategy in their battle against the central government. This entails the formation of a network among those who had same interests, ideology and experience through unifying events or rituals (Gerlach and Hine, 1970). This strategy of coalition building was applied to mass mobilization at the local level as exemplified by their coordination of a series of antinuclear activities in 1988 and 1989.. On December 5, 1988, for example, local residents at Youngkwang, Kori, and Wolsung were engaged simultaneously in demonstrations in protest of the government nuclear energy program. The residents blocked front and rear gates of the local nuclear stations, demanding compensation for nuclear radiation releases, immediate emigration, and the shutdown of the nuclear plant. A week later, about 400 residents from the three regions traveled to Seoul to protest the government plan to build the Youngkwang 3 and 4 reactors. They adopted a joint resolution, provided in Table 4.13, accusing the Seoul government and the United States of exploiting local residents. The National Center to Resist Nuclear Plant Units 11 and 12 (Youngkwang 3 and 4) was established on April 1, 1989. On April 26, 1989, meetings in commemoration of the third anniversary of Chernobyl accident were held simultaneously in Seoul, Pusan, Youngkwang, and Mokpo. On June 5, the World Environmental Day was commemorated in three different regions-- Seoul, Pusan, and Kwangjoo. The communiques adopted at each commemoration ceremony demanded the cancellation of the Youngkwang 3 and 4 project. On September

26, one hundred people from various groups--cultural, legal, social, health, religious, political, and academic--adopted a "Proclamation by One Hundred Persons" to resist the construction of Youngkwang 3 and 4.

Residents around nuclear plants or proposed nuclear waste facility share similar fears and experiences. "Individual members of different local groups are associated through pre-existing ties of kinship, friendship or other close relationships. More ties based on similar experiences in the movements are formed after the individual has been drawn into the movement" (Gerlach and Hine, 1970:56) . Local residents are tied through some of their membership in NFA, CFA, NTUER, and NCA--the most progressive or one may call "radical" groups. Although the number of local residents paying membership dues is not large, they have been very influential in motivating whole communities. They feel that they are a victim of exploitation by the government's nuclear energy policy. In their view, the rich and powerful promote their interests at the expense of the poor at the countryside. Most of local residents share a sentiment that they deserve a bigger share of pie in the rapid economic development of the nation. They argue that nuclear facilities cause tremendous economic loss--such as the declining value of land and property owned by local residents, and declining price of agricultural and fishery goods produced in local areas. But the government and its contractors refuse to pay compensation for the economic loss which inflames the local sense of deprivation and victimization..

Another point to be noted is the role of "traveling organizational articulators." Gerlach and Hine (1970) found in Pentecostal Movement and the Black Power Movement that traveling evangelists hold meetings in varying localities throughout the countries.

Other participants travel to organize rallies, crusades, demonstration, or religious revivals. These may be called traveling organizational articulators or traveling agents and they are important links in the reticulation of the cells. In South Korea, there are indeed such traveling agents in the antinuclear movement. They seek to provoke fears about nuclear power and discredit the government's claims by appearing before temporary groups gathered to hear what the agents have to say. It is safe to say that traveling agents are very likely to be involved in local mobilizations against the government nuclear projects in South Korea. The systematic and coherent mobilizations of local residents in the absence of experience with mass mobilization and their lack of knowledge about nuclear energy would not be possible without the involvement of the traveling agents equipped with knowledge, expertise, and experience with mass mobilizations. For instance, local residents at Youngkwang, Kori, and Wolsung, who gathered at one place and produced a joint resolution, did not know how to organize opposition, how to write pamphlets and whether and how to contact the mass media to create a political issue. Plus, it may be safe to say that they had little knowledge about nuclear plants or nuclear waste facilities, and they had little knowledge about the scandals around the government nuclear program which were known only to a limited number of elites. But the joint communique by the residents showed that they were knowledgeable about nuclear energy and were well aware of the scandals.

The best known traveling agent or spokesman is Choi Yol, the chairman of MLEP. After the government announcement regarding the establishment of a plan to site a nuclear waste facility in December 1991, Yol toured a number of candidate sites and delivered

lectures opposing the government project . On January 7, 1992, Choi delivered his speech against the government plan at the Wooljin Catholic church to a crowd of about 300. He argued that nuclear waste facility should not be build until all the issues around the safety of nuclear waste were resolved. He emphasized that radioactivity would contaminate all ground water and surface water, and would subject descendants for a hundred generations to a great risk. He demanded that the government open a public debate to determine whether or not to build a nuclear waste facility. Yol's lecture was normally followed by discussions and the playing of an antinuclear video. The activities of traveling agents such as Yol, make possible another type of linkage which cuts across and binds the organizational cells of the movement.

In summary, the impact of antinuclear groups on the mass mobilizations has been literally explosive. The antinuclear movement in South Korea is tied together by alliance among independent groups in a national scale. The ties are based upon shared ideology, personal kinship among the leaders, large scale organizations, and the activities of traveling agents.

4.6 Conclusion

South Koreans have shaped their cultural bias against nuclear energy into a strong force resisting national nuclear energy policy. To be sure, some have forged it into a coalition network of national and local antinuclear groups. They have become so sensitive to the issue of nuclear energy that few would now accept it entirely. The Koreans' high risk perception about nuclear energy is rooted in the history and culture of the society. Koreans' desire to be informed and participate in making public policy grew as the public

distrust in the government increased. Mass media and journalists played a part in shaping the negative perception of nuclear energy. Finally, the emergence of antinuclear groups after the 1987 democratization greatly contributed to the mass mobilizations. The next two chapters examine the cases in which local residents mobilized against the government's nuclear programs..

CHAPTER FIVE

MASS MOBILIZATIONS AGAINST NUCLEAR PLANTS

5.1 Introduction

This chapter examines two cases of mass mobilization, at Youngkwang and Kori, against national projects to construct additional nuclear reactors. The Seoul government eventually managed to build nuclear plants at both places, despite significant social unrest over, and opposition to, the nuclear plants. But the mass mobilizations raised serious questions about nuclear energy policy and emboldened the antinuclear movement. Moreover, the local challenge to central authority that occurred in these cases imposed significant delays in policy implementation and is likely prologue to future problems of a profound nature. This chapter reviews what happened and why it happened at Youngkwang and Kori.

5.2 The Youngkwang Mass Mobilization¹

5.2.1 Background

As of 1997, a total of four nuclear reactors, Youngkwang 1, 2, 3, and 4) are in operation in South Korea. Youngkwang 1 and 2 were constructed at Youngkwang Kun², ChunNam Province, mainly by Korean Electric Power Corporation (KEPCO) from 1981 to 1987 through non-turn key contracts with subcontractors. Figure 5.1 shows the

¹ Much of this section is based on the Movement League to Expel Youngkwang Nuclear Plant (1990) and the Movement League to Expel Pollution (1988-1990).

² The units of administrative hierarchy in South Korea are the province, kun, myon, and ri, from the top to the bottom.

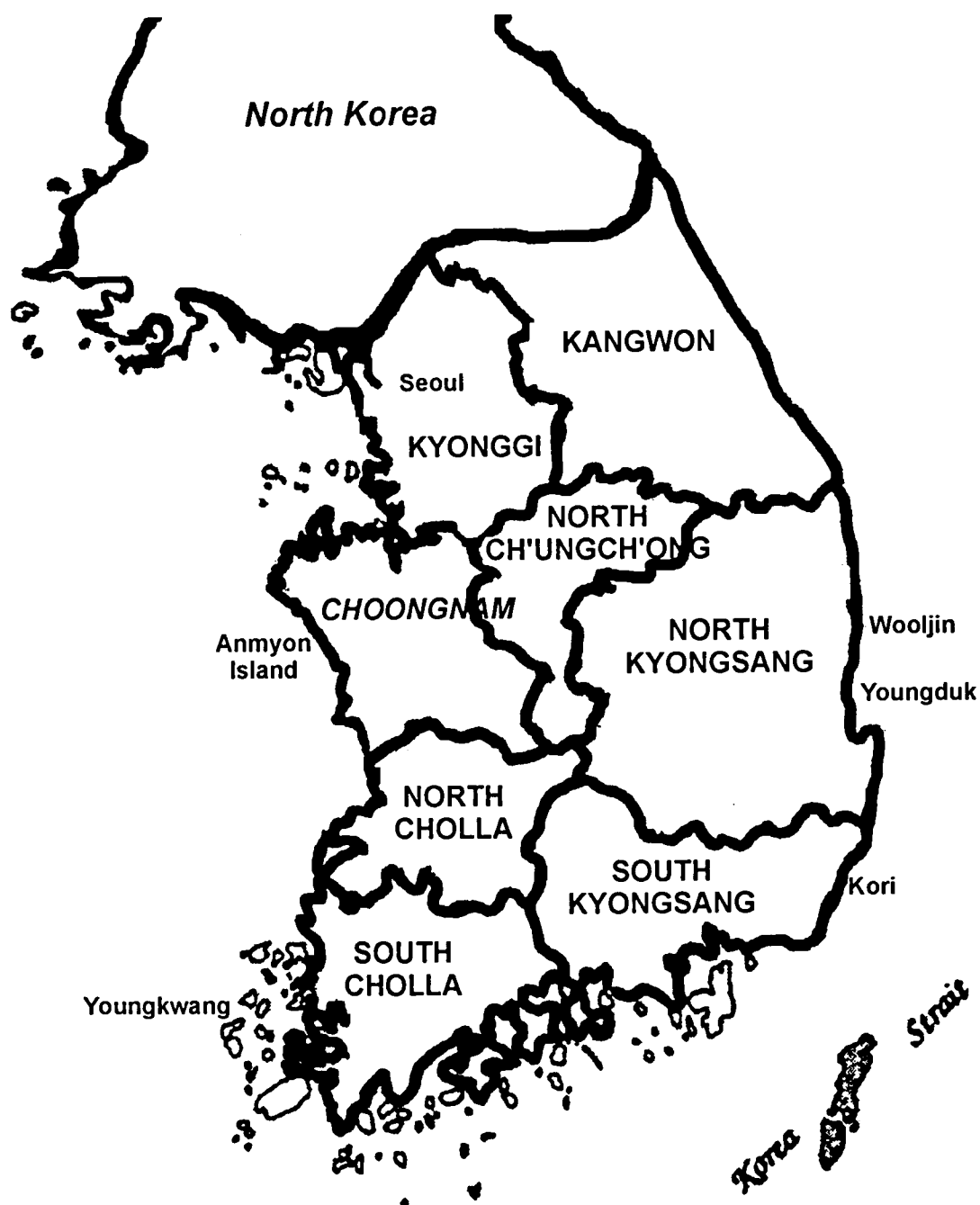


Figure 5.1 Administrative Divisions of South Korea and Location of Nuclear Facilities

location of these facilities on the Korean Peninsula. The total installed capacity is 950,000 KW respectively and adopts all pressurized water type reactors. Total cost for construction is foreign capital \$1.6 billion and domestic capital 1,207 billion Won (KEPCO, 1995).

Youngkwang 3 and 4 were sited next to Youngkwang 1 and 2 with a total installed capacity 1,000,000 KW each. KEPCO launched an initial project to examine the safety of nuclear plants to be constructed in May 1987. Based upon studies by professional safety groups, the government finally approved the project in December 1989 after final deliberation by the Nuclear Energy Board. Youngkwang 3 and 4 were constructed under KEPCO's comprehensive management plan. They are unique in that the majority design and manufacture of the equipment were performed by Hyundai Corporation as part of the *National Technology Self-Reliance for Nuclear Plant Construction Program*. As foreign subcontractors, Combustion Engineering Corporation built the nuclear reactors, General Electric Corporation provided turbine generators, and Sergeant and Landy Corporation provided the plant design (KEPCO, 1995).

Mass mobilization to oppose the Youngkwang nuclear plant had two stages as is apparent in chronology of key events presented in Table 5.1. The watershed for the mass mobilization transpired in 1987 when agreement was reached regarding damage compensation. This clearly divided the mobilization into *early* and *late* stages (Lee, 1992). The early or the first stage mobilization was largely an economically motivated, nonideological movement. The elements of an ideological antinuclear mobilization

began to appear in the later mobilization in response to the government's nuclear program.

5.2.2 First Stage Mobilization at Youngkwang

The early mobilization developed at a small village named Kaemari, in Youngkwang Kun, and lasted from 1981 to 1988. Local residents were largely farmers, fishermen and merchants near a major swimming beach. During the period the local residents launched a sustained effort to obtain damage compensation for the construction of nuclear plants in their area. They asked for the compensation of damage resulting from land appropriation, fishery rights, business rights, and explosive demolition works at the construction site. But there were few direct confrontations between the local residents and the government. The local residents preferred moderate strategies for their struggle. There were few indications of any explicit antinuclear elements in the consciousness and expressions of the local residents.

The Youngkwang residents did not show any particular response when they first heard, in the late 1977, that they were going to live near nuclear plants. Initially they did not take it seriously. The residents remained quiescent until April 1979, when the Youngkwang Nuclear Plant Construction Center was established and the land for siting the facility purchased. Everything proceeded smoothly for a time and even the relocation of some residents did not create any particular conflicts. KEPCO completed its land purchasing without any major difficulties.

There are many reasons for the early KEPCO success. First, KEPCO provided local residents at Youngkwang with tour of the Kori Nuclear Power Plant and near Haewoondae Swimming Beach. During this tour, KEPCO told the people that

Youngkwang residents would be better off economically if they accepted the government project. KEPCO officials pointed out that the living standard near the Kori nuclear plant, the first nuclear plants in the nation, had substantially risen after the facility was built.

After the tour, those who were displaced by the construction project were compensated for their land, building, businesses, and given aid for relocation. The amount ranged from five million Won (about \$5,000) to fifty million Won (Lee, 1992). This overall was generous compensation for the residents. Second, the government's nuclear project came at the right time. The local farmers were under heavy financial pressures at the time of the new government nuclear project. They had sustained financial difficulties when the new national open door policy for foreign agricultural imports led to declines in domestic agricultural prices.

The early local mobilization aimed at obtaining economic compensation for the damage done by the construction of the nuclear plant. The residents asked for compensation of damages done in the process of explosive demolition work at the nuclear plant site. The residents received a small amount of compensation for early damage. But KEPCO later refused to pay compensation when major damage occurred from explosion work at the construction site, saying that compensation would be made only through a third party intermediation. The residents were discontented with the refusal by KEPCO.

Local residents became increasingly concerned with perceived threats to their livelihood from the nuclear power facility. In 1981, KEPCO constructed a bulwark on the local swimming beach and prohibited the gathering of oysters. As this action caused a serious problem for the livelihood of local residents, they sent a petition to KEPCO. In the

petition, the residents asked that growing traffic problems and the problem of local market disruption be addressed. They further petitioned for the deregulation of fishing practice. They also petitioned the president of South Korea, asking him to lift the measure that regulated fishing to preserve certain fishery species.

Another round of contact was made between the local residents and KEPCO early June of 1981. About 130 residents gathered to demand the construction of an evacuation facility in the case of an emergency, and for the installation of a nuclear radioactivity monitoring system. KEPCO again promised that it would provide appropriate compensation for any future damage. But it asked the residents to desist from further collective action and instead to select representatives who could speak for the whole community.

In 1985, the mass movement was reactivated when Hyundai's corporate magazine, *Hyundai Journal*, carried an essay implying that the local beach would be closed permanently. Residents were truly galvanized in reaction to this news. In June 1986, the residents asked KEPCO for 130 million Won compensation for explosion damage, 1.24 billion Won for prohibiting the gathering of oysters, and 3 billion Won for the shutdown of a swimming beach. In response, KEPCO proposed to form a special committee composed of members from the local government, the police department, KEPCO, and resident representatives. KEPCO promised to compensate the damage, but only through third party mediation. The residents sent their delegation to KEPCO headquarter in Seoul to confirm this promise. At this meeting, KEPCO announced that the ChunNam National University would serve as the third party mediator and appropriate compensation would

soon be made (*KwangJoo Daily*, June 10, 1986). On July 30, about 90 residents went to Seoul to stage a sit-in demanding for compensation. KEPCO promised a detailed examination of the situation before August and asked residents to refrain from further demonstrations (*DongAh Daily*, *ChoongAng Daily*, July 31, 1986). A few days later the local residents waged another round of sit-ins at KEPCO's headquarter in Seoul. Now residents demanded 6.9 billion Won for the emigration from the Youngkwang area.

Both sides finally agreed to third party mediation. The ChunNam National University and the Kunsan Fishery College subsequently were chosen for estimating business damage and fishery loses respectively. Both sides also agreed that the damage estimation would be based on *the 1986 Special Law Concerning Land Appropriation by the Government and Damage Compensation*. By December 1987, the third party mediators finished the damage estimation. According to this estimate, KEPCO would pay about 2.25 billion Won in compensation to local residents (ChunNam National University, 1987). The affected residents, mostly farmers and fishermen, were notified that payment (about 2.5 billion Won) would be made in March 1988.

During the first stage of mass mobilization, the local residents were not systematically organized. Perhaps, they felt little need for a systematic organization because they could easily reach agreements among themselves. Instead, public officials of the lowest administrative unit, *rizang*, aided by a small group of active young community members, served as the leadership in the campaign for compensation..

Conflict ensued among local residents. Some residents, especially local merchants, small businessmen and taxi drivers were supportive of the government project because

they expected an economic boom accompanied by it. But most farmers and fishermen opposed the government project. Thus, tension existed constantly between the two groups as to whether the community as a whole should approve the government project. Also, disputes erupted over how the compensation money would be distributed. KEPCO now said that it would pay only when residents reached an agreement among themselves. Those who had few real estate assets were to receive little money in the compensation plan, while those with greater assets were to receive more money. The latter group pushed for quick dispersal of payment. It took several months before the residents reached an agreement on the way how the compensation money was to be distributed.

Thus closed the first stage of local mobilization against the construction of a nuclear plant at Youngkwang. The first stage mobilization aimed at obtaining damage compensation for the construction of nuclear plants. Local residents, though discontented, let the government proceed with its plan. Seoul achieved its goal without major difficulties and facility construction proceeded smoothly. But this relatively simple picture changed significantly after 1987.

5.2.3 Second Stage Mobilization at Youngkwang

When the construction of Youngkwang 1 and 2 was completed in 1987, the concerns of local residents gradually moved beyond damage and compensation into the areas of health and safety. These were accompanied, as had proven the case in antinuclear movements in western industrialized nations earlier, by severe citizen anxiety over the safety of nuclear plant operation and the government's nuclear energy policy.

Initially, the second stage of mobilization started with the local demand for emigration from the area (largely Sungsanri) affected by nuclear plant. In July 1988, at a meeting of 180 participants, the Sungsanri residents formulated a resolution demanding that the government and KEPCO organize and pay for their collective emigration from the area of the nuclear power station. Once facility construction was finished, many of the workers employed for the Youngkwang project moved out. The local income level dropped sharply and led to a financial crunch as the residents failed to repay loans they had taken to build worker housing. Discontent deepened among the already restive local residents.

The first direct contact between the residents and KEPCO reflecting this growing discontent was over commercial rights. When KEPCO announced its plan to open a supermarket in an apartment complex that was built specifically for KEPCO employees, nearby residents picketed in protest. The residents believed that they had the right not to be disrupted by outsiders and to sell goods to incoming KEPCO employees. They believed that the supermarket would destroy local markets and their traditional vested interests. Growing resident discontent with KEPCO again was manifested when local residents were denied access to water from a nearby dam which serviced a residential apartment complex reserved for KEPCO employees. KEPCO showed little interest in resolving the growing resentment of the local residents. Eventually the residents became upset when automobile accidents increased due to the growing volume traffic caused by the power plan operation. Such incidents generated a second stage of mass mobilization at Youngkwang.

Although there were strong similarities between the first and second stages of mobilization at Youngkwang, important differences are apparent. First, whereas political institutions provided little support to local residents during the first stage, in the new liberalized political environment, residents found new allies. As KEPCO appeared to ignore the problems identified by local residents, these citizens sought to create a political action agenda to promote their cause. They, for example, took advantage of *the Annual Inspection of National Affairs* (AINA) conducted by the National Assembly. This is an institutional system for legislative oversight of the executive restored to the Constitution in 1987. It was one of the direct results of the democracy movement. Under AINA, the legislature has the power to investigate matters that are related with public welfare and administrative actions. The residents met with members of the Congressional Committee on Energy and Resource on October 17, 1988. In the meeting, the residents asked the committee members to assist them in resolving their problems. And, indeed they obtained committee members' promises of assistance. The local residents also sent their representatives to Seoul. They visited with members of the opposition parties, KEPCO officials, and Hyundai employees. They also called at the offices of the major newspapers, the Korean Pollution Institute (KPI), and the Movement League to Expel Pollution (MLEP) to publicize their discontent. The group also mailed the materials supporting their arguments to the Blue House (the presidential residence) and a variety of governmental offices and officials, including the Ministry of Energy and Resource, the Ministry of Interior, the Ministry of Science and Technology, Governor of ChunNam Province, the Director of Youngkwang Kun, and the headquarters of the major political

parties. These activities were all designed to create a political agenda to promote their case. That is, by politicizing their case, local residents sought to find external allies and gain their political support.

Second, in addition to petitioning political parties and government institutions, the Youngkwang residents sought an alliance with environmental or antinuclear groups in Seoul. They actively participated in the lectures and debate activities sponsored by those environmental groups. National environmental groups such as KPI and NMLEP were eager to integrate the Youngkwang mobilization into their national movement. Environmental leaders emphasized that the goal of Youngkwang people should be one of promoting the antinuclear movement; i.e., their concerns should reach beyond damage compensation. This seems to have had its effect on the local group; the Youngkwang residents positively embraced the causes of national environment groups and added an antinuclear provision to their village constitution. Also, in the mass demonstration on May 29, 1989, the residents directly targeted the nuclear plants, Youngkwang 3 and 4. During the demonstration protestors shouted antinuclear slogans such as "Stop the construction of nuclear plants. The nuclear plants only fattens Americans and the military dictators in Seoul." And "No more nuclear power plants without compensation for emigration."

Third, the local residents also sought to ally with local residents near other nuclear plants. At the time residents at Kori and Wolsung also were engaged in damage compensation campaigns against the government. A meeting occurred at Kori to discuss common concerns and problems in the three regions. This spawned simultaneous mass

demonstrations on December 5, 1988 at the three regions. Also, they held a joint mass demonstration in front of KEPCO headquarter in Seoul and four political party headquarters.

Local protest by 1989, thus, had evolved beyond the original concern for economic compensation. It turned into mobilization against nuclear power *per se* with close ties developing among other regions hosting nuclear plant stations and the national antinuclear movement. However, despite local residents' efforts to create a broader political action agenda to promote their cause, only a few politicians and government officials recognized the issue of nuclear plant as an important national political issue.

5.2.4 Antinuclear Mobilization

Early signs of local antinuclear mobilization appeared in the 1987 presidential election and in the 1988 general election for the National Assembly. The ChunNam Area Association for Democratization and the Youngkwang Catholic Farmers Association sought to arouse public concern for the dangers associated with nuclear plants during the election campaign. Wonbulkyo, a denomination of Buddhism, played a part in the incipient mobilization at Youngkwang. Youngkwang is the holy land of this religious denomination and its members were therefore concerned with the area. On December 10, 1988, The Youth Association of Wonbulkyo sponsored a seminar titled "Are Nuclear Plants Safe?" at downtown Youngkwang. Yet, while the local residents began to be interested in the issue of nuclear energy, as early as 1988, no direct action occurred then.

A more ideologically oriented opposition movement in Youngkwang area was launched soon. In 1989, the Hyundai Construction Corporation, the selected government contractor, started the construction of the Youngkwang 3 and 4 reactors. Immediately, a small group of local residents formed a grass root organization named the *Youngkwang People Against the Construction of Nuclear Power Plants*. They made fliers to promote the antinuclear position and distributed them locally. They contacted local influentials such as local journalists, religious leaders, businessmen, school principals, and leaders of local grass root organizations, to expand their organization. On January 27, 1989, the grass root group reorganized itself as the *Committee to Resist the Construction of Nuclear Plants YoungKwnag 3 and 4* (Committee to Resist). The thirty-member group adopted a resolution demanding:

1. Revelation of troubles and accidents at all the nuclear power plants under operation;
2. Thorough examination of nearby the Youngkwang Sea to check for possible contamination by nuclear radiation;
3. Thorough examination of soil, water, and air near nuclear power plants;
4. Public access to the nuclear waste disposal process;
5. Assurance of the right to life of the resident near nuclear power plants;
6. Cancellation of nuclear power plant Youngkwang 3 and 4. (Committee to Resist, 1989).

The committee proclaimed it would fight the nuclear plant construction to the end. Four days later, KEPCO responded to the Committee's activities by distributing its own fliers saying that the Committee to Resist was cheating innocent local residents. In return, the

Committee issued another round of fliers to counter the fliers by KEPCO saying in essence: "Who is cheating whom?"

On February 18, 1989, the antinuclear mobilization further expanded with a more formal organizational structure. It established the Movement League to Expel Nuclear Power Plants at Youngkwang (Movement League). Four organizations participated in the Movement League--the Youngkwang Chapter of Catholic Farmers Association, the Youngkwang Chapter of National Movement for Democracy, the Youngkwang Farmers Construction Board, and the Wonbulkyo Youth Organization. With 100 people participating at the meeting, the Movement League elected a president and passed a resolution as follows:

1. We strongly oppose the construction of nuclear power plants in the Youngkwang area;
2. We strongly demand the revelation of all the troubles and incidents in the operation of Youngkwang nuclear plants;
3. We demand the complete assurance of the right to life of the residents near nuclear plants;
4. We demand the thorough examination of contamination by nuclear radiation over the entire area;
5. We will make every effort to make our hometown a safe and comfortable place to live;
6. We reject the KEPCO's attempt to bribe the local residents (Movement League, 1989).

The Movement League issued around 30,000 fliers on five occasions and distributed them locally. On March 25, the Movement League held conference on nuclear energy with 300 participants. They provided a picture of a malformed fish to a newspaper editor to

dramatize the problems with which they were concerned. On the occasion of the anniversary of Chernobyl, on April 26, 1989, the Movement League held a mass gathering to demonstrate its opposition to the construction of nuclear plants.

In the meantime, KEPCO hurried to proceed with the construction of Youngkwang 3 and 4. After obtaining permission to build nuclear plants from the Youngkwang Kun office on March 11, 1989, KEPCO finished its preparatory work on the project on March 15. It then proceeded to the second stage of construction. Particularly resented by local opponents of the project was that KEPCO pushed the construction work into the middle of night--despite strong opposition from the local residents. The Movement League criticized KEPCO for ignoring the local residents and for being arrogant. The Movement League sought quickly to mobilize the mass public, but the antinuclear movement did not rapidly expand. There may be several reasons for this. But two particularly are apparent. First, the organization of the antinuclear movement was not yet strong enough to lead the mass public. Second, some residents supported the construction of nuclear plant because it would bring an economic boom with it to the local economy.

The opposition movement soon expanded beyond the Youngkwang area to the whole ChunNam Province. On April 12, 1989, ten university presidents in ChunNam Province issued a communique that opposed the construction of Youngkwang Nuclear Units 3 and 4. On April 15, the National Center to Expel Nuclear Plants (the National Center) was created as an opposition coalition of environmental groups, health and medical groups, local grass root organizations, and the Movement League. The National

Center instantly sought to expand the nuclear opposition movement to a national scale.

The National Center issued a proclamation titled *The Declaration of the Korean Peninsula As A Nonnuclear Zone and KwangJoo Peace*. It aimed at succeeding the May Struggle and toppling Roh TaeWoo Regime, viewing Roh as the successor of Chun. This proclamation included the clear expression of the opposition to the construction of Youngkwang nuclear plant 3 and 4. It argued that:

Nuclear plants put national survival and property at risk. Therefore, the continuous construction of nuclear plants must be stopped and the nuclear power plants under operation must be dismantled step by step. Construction of nuclear plants is a major industry of the military-industrial complex of the United States and a direct indication of the development of nuclear weapon. It threatens the peaceful lives of the nation to the next thousands generation hereafter. We must stop Youngkwang 3 and 4 (National Center, May 22, 1989).

On June 5, 1989, environmental groups in the ChunNam area issued the *Kwangjoo ChunNam Environment Proclamation*. It also included a statement of opposition to the construction of nuclear plant. On the occasion of seventeenth World Environment Day, the proclamation demanded the withdrawal of US nuclear weapons from Korean peninsula, the dismantlement of operating nuclear plants, the cancellation of Youngkwang 3 and 4 project, the cancellation of six other candidate sites for nuclear plants, the complete public access to nuclear energy policy-making, and the legislation of antinuclear and antipollution law. In June 1989, the National Center sought to raise public awareness against nuclear energy by playing a video tape at meetings in Youngkwang area. On June 6, the Youngkwang Movement League issued a communique that criticized

KEPCO for celebrating a luxurious 28th anniversary while reluctantly responding to the demands of local residents for compensation.

By the end of September, 1989, the National Center with the participation of 47 organizations accelerated the opposition drive against the construction of Youngkwang 3 and 4. It began to collect signatures to symbolize widespread opposition. This drive collected 150,000 signatures by early December. Pending the decision by the Nuclear Energy Board (NEB) on Youngkwang 3 and 4, on December 13, 1989, the National Center held a national meeting to oppose the construction of nuclear plants.

Finally, despite spreading opposition, the NEB granted a permission to KEPCO to proceed with construction. The opposition drive against the government's plan to build Youngkwang 3 and 4 had failed in its initial goal. However, Youngkwang residents never gave up their struggle. At the opening ceremony to start the construction of Youngkwang 3 and 4, the Movement League in alliance with social and environment groups issued a communique titled *In Grievance against Youngkwang 3 and 4*. It demanded:

1. Immediate cancellation of poorly conceived Youngkwang nuclear plant project;
2. The construction of all nuclear plants to be stopped;
3. Future nuclear plant projects be subject to vote by local residents;
4. Construction of nuclear plants at Yoeido--where the Capital Hill of South Korea is located.

In the end, although the government finally sited the nuclear plant at Youngkwang, it was hardly a complete success as shall be seen in the following section.

5.2.5 Analysis of the Youngkwang Case

The mass mobilization at Youngkwang was driven by several factors--economic damage, residents' risk perception of nuclear power, ideology, public distrust in the government, and the role of environmental groups and the mass communication media. These factors in combination contributed to the government's difficulties in siting nuclear plants at Youngkwang.

5.2.5.1 Economic Damage

For the government and KEPCO, the most difficult problem in building nuclear plants at Youngkwang was that it inflicted substantial economic damage on the livelihood of local residents near the plant site. The early mass mobilizations took place primarily in response to threats to the livelihood of local residents. Many local residents were not interested in the antinuclear ideology or slogans of the environment movement. One resident said that "At first when nuclear plants began to be constructed, we were not aware of what that was. On the contrary, we welcomed it" (Interview with a resident, February 1996). As time passed, several side-effects appeared. The residents began to complain about the decline in land value, the destruction of fisheries, and the decreasing sales of agricultural products. The local residents continuously asked for compensation for damages inflicted by the demolition work at the construction site. Some of residential houses were damaged by the explosions at the site. They were discontented when Hyundai constructed a water bulwark at a local beach and prohibited oyster gathering. Local farmers were angry when their crops were rejected by buyers. Many

residents expressed their frustration with their financial condition. In the words of one local farmer:

The most serious problem is the declining price of agricultural products. We welcomed the nuclear plant. But once the price of the agricultural products declined because people are afraid of the radioactivity of the product, we cannot welcome it[the plant] anymore.

Another farmer observed:

In the past, we did not have any problems with selling agricultural products. Today, it is difficult to sell our products. As a consequence, the land value has dropped significantly. Those who have land can not move because few want their land. They can move only when KEPCO buys the land (Quoted in Lee, 1992).

It was not just the adverse impact of the presence of the nuclear plant on agriculture that concerned residents of the Youngkwang area. Declining tourism was also a matter of great worry. For example, in the summer of 1986, the year Chernobyl accident occurred, the number of visitors to the Youngkwang Swimming Beach dropped to about ten percent of the total in 1979, as shown in Table 5.2. Of course, the income of residents near the beach dropped significantly engendering anxiety and resentment..

Most of the local farmers at Youngkwang were lost interested in farming. Instead, they awaited the time when their land value would skyrocket in the anticipated boom of economic development. They dreamed of receiving instant and generous compensation for their land as the site of future nuclear plants. This would enable them to move to a better life in urban areas. Therefore, many residents initially favored the government nuclear project. One resident of Youngkwang said "As a whole, we are all poor. Frankly speaking, we are looking for a chance to move. Everybody wants to live in a city like

Seoul. The nuclear plants could provide an opportunity to realize the dream" (Interview with a local resident, February 1996).

Youngkwang residents did not speak with one voice. The volume and direction of the voice largely was determined by the size of economic pie at stake. Stronger opposition came from the residents outside the 5 KM radius of the nuclear plants. They could not receive any compensation according to the law governing the land appropriation and compensation. But, they were also affected by the nuclear facility like those within the 5 KM radius. Among those within the 5 KM radius, those who had substantial property (for example a house and/or land) showed weak opposition to the project. They could receive significant compensation for their property and leave the town for a better situation. Those who had little property, on the other hand, showed the strongest opposition to the proposed nuclear project because they were due little compensation (RCDDI, 1991: 233-4) and would have to remain in the area.

5.2.5.2 Residents' Risk Perception of Nuclear Power

A major factor stimulating opposition to the government's nuclear reactor construction project was local resident concerns over the risks inherent in such facilities. Tables 5.3 through 5.9 present results based on a public opinion survey conducted in 1991 by the Research Center on Demographic and Development Issues (RCDDI, 1991). As can be seen in Table 5.3, residents near the nuclear plants in southwest Cholla Province have a highly negative image against nuclear energy in general. One-in-five (about 21%)

of the respondents linked nuclear energy directly with nuclear bomb. Over one-half of those sampled (about 54%) linked nuclear energy with environmental pollution

Table 5.4 also shows that about 42 percent of respondents nationally said that nuclear plants were dangerous or extremely dangerous. Only 15 percent said they were safe or very safe. In Cholla Province, the respondents showed a far more negative response. There roughly 70 percent said nuclear plants were dangerous or extremely dangerous and only about 9 percent considered such facilities safe or very safe. Among those who said "Nuclear plants are dangerous," six-in-ten (59.2%) said that they were afraid that nuclear radioactive materials might have been released from the plants as shown in Table 5.5.

This high level of risk perception against nuclear energy may be attributed to a series of incidents that took place as antinuclear plants movement at Youngkwang was under way. Among the incidents reported in the KEPCO report *The Nuclear Power Generation and Environmental Safety* issued in 1990 which illustrate the type of anxieties over nuclear-plant risks to which the public was exposed during this period:

The Malformed fish scandal: On March 23, 1989, a local TV station in KwangJoo, KBS-TV, reported that a malformed fish was caught in the YoungKwang area. On April 15 *ChunNam Daily*, April 16 *DongAh Daily*, *ChoSun Daily*, and *JoongAng Daily* carried articles about the malformed fish caught by local fisherman. After the reports, the local residents requested the fish taken from the area of the Youngkwang nuclear plants be examined for evidence of radiation effects. The result showed that the malformed fish had nothing to do with nuclear radiation. The examination by the Fishery

Research Institute showed that the malformed fish was contaminated with hazardous material.

Baby without brain: Between July 29 and July 31 1989 most mass media in South Korea reported that a woman miscarried babies November 1988 and June 1989. The husband of the woman, X X Kim (31 years old at the time), used to be a temporary worker at the Youngkwang nuclear plant. Kim argued that the baby born without a brain was caused by nuclear radiation. KEPCO responded that Kim's argument had no basis. Kim had worked in an area in which there was no possibility of exposure to nuclear radiation. Nevertheless, KEPCO requested a medical examination of the baby be undertaken at the Seoul National University. The result of the examination indicated that nuclear radiation was not a cause of the baby's birth defect.

Malformed infant: On August 4, 1989, a malformed baby was born. During the investigation of the case of the infant born without a brain, the special task force of the Ministry of Science and Technology was visited by a man who had been employed at the Youngkwang nuclear power plant. The former employee informed the task force that his daughter, born on October 1987, was seriously malformed since birth due to nuclear radiation. The man had worked as a temporary employee for the Korean Heavy Industry Company during the period of July 22 to July 28 in 1987. At that time he worked inside nuclear radiation control area. After work according to his report, he suffered heavy headache and skin irritation.

Nuclear radiation symptoms of local residents: While controversy erupted over the putative birth defects attributed to radiation exposure from the nuclear power station

by distraught parents, local health and medical groups publicized the result of their investigation. The KwangJoo Chapter of Medical Doctor Association to Realize Humanism, The Physicians to Realize a Healthy Society, Dentists to Realize a Healthy Society, and the Nurse Association for True Love conducted a medical examination for 45 residents of the Youngkwang area during July 1988. It was reported that 29 of those examined (64 %) showed early symptoms of exposure to nuclear radiation. The local residents were shocked at this, although there was controversy over the credibility of the tests.

An infant with oversized head: In October 1989, a local newspaper reported a case of oversized head infant. By April 1990 this case became known throughout the nation. Of course it shocked many people. In this case the wife of a man who had worked for KEPCO for a year and seven months, had a wife who delivered a deformed baby. The child had an oversized head. It was strongly suspected that the malformation was caused by nuclear radiation. The father argued that his work inside the nuclear reactor and at the nuclear waste storage building regularly exposed him to between 120 to 200 millirem of radiation. At times, he reported, the exposure soared to 400 millirem. Although nobody knows the truth, this case generated a tremendous amount of national public attention due to vivid photographs of the malformed baby that were reproduced in the press. .

Worker illness. During May of 1990 the national press covered a story that was treated as a nuclear radiation exposure scandal. It was widely reported that a temporary worker for a cleaning company working at Youngkwang nuclear plant had become

seriously ill with near paralysis and partial blindness because of possible exposure to nuclear radiation.

Malformed domestic animal scandal: In April 1990, major newspapers, including the *KwangJoo Daily*, *Chosun Daily*, *ChoongAng Daily*, and *SaeKye Daily*, reported that malformed domestic animals were born around Kochang near Youngkwang. At a corral near Youngkwang a calf with four ears was born and soon died. The report said eight calves in 1989 and four in 1990 were miscarried. In April 1990 a calf was born that could not stretch its forelegs and died two days later. In other areas near the Youngkwang nuclear plant six malformed dogs were born and three of them died within twenty days. In another place a dog with three legs was born.

These incidents became part of a series of reports that drew sudden widespread public attention to the supposed danger of nuclear radiation exposure. Many people believed that those incidents were directly related to the nuclear plants. They served to awaken the local residents' antinuclear awareness or to confirm rumors about the risks of nuclear radiation. Even those who had the most positive attitude about nuclear power and trusted the government began to raise questions about the safety of nuclear energy

5.2.5.3 The Ideological Dimension

The mass mobilization at Youngkwang assumed certain significant ideological elements of an "antinuclear movement" which were absent in other regions hosting nuclear plants. Eventually, it came to question the intention of the government in building nuclear plants. Environmental and antinuclear groups have emphasized the political and military

implications of foreign nuclear industries. Anthony Ladd and his associates view nuclear power as "a fundamental problem for contemporary society." They identify the ideological themes of the antinuclear movement as:

[T]he threat of war and destruction posed by nuclear weapons; the health and safety hazards posed by the release of radiation throughout the entire nuclear fuel cycle; the destruction of the natural environment accompanying the fuel cycle; the exploitation of resources and people inherent in growth-oriented capitalist modes of production; and the oligarchic nature of energy decision making posed by the bureaucratization and centralization of power production (Ladd, et al, 1983: 255).

While no one has yet provided a definitive explanation as to why the Youngkwang mass mobilization was ideologically-oriented, it may have something to do with the idiosyncratic political culture of the Cholla Province--"the culture of victimization and resistance." Historically, the people in Cholla Province have been oppressed by the central government and the political power elite. Most recently, they have been not only politically isolated but generally have not benefitted from the economic growth realized in the nation as a whole.

As described earlier, the National Center's proclamation of the Korean peninsula as a nuclear free zone included political and ideological statements in addition to the expression of the opposition to the construction of Youngkwang 3 and 4. It said that the "construction of nuclear plants is a major industry of the military-industrial complex of the United States and a direct indication of the development of nuclear weapon. It threatens the peaceful lives of the nation to the next one thousand generations hereafter. We must stop Youngkwang 3 and 4" (National Center, 1989). The June 1989 proclamation issued on the occasion of 17th World Environment Day, demanded the withdrawal of American

nuclear weapons from the Korean peninsula, the dismantlement of operating nuclear plants, the cancellation of Youngkwang 3 and 4 project, and the legislation of antinuclear and antipollution law. That is to say, consistent with the ideological stances taken by antinuclear movements of the west as reported by Ladd and his associates, the Youngkwang movement held a complex bundle of complaints.

The idiosyncratic political culture of Cholla Province shaped local thought and behavior. It affected specific scientific and technological policy issues such as how to increase the power generation. Table 5.6 shows that the people near nuclear plants in Cholla Province considered nuclear energy as less preferable to other energy sources. While approximately one-in-four (23.8%) of the national sample preferred nuclear energy as a power source, only about one-in-four (11.3%) of the Cholla sample did so.

5.2.5.4 Public Distrust in the Government

At Youngkwang, people showed a high level of distrust in the government. As can be seen in Table 5.7, better than three quarters of respondents for this area (75.4%) said that they either seriously doubted or did not believe at all the government's proclamation that nuclear plants are safe. Nearly eight-in-ten area respondents (78.5%) said they seriously doubted, or did not trust at all, the government's proclamation that a nuclear waste facility is safe. In both questions, a substantial portion of population *did not trust the government at all* (31.2 % and 27.9 % respectively). This high level of distrust was supported by several statements in the interviews with people from the area. One resident said that:

We welcome a large scale development project proposed by the government. Our hometown is in fact underdeveloped. But development always accompanies unintended consequences. Therefore, the development must proceed in consultation with the local residents (Interview with a resident, as quoted in RCDDI, 1991: 227).

Another local citizen argued that:

It is unfair for us to build nuclear plants near our home Many of the development plans by the government have been introduced not to promote the happiness of the local residents and the public at-large but to promote the interest of a small group of people usually in Seoul. The issue of siting nuclear plants and radioactive wastes is no exception (Interview with a resident, as quoted in RCDDI, 1991: 229).

These are moderate statements as compared to the view of a third resident:

How could we trust the government run by Chun D.W. and Roh, T.W.? [former Presidents] You know who they are. They are bad people. What they did was not any good for us (Interview with a resident, February 1996).

Many people in Cholla Province expressed their resentment against the government's nuclear construction program because it sought to site nuclear plants on *their* land. One resident near Youngkwang said: "Why does it have to be our land? Why should we host nuclear waste producing factories?" (Interview with a resident, February, 1996). For the resident the siting of nuclear facility in his land was understood as another sign of national discrimination against the people in Cholla Province. One participant in open debate said that "I do not understand why nuclear plants come to Cholla Province only after the nuclear accident [in Chernobyl]. We need to investigate the case" (RCDDI, 1991: 359).

5.2.5.5 The Role of Environmental Groups

In the early stage of mass mobilization at Youngkwang, environmental groups did not play a prominent role. First of all, political conditions did not allow environmental activists to engage in any serious social movement against the government policy. All potential antigovernment activists were closely watched by police or secret agencies. Once the label of "left-wing or antigovernment" was attached by the government, no one was safe. Judgments by the judiciary branch were an automatic procedure, guilty. Second, Youngkwang residents were mostly interested in the potential economic gains, not in the ideological struggle. The local residents did not initially welcome the presence of environmental groups in their movement. In the view of the local residents, the presence of radical groups would undermine their cause. They wanted to maintain their mass movement as a pure *survival* issue, not as a political or ideological issue. An alliance with radical groups was still something to be avoided. Third, before 1986 environmental and antinuclear groups were not fully developed in terms of organization and their capacity to play any effective part in mass mobilization. As a result, the role of environmental groups in the early movement was negligible. Thus, the early Youngkwang movement was voluntary and was a truly local grass root social mobilization. One resident confessed frankly:

We did not even know what nuclear energy was. We did not even know what environmental groups were doing. Frankly, we did not care about it. All we wanted was the preservation of our life (Interview with a local resident, February, 1996).

The democratic reform of 1987 changed all this. The later mass mobilization developed in close association with environment groups and other political organizations. The two leading environmental groups, KPS and the MLEP, established a close connection with the local residents by the end of 1980s. These environmental groups provided the residents with information about national nuclear energy policy and cases in other countries. They sought to educate the local residents by lecture, exhibition, video shows, slogans and songs. The National Movement for Democracy (NMD) especially took advantage of the antinuclear sentiment of the Youngkwang residents to promote their cause. Most NMD activists were veterans of the student antigovernment movement. They helped the local residents prepare mass demonstrations.

In June 1989, the National Center sought to raise public opposition to nuclear energy by playing a video tape for the Youngkwang area residents. This exhibition proved to be quite effective. A resident in Youngkwang said that "I had little idea about nuclear energy and why the antinuclear groups were so assertive. After watching the video, I began to understand the reason" (Interview with a Youngkwang resident, February, 1996).

5.2.5.6 The Role of Mass Media

In the early stage of the Youngkwang mobilization, the mass media played a minor role. Again, the democratic reforms of 1987 were critical. Until then, the mass media were under strict government censorship. News media could not afford to be too interested in the issue of nuclear energy which was treated as a national security issue.

Most news coverage of nuclear issues, insofar as it was allowed at all, represented the government's official perspective.

The role of mass media was significant during the later mobilization period. News coverage on the widely publicized "incidents" discussed earlier (malformed fish, baby without brain, an infant with oversized head) strongly suggested that those tragic events were related to the presence of nuclear plants. The vivid pictures of malformed infants were truly shocking and very agitating. Of course, the democratization in 1987 and subsequent freedom of the press were critical to the liberal press reports on the incidents.

The importance of media coverage is apparent from survey data. As can be seen in Table 5.8, nearly two-thirds (63.8%) of the people living near a nuclear facility have heard of the nuclear waste. Among these, more than 8 of 10 (86.5 %) heard about nuclear waste through the mass media. The role of the electronic media, TV and radio in particular was tremendous. Seven-in-ten local residents (69.3%) heard from them about the Anmyon Island controversy³, which conveyed a very negative image of nuclear energy as shown in Table 5.9.

5.2.6 Conclusion to the Youngkwang Case

In conclusion, the Youngkwang mass mobilization failed to stop the government's program to build nuclear plants. In the face of local opposition, the government proceeded with its project and finished the construction of the controversial reactors. But mobilization caused significant problems for the government in implementing the program.

³ This is a fight over construction of a nuclear waste storage facility between the government and local residents. It will be discussed later in detail.

It forced, for example, the government to reconsider the way it selected sites for new nuclear plants. It also established a precedent for the provision of affected local resident with access to information, increasing aid to neighboring regions, and the expansion of public relation activities. In short, the government now has to pay closer attention to the interests and desires of local residents near a plant site. Of course, this means inflated construction cost and a considerable embarrassment for the government.

The Youngkwang case clearly demonstrated the significance of political factors in scientific and technological policy in a newly democratized society. Initially, the local residents showed little resistance to incoming nuclear plants. But later, when the government announced a new project to construct additional nuclear plants, the local residents showed a bitter resistance to it. By that time, the local residents had developed a significant interest in the nuclear power. The 1987 democratization reforms granted the local residents the freedom of the speech to express themselves in the matter in which a crucial local stake was involved. These reforms also made possible national environmental and antinuclear groups with whom alliance could be formed.

The Youngkwang residents were initially concerned with the economic damages caused by nuclear plants. They instantly mobilized themselves when they felt threats to their livelihood. But, as the early mobilization for compensation did not produce a satisfactory result, the residents shifted their focus from the economic compensation to the resistance to the additional construction of nuclear plants. In the process, antinuclear ideology appeared among the residents and gained widespread support.

The risk perception of Youngkwang residents was very high. Several incidents allegedly related with nuclear plants contributed to their high level of risk perception. The level of public trust was very low. The majority of residents did not believe what the government said about the nuclear plants. The peculiar political culture of the region also played a part in several points of mass mobilization. Finally, the role played by a much liberalized mass media cannot be underestimated.

5.3 The Mass Mobilization at Kori

5.3.1 Background

Kori is a little village in Yangsan Kun, South Kyungsang or KyungNam Province. As of 1996, there are four nuclear reactors (Kori 1,2,3, and 4) operating at Kori. They are the pressurized light water type of reactors with total capacity of 3.1 million KW. Construction period range from 1970 to 1978 for Kori 1, 1977 to 1983 for Kori 2, 1978 to 1985 for Kori 3, and 1978 to 1986 for Kori 4.

Kori 1 was the first nuclear plant in South Korea. Kori 1 and Kori 2 were built under a major contract with Westinghouse of the United States. Domestic constructors, Hyundai and Dongah, participated in the project only as subcontractors. Kori 3 and Kori 4 were much bigger than the previous two reactors and built in a manner of a *Non-Turn Key* contract under the leadership of KEPCO (KEPCO, 1995).

Kori residents showed little resistance against nuclear plants until 1986 when Kori 4 was completed. Rather, many residents were preoccupied with the economic benefits accruing from the construction of nuclear plants. That is, when the construction of Kori 3

and 4 began in 1978, the Kori residents did not show any opposition to it. The government easily implemented the nuclear plant program. But when the government introduced a plan to build a new nuclear waste storage facility, the local residents demonstrated in protest.

5.3.2 The Mass Mobilization⁴

In 1969, when KEPCO began purchasing land for nuclear plants, Kori residents did not show any significant resistance. On the contrary, many residents including local influentials welcomed the nuclear plant because it would bring local development that had been desired for a long time. Although a few residents resisted, most emigrated with compensation money for their house and land appropriated for the plant sites. Many of them were paid as much as three or four times more than the normal price for their properties. A total 167 households emigrated from Kori to neighboring villages and towns.

When the construction of the Kori 4 was complete in 1986, the special economic boom ended as well. Local residents began to feel dissatisfied with their economic condition. Then, two critical incidents took place in 1986 and 1987, the Chernobyl disaster in the Soviet Union and the dramatic democratization of South Korea.

One of the most distinctive social characteristics of Kori and neighboring region is that since 1971 they have been designated as a Green Belt, a development restriction area, under the City Planning Law. The designation of Green Belt was made by the Ministry of

⁴ This section draws heavily upon Lee (1992) and Choi (1993).

Construction at the KEPCO's request to designate the area near nuclear plants within a radius 8 Km as a low-population area with less than 25,000 people. It was to prepare for a possible accident at nuclear plants. The Green Belt designation is made by the Minister of Construction when he recognizes the need to prevent disorderly expansion of a city limit and to assure a pleasant natural environment for the residents of a city. It can also be made at the request of Minister of Defense when he recognizes the need for national security. Once designated, no building construction, no change of land use and no division of land space are allowed within the Green Belt area. Residents within the Green Belt could apply for a permission to do those things, but few waivers have been issued (Whang, 1991).

Mass mobilization at Kori started with a mass demonstration by Kori downtown residents. On January 5, 1988, their discontent finally exploded into protest. About 500 residents demonstrated against the Green Belt that imposed restrictions on the development of the village. The Kori residents argued that they could no longer endure the hardship caused by the Green Belt, which designated the area within a radius of 8 KM as the development-restricted area. They argued that the Green Belt restrained them from exercising property rights and caused declining land values.

On November 11, 1988, at the neighboring village, Gilchunri, 63 residents petitioned to ask for a compensation for the damages done by the Kori nuclear plants. The petition claimed that the Green Belt was the product of the construction and operation of the Kori nuclear power facility and had a devastating effect on the local economy--restricting economic development, creating a loss of fishery rights and farm

lands, and depressing business in the vicinity of the local swimming beach. The residents at Gilchunri formed an organization called, the Gilchunri Committee for Emigration. The residents at a nearby village, Hoamri, also organized the Committee for Emigration in order effectively to protect their interest. In a survey conducted by local residents for themselves, about 95 percent of the residents (186 households) indicated a desire to emigrate to escape the ill-effects of the Kori nuclear plant.

At the center of controversy was whether there was a burial site of nuclear waste at Hoamri, 700 meters away from the nuclear plant site. The residents claimed that yellow drum tanks containing nuclear waste were buried at an abandoned reservoir. KEPCO flatly denied the allegation. On December 9, a team of investigators started digging at the alleged burial sites in the presence of agents from MST, MLEP, and news media reporters. The team discovered 8 drum tanks. Tests conducted by the Korea Nuclear Energy Institute indicated that the drum tanks were contaminated by nuclear radioactivity, but the level was not strong enough to be harmful to humans. Later the residents excavated another pile of drum tanks. But subsequent negotiations with KEPCO produced little result. This excavation was made possible by the whistle-blowing of the one-time Hyundai Construction Company worker and it led to violent mass demonstration. Twenty-eight local residents were arrested and 7 of them were indicted (*Korean Daily*, December 14, 1988).

On December 12, 1988, about 600 residents at Kori, Youngkwang, and Wolsung gathered at Kori to demand that KEPCO produce a damage compensation and emigration plan. They blocked the front gate of the Kori nuclear plants with 50 tractors and waged a

demonstration with pickets and banners (*Korean Daily*, December 11, 1988). A delegation was formed to visit KEPCO's headquarter in Seoul with a *Joint Resolution by Kori, Wolsung, and Youngkwang Residents Against Nuclear Plants*. In this resolution, the local residents expressed their opposition to nuclear plants defining them as threats to world peace and human survival. They were concerned with the issue of social equity. They pointed out the unequal distribution of benefits and burdens between rich Seoul and the poor villages near nuclear plants. They reiterated demands for the compensation of economic damage and an emigration plan.

On December 13, KEPCO put ads in major newspapers to explain the waste drums found in the Kori area. It argued the waste drums contained ordinary, not radioactive waste. Under the mounting public pressure to punish the illegal behaviors of the nuclear plant contractors, the local police investigated the case. KEPCO was charged with the violation of the *Nuclear Energy Law* for illegally abandoning nuclear wastes. But the ruling of the local court symbolized the social and political atmosphere within the government at the time concerning the environmental protection. KEPCO and the Korea Electric Power Repair Company were ordered to pay only a small amount of fines (KEPCO, 1990). No one was expected to be prosecuted in a criminal case and, indeed, no one was prosecuted. Two company employees were ordered to pay token fines to save the face of the court.

Following these events, the Kori residents' trust in the government declined significantly. The Seoul government organized a Joint Investigation Team consisting of 25 experts from the Korean Nuclear Energy Research Center, MST, and professors from

local universities to investigate the incidents of illegal burial of nuclear wastes. The inclusion of members from diverse groups was supposed to bring neutrality in the investigation. The result of the investigation indicated that there were no harmful effects on humans from the contaminated site, although a small amount of nuclear radioactivity was detected. KEPCO collected all nuclear wastes from the burial sites and stored it at the Kori nuclear plant facility. The total amount was 1,580 drums and the removal process was monitored by the local residents.

On February 11, 1989, a meeting was held between the local residents and the government. For the government's side, representatives from MER, MST, and KEPCO participated. A agent from MER proposed to pay 900 million Won for the local development, which was equivalent to 0.2 percent of the annual profit from the Kori plant. In response, the residents proposed 0.6 percent of the annual profit which was derived from their understanding of compensation levels set in Japan. The residents demanded the elimination of the Green Belt, the creation of an agricultural and industrial complex, and compensation of damage at once prior to the local development assistance. KEPCO said that it would recommend the government to accept those demands. But few residents expected that they would be realized soon.

On February 16, some residents at a neighboring local village made a pro-government demonstration. They argued that "We do not want to emigrate. We do not mind sleeping with nuclear energy. We want to be rich." This counter-demonstration was one aspect of mass mobilization against nuclear plants in South Korea. The counter-demonstrators lived at a relatively distant village from the nuclear plant sites and thus felt

less threat. Kori residents were dismayed by the counter demonstrations and asked for an explanation and apology. But they did not hear any of them.

On February 17, 1990, the local residents near the Kori nuclear plants formed an organization, called the Local League for Development against the Kori Nuclear Plant (the Local League), to improve the welfare of the residents. For that purpose, the Kori Local League sought to reform the Law concerning the Assistance to Local Residents near Nuclear Plants and realize the demands for petition, and damage compensation. The Local League was joined by leaders of five villages and local influentials of the Yangsan Kun area.

The Local League sought to resolve the ongoing conflicts between those living within the 2 KM radius from the nuclear plant site and those living within the 5 KM radius. The two sides showed different opinions as to how compensation should be made. Those living nearer to nuclear plants argued that they had higher stakes and thus should be paid more. Initially, the Local League included representatives from those within 5 KM, but later excluded them. The Local League argued that it was unfair to treat all those residing within 5 KM from the nuclear plant site equally in future compensation. They also argued that the provision of 0.3 percent of annual profit stipulated in the internal KEPCO policy was not substantial enough to assist the local development.

In June 1990, the Kori mass mobilization turned into a new phase when a local newspaper reported that KEPCO planned to build a new temporary storage facility for nuclear wastes at Kori (*Pusan Daily, Kyungnam Daily*, June 15, 1990). According to the report, KEPCO had already obtained a permit to build the fourth temporary storage

building from the local government. In the Korean law concerning construction, anyone who undertakes a new construction project must obtain a permit from local government. The report said that the accumulation of nuclear wastes, which amounted to 21,400 drums at the time, would soon exhaust the total storage capacity. By the report it became clear that the local government issued a permit to construct a nuclear waste facility sometime June of 1990.

The local residents near Kori plants were furious at the report. On June 18, they held a meeting to discuss the issue. Then, they decided to hold a mass gathering named *For the Resistance to the Temporary Nuclear Waste Storage*, to express their opposition to the temporary nuclear waste storage. In this meeting, the local residents called for the resignation of the Kun Director for issuing a permit to construct the temporary nuclear waste storage facility, for ignoring the desires of the local residents to lift the Green Belt, and for ignoring the requested damage compensation. The opposition mobilization escalated as time passed. On June 21, another mass gathering was scheduled. This time, more people participated. The residents demanded damage compensation in addition to opposing the temporary nuclear waste storage facility. Consequently, the local government suspended the permit granted to KEPCO. KEPCO also decided to hold the construction work until all the problems were resolved.

On October 23, 1990, the Kori Local League made a petition to KEPCO. The major demands in the petition were: (1) payment of damage compensation; (2) establishment of safety measures in case of nuclear radiation accidents; (3) immediate cessation of the construction of the temporary nuclear waste storage facility; and (4)

abolition of the cap in aid to local residents near nuclear plants. Interestingly, the petition included a specific statement that the local residents did not demand the shutdown of the Kori nuclear plants or express any fundamental rejection of nuclear energy. Until December 1990, KEPCO adamantly rejected the residents' demands for the compensation of dropping property value, emergency evacuation funds, and damage from the shutdown of a local swimming beach. KEPCO, however, was considering the compensation for fishing ground damage resulting from thermal pollution caused by the plant cooling system.

In March 1991, KEPCO launched a signature drive in order to resume the construction work of the temporary nuclear waste storage, which earlier was suspended due to mass protests. At the time, a fierce mass opposition movement took place in Anmyon Island against nuclear waste facility. The signature drive collected a total 19 signatures of the Local League members on the agreement. Thus an agreement was reached between the Local League and KEPCO. KEPCO believed this was enough to represent the majority will of Kori residents and thus bind an entire community. The content of agreement was as follows:

1. KEPCO understands the inconvenience of the Kori residents in their daily lives resulting from the imposition of the development restriction area and will make an effort to lift the Green Belt.
2. The Local League understands the necessity of a stable supply of electric power in the development of the national economy and the necessity and urgency of the fourth temporary storage building. The Local League will be present as an observer at the inspection at the completion of construction.

3. KEPCO will not build additional temporary storage at Kori. It will not change the temporary storage to a permanent storage or accept nuclear wastes from other places.
4. KEPCO will make every effort to resolve the problems raised by the Local League. It will apply two rules in doing so:
 - a. Future problems will be handled according to concerned laws; and
 - b. In making payment of compensation, objective standards will be used to pay compensation (KEPCO, March 20, 1991).

The agreement created its own problems. On April 1, 1991, representatives of several local groups such as the Youth Organization and the Farmers and Fisherman Association complained to KEPCO for coopting the Local League and asked for the cancellation of the agreement. They argued that the Local League could not represent the will of all residents. They were especially worried about the possibility that the temporary nuclear waste storage facility might be turned into a permanent storage site. Furthermore, the representatives were suspicious of other agreement provisions because they would undermine their bargaining position later.

Stronger opposition came from those who resided outside the 5 KM radius. About 20 representatives visited the Yangsan Kun Administration Office. They made a proposal to (1) lift the Green Belt, (2) increase the proportion of local assistance from 0.3 percent to 0.6 percent, (3) abolish the upper cap of 10 billion Won for local assistance, and (4) extend the scope of assistance from the current radius 5 KM to 8 KM.

In July 1991, members of almost all representative groups near the Kori nuclear plants gathered--the Development Consulting Groups, the Leaders of Agrarian Society, the Leaders of New Community Movement, and the Youth Organization--to discuss the

issue of temporary nuclear waste storage. About 44 representatives agreed to put the issue on ballot to determine whether to allow the construction of nuclear waste facility. The outcome of ballot was 22 yes votes, 15 nays, and 7 neutrals. By this vote, at least as it was understood by KEPCO, Kori residents practically granted their consent on the construction of the fourth temporary nuclear waste storage and KEPCO started construction.

On this occasion, a new compromise was made between the residents and KEPCO as the residents withdrew their opposition to the fourth temporary nuclear waste storage building. The KEPCO agreed to pay compensation for the damage on the loss of seaweed farms and fishing grounds. The Korean Maritime Research Institute and the Pusan Fishery College mediated the agreement. Table 5.10 shows a brief chronology of key events for the Kori mobilization.

5.3.3 Analysis of Case

5.3.3.1 Economic damage

In the short term, the nuclear plant brought significant economic advantages to Kori. The population of Kori increased from 12,474 in 1970, when the construction of Kori 1 started, to 22,200 in 1981. During this period, Kori enjoyed an economic boom as construction workers flowed into the town. Many local residents were hired as temporary workers in the plant construction. In 1988, 162 local residents held jobs in the plant construction, accounting for 14 percent of total work force at the job site. Also, about 238 residents worked for companies related with the nuclear plant construction, and more

local workers were hired by the Korean Power Repair Corporation for annual repair work and by local subcontractors (KEPCO, 1994).

Once the construction of the plant was complete, however, the Kori population dropped from 17,807 in 1985 to 12,735 in 1990, surpassing the natural population decline rate. In contrast, the population in neighboring Kijang increased 14,000 in 1971 to 20,271 in 1990. The land value shows a significant difference between the two towns. The land value of Kori was about half of Kijang. What upset the Kori residents most was that they were excluded from the national trend of land value increases in the middle of the economic development (Lee, 1992).

The residents at Kori and neighboring areas have complained about the inconveniences and economic damage in their lives caused by the Green Belt. First of all, few new houses have been built since 1971 and few business have entered Kori. As of 1990, the number of buildings more than two stories was four including the Kori Administration Building. Repair and expansion of buildings was not allowed. The building use change has been restricted and has caused significant problems for the livelihood of local residents. As a consequence, the discontent of Kori residents ran high. The discontent was largely directed against the Seoul government because it was the Ministry of Construction in Seoul that imposed the development restriction. The local government was not held responsible. Since 1987 Kori petitioned several times to lift the restriction but the Construction Ministry refused to do it .

Kori residents proclaimed their opposition to nuclear plants in many incidents. But the residents' real concerns were an economic compensation and emigration from the place

they resided with sufficient compensation. This is well indicated in the agreement between the Director of the Power Generation Division, KEPCO, and the residents. The agreement reflected very much the wishes of KEPCO, while the residents obtained some goals. It said:

1. KEPCO will support the neighboring towns near nuclear plants. But it will not accept the collective emigration based upon the safety of nuclear plants, because it has no base.
2. KEPCO will buy properties of individuals if no one wants to do it. It will follow the mediation by the third party (KEPCO, March 1991).

In the agreement, KEPCO made it clear that the emigration of the local residents was not related with the safety issue. KEPCO was concerned with implications that would have been suggested by a massive emigration.

In summary, economic damage inflicted by the nuclear plant at Kori can be summarized as the underdevelopment under the nuclear plant and the Green Belt. The residents complained about a declining land value, a loss of fishery rights and farm lands, and depressing business. No doubt the economic damage was a primary cause of the mass mobilization at Kori.

5.3.3.2 Risk Perception⁵

Several well-publicized incidents took place concerning to the Kori nuclear plant while the damage compensation movement was under way. These incidents served, directly or indirectly, to facilitate the fear of radioactive materials among local residents.

⁵ This section is a brief summary of the *Nuclear Power Generation and Environmental Safety* by KEPCO (1990).

First, in October 1988 one employee of KEPCO died of cancer. The family of the employee argued that the death was caused by nuclear radiation and that KEPCO manipulated the record of nuclear radiation to which he was exposed. KEPCO responded that the argument was groundless and that the employee has been exposed to a radiation dosage insufficient to cause any harm.

In January 1989, an employee of the Korean Electric Power Repair Company was diagnosed as having a terminal stomach cancer. He argued that the cancer might have been caused by nuclear radiation. KEPCO responded that he could not have been exposed more than the amount stipulated in the law and that the stomach cancer could not possibly be caused by the nuclear radiation.

In September 1989, an ex-KEPCO worker was denied of employment at KEPCO because he was found to have an elevated white cell count at the employment test. This incident was reported at a local newspaper. In the same month, newspaper reported a case in which a new born infant died of a serious brain problem. Suspicious of nuclear radiation's influence, the infant's parents asked for a detailed medical examination. KEPCO denied the allegation. The baby died in five months (*Pusan Daily, Kukjae Daily*, September 8, 1989).

In July 1990, another incident took place in the sea. A fish caught nearby sea was found to be malformed. Fisherman were suspicious of nuclear radiation's influence (*Pusan Daily, Dongah Daily*, July 14, 1990). The fisherman asked for a detailed medical examination by the Korean Nuclear Energy Safety Center and the Korea Maritime

Research Institute, which concluded that the malformed fish had little to do with nuclear radiation or thermal pollution from the Kori plant.

These stories and reports served to reinforce the doubts of the local residents about the safety of nuclear plant. These doubts were especially strong among those who worked at the nuclear plant. While sensational and scientifically unproven, these reports greatly influenced the development of the local mobilization in the Kori area.

5.3.3.3 Public Trust in the Government

It may be argued that the level of public trust among the Kori residents was substantially high until they witnessed KEPCO's unethical and irregular behaviors such as the illegal burial of nuclear waste. Given the little movement among the local residents and the general political culture of the Province, despite of some discontentment, the government was trusted by the public. In fact, there were few indications of public distrust in the government until the incident of "illegal burial of nuclear waste" took place. All four nuclear plants were built without serious difficulties with implicit, if not explicit, approvals of the local residents. However, as indicated earlier, the public trust in the government gradually declined as a series of events occurred spurring mass mobilization.

Once the incident of the illegal burial of nuclear waste occurred, the attitude of Kori area residents changed dramatically. Protests exploded against the government and KEPCO. The residents felt cheated, betrayed, and patronized. As one resident bitterly expressed it:

How can the government do such a thing? They are people without conscience. We must have been seen as fools. Otherwise, they could not

behave like that. Are they public officials who worked for the people and the nation? We can no longer trust the government? Even if Seoul did not authorize Kori KEPCO to bury the nuclear waste, Seoul should be responsible for it (Interview with a resident at Kori, March 1996).

Thus, several well-publicized incidents served well to erode the traditional credibility of the government. Then the incident of the illegal burial played a critical part in destroying much of what remained of the credibility of the government.

5.3.4 Conclusion to the Kori Case

The government achieved most of the objectives at Kori. It successfully sited the nuclear plant. It also sited the fourth interim nuclear waste storage building. The Kori nuclear facility was completed in 1986, a year before the Kori residents were "allowed" to have any significant interest in the issue of nuclear energy policy. Therefore, the government had little problem in implementing its program. Even after 1987, they showed little resistance against nuclear plants until the critical incident of the illegal burial of nuclear waste took place. The government had enjoyed a substantially high level of public trust until that time.

The Kori mass mobilization was primarily motivated by economic considerations. The residents were discontented with the restrictions on their daily lives caused by the Green Belt. They sought to increase the amount of compensation by strengthening their bargaining position. There was little sign of an ideologically oriented mobilization except for the brief statements in the Joint Resolution by Kori, Wolsung, and Youngkwang.

The government's administration of nuclear policy suddenly faced a major difficulty when the illegal burial of nuclear waste was discovered. Thereafter, Kori

residents showed strong resistance to government nuclear program. The Kori case suggests the significance of proper action by those wielding public authority. The perceived improper actions by the national government virtually destroyed public trust in it and greatly undermined its legitimacy in the region.

5.4 The Youngkwang and Kori Cases in Perspective

The government's nuclear project to build the Youngkwang 3 and 4 reactors was initiated after the democratic movement of South Korea in 1987, while the construction of all four nuclear reactors at Kori was completed before 1987. While a direct comparison of the two cases is problematic, it clearly demonstrates the significance of political factor in administering scientific and technological policy in South Korea. Certainly, the dramatic democratization had a tremendous effect on the way the local resident reacted to the government's nuclear projects. Before the democratization, mass mobilization was not something that the residents could employ as a strategy to achieve their goal and express their opinion. In both cases, the government was successful in siting nuclear plants. Initially when the first nuclear plants were built at the both regions, the residents showed little sign of resistance. In both regions, the mass mobilizations were initially motivated by perceived threats to local economic interests. The opposition to nuclear plants began as bargaining chip to promote economic interests and compensation.

There are some significant differences in the later developments between the two regions. First, when the government initiated the nuclear plant project of Youngkwang 3 and 4, the local residents had already developed a significant interest in the nuclear power.

In contrast, at Kori the nuclear project had been completed before the local residents became aware of the issues surrounding the nuclear plants. That is, the political environment was more conducive for Youngkwang residents to be engaged in anti-government policy. Second, the mass mobilization at Youngkwang developed into an ideological antinuclear movement, while the Kori case did not. These differences led the Youngkwang residents to dramatic action against the government policy. The Youngkwang residents showed a much higher degree of resistance against the government program. In both places, the government could force the nuclear plant project and sited one. But, Youngkwang residents never approved it, while the Kori residents in effect accepted it through voting by members of representative groups. The Youngkwang nuclear plant has not obtained any formal or informal recognition by any means. Youngkwang residents still are fighting for the shutdown of the facility.

Finally, the Kori mass mobilization involved not only the issue of siting nuclear plants, but also the issue of siting nuclear storage facility. This is important because there are fundamental differences between the two issues. In the next chapter, we will see how local residents responded to the government proposals to site nuclear waste facility. There are three such cases and all took place after 1987.

CHAPTER SIX

MASS MOBILIZATION AGAINST PROPOSED NUCLEAR WASTE FACILITIES IN SOUTH KOREA

6.1 Introduction

The issue of nuclear waste disposal emerged as one of the major social and political problems in South Korean in the early 1990s. The Seoul government faced strong resistance from local residents against its plans to site a major nuclear waste facility. Local residents reacted far more promptly, fiercely and violently against nuclear waste facility than they did against nuclear plants. This chapter reviews and analyzes first the cases of Youngduk and Wooljin, and then the case of Anmyon Island. In each case, the local residents showed bitter resistance against the proposed nuclear waste facility. This chapter examines what happened and why it happened.

6.2 Mass Mobilization at Youngduk/ Wooljin

This section presents the cases of mass movement at Youngduk and Wooljin together, because there are several advantages in doing so. The two regions belong to southeast North Kyungsang Province or Kyungbuk and thus share the same socioeconomic, political, cultural and geographical identity. Both movements took place almost simultaneously and were successful in stopping government's plan to construct a nuclear waste facility.

6.2.1 Mass Mobilization at Youngduk¹

A brief chronology of this case is provided in Table 6.1. According to the resolutions of the 211th meeting of the National Energy Board in 1984, Seoul ordered a detailed geological survey to test candidate sites at Youngduk, Youngil, and Wooljin for a medium and low level radioactive waste (MLLRW) facility and potentially a high-level radioactive waste (HLRW) storage facility. Youngduk was selected as the first candidate site among the three. A geological survey team of the Korean Nuclear Energy Institute (KNEI) stayed in Youngduk more than a month for the geological survey. The survey team was soon discovered by a few Youngduk residents. Suspicious of strangers in their town, the residents asked who they were. The survey team lied to the residents, saying that they were from a university near the town and conducting research for a purely academic purpose.

The Youngduk residents heard officially on February 23, 1989, that their area was a candidate site for the waste facility. This occurred when a member of National Assembly from the district of Youngduk asked a question regarding the issue of nuclear waste disposal in the National Assembly Energy and Resource Committee. The National Assembly member told a couple of local residents about the government project on the condition that the conversation was "off the record." He also promised to make every effort to stop the project (*Youngduk Newspaper*, August 27, 1990). Of course, it did not take long until most Youngduk residents heard this news. The opposition mobilization at

¹ Much of the material in this section is based upon Youngkunhoi's *YoungKun Newsletter* (1989) and the *Youngduk Newspaper* (1990).

Youngduk arose quickly and fiercely, and lasted for three months until Seoul gave up its plan to locate a nuclear waste facility in the area.

When the local residents heard the news, they initially did not know what it meant. Even most leaders of local social groups, who became active in the later mobilization, had little knowledge about nuclear waste. It was YoungKunHoi (YKH), a local hometown-loving-organization, that made the first move. Established on June 4, 1988. YKH was formed to promote the unity and leadership of the organizational members and to raise the public consciousness so as to contribute to the development of the nation in the age of local autonomy and decentralization.

On February 28, 1989, a few days after the residents of Youngduk first heard about the proposed nuclear waste facility, a meeting of the standing operation committee of YKH was called. They resolved to lead an opposition mobilization and established the Opposition Committee Against Siting Nuclear Waste Facility at Youngduk (the Opposition Committee). The 14 members of the Opposition Committee consisted of leaders of farmers, fisherman, shop-owners, teachers, journalists, and other occupational groups in the community.

The next day, the Opposition Committee deliberated about the situation and decided to publicize their opposition throughout Youngduk. They made about 100 public notices overnight saying " All Youngduk people, let us stand-up against siting a nuclear waste facility at our hometown." The notes were posted on bulletin boards at 9 surrounding villages. Also, 30,000 fliers were printed to publicize the position and demonstrate the determination of the Opposition Committee.

The office of the Opposition Committee soon thereafter received a visit from the Youngduk Kun director. The Kun director agreed with the Opposition Committee in its goals, but disagreed in specific tactics to achieve the goals, saying "On any conditions, the nuclear waste facility would not come to our hometown. However, the way we can achieve our goal could be different from the way it has been done." He suggested a cooling period should occur before the Opposition Committee undertook any action. But the Opposition Committee flatly rejected the suggestion. They believed that the time was right to actively fight against the government's plan. The Opposition Committee prepared banners and notices for wide-scale distribution. The next day, the Committee distributed information fliers and spoke to the people in the streets of the town. This activity continued for the next several days in spite of strong objection from the Youngduk Kun office. The Kun office did not grant permission for the street meetings, but the Opposition Committee proceeded anyway.

The Kun Administration established its own organization to battle the Seoul government's plan to site the nuclear waste at Youngduk, the Youngduk Kun Committee to Fight the Nuclear Waste Facility (YKC). Its organization structure was the Committee Chair, Vice Chair, Steering Committee, Operating Committee, an executive secretary, and secretaries. The YKC consisted of total 93 members from largely the leaders of social groups at Youngduk area including YKH. The participating members were leaders taken from pro-government organizations around the local administrative offices, interest groups, community service groups, home-loving-groups, religious groups, trade associations, a Kun official, and local influentials. The YKC was characteristically

moderate in the way it sought to achieve its organization goals. Only legal and established institutional methods were employed to promote its goals. The nature of the participating members set the boundary for themselves on the strategies and methods it could take. Consequently, it played only a minor role in the overall opposition mobilization.

From the beginning, YKH was suspicious of the YKC because of its composition. The YKH petitioned the YKC to be more responsive to the entire Youngduk people rather than to only established elites. It said "YKC must read carefully the will of the Youngduk people. Otherwise, the grievance of the people will be pointed out to you." However, the two organizations could not agree with each other on the strategies to achieve their goals. Finally, the president of YKH withdrew from YKC.

In the Youngduk area one of the most powerful opposition movements took place at Namjung Myon (the Myon is an unit of administrative hierarchy). The Namjung Myon Opposition Committee (the Myon Committee) was established instantly and held mass gathering to declare its opposition to the proposed nuclear waste facility. The YKH actively took a part in the meeting. It provided fliers saying "Let us meet at the Youngduk elementary school tomorrow!" and spoke to the people using microphones loaded on a truck. While YKC showed a reluctant support to the meeting, it nonetheless gathered 3000 local residents. This was a remarkable success for the burgeoning opposition given that the total number of households at Namjung Myon was only 1,500. The mass gathering adopted resolutions: "We will oppose the nuclear waste facility at Youngduk at the expense of our lives," and "Cancel immediately the government's secret plan to construct the nuclear waste facility in the east coast." After the mass gathering, the local

residents marched out of the elementary school and occupied a local road between Pohang and Woolsan (two major industrial cities in the east coast) for two and half hours. The peace march was joined by local Youth Organizations. About 200 Youth Organization members drove 20 vehicles through the Youngduk area shouting slogans such as: "Let us stand up against the nuclear waste project."

All of sudden, further demonstrations were banned by the local police office. The local police said the demonstrations would not be necessary because the Governor of Kyungbuk had announced the cancellation of the nuclear project. On March 19, 1989, four researchers of the Korean Energy Institute visited Youngduk Kun office and met with local influentials. They announced in the meeting that a new study was under way at Youngduk due to the unfavorable conditions in other candidate areas. In fact, Seoul had not been able to find a good candidate site for nuclear facility as of that time. Afraid of being fixed as the final candidate site, the YKH Opposition Committee decided to hold a mass gathering to publicize the continuing danger and to demonstrate their opposition to the government plan. They began another round of street work to arouse the local populace. Then, the situation changed radically. A flood of phone calls came into the Kun office to criticize the Kun's decision to prohibit the mass gathering.

The YKH went ahead with the mass demonstration at the Youngduk Elementary School despite of the local police office's ban on protest meetings. In the demonstration with 3,000 participants, a spokesperson for YKH read a Letter of Appeal to the Youngduk Kun, a petition to the President of South Korea was adopted, and a public speech by the president of the Movement League to Expel Pollution was delivered. The

residents approved a resolution saying "We oppose to the death the construction of nuclear waste facility at Youngduk, which would mean the end of our hometown." The YKH asked the Kun director to confirm rumors that the governor of Kyungbuk promised not to host the nuclear waste disposal facility on the east coast. There the director made a promise that the Kun would not host nuclear waste facility, but he confirmed that a new study was under way at the time. It was obvious that the national government was proceeding with its siting plan. Then 400 of those attending the meeting began a street demonstration. They paraded through downtown Youngduk but ended up with a standoff against 200 riot police for an hour in front of the local office of the Democratic Justice Party (the ruling party of the national government at the time). The demonstrators demanded a clear answer as to whether the government would build the nuclear waste facility at Youngduk and then dispersed.

The Myon Committee learned on March 20, when it visited the Ministry of Science and Technology (MST), that a second round of study indeed was under way. They were assured, however, that nothing had been decided or changed regarding the status of Youngduk. That is, Youngduk was still a prominent candidate site for nuclear waste facility. They also learned that once the study was completed, the siting issue would be referred to the Ministry of Energy and Resources (MER) and the Nuclear Energy Board (NEB). The local residents became suspicious of the promise made by the Kun Director that no nuclear waste facility would be built at Youngduk. They inquired as to the basis upon which he had made the promise, but did not receive a satisfactory answer..

On March 27, the YKH Opposition Committee sent a letter of inquiry to the Youngduk Kun. It inquired as to when the Kun Director first knew that Youngduk had been selected as a candidate site for a nuclear waste facility, what he did about it, why he did not inform the people of this selection, and on what basis (prior to any official government announcement) he concluded that the facility would not be constructed at Youngduk. On April 1, the YKH Opposition Committee visited the Korean Energy Institute (KEI) and the MST to find out whether or not the Kun director and the governor of Kyungbuk had told the truth. The Committee found, contrary to the assurances of these subnational officials, that Youngduk had not been excluded from the list of candidate sites. The next day, the Opposition Committee began distributing fliers that reported the result of the visits and did street work to arouse citizens for the next five days.

The opposition gained momentum around this time. On April 10, a local catholic church invited the Movement League to Expel Pollution to give a lecture on the dangers of nuclear waste. The lecture was followed by a play about nuclear energy. Most social groups in the area by now had joined the opposition. About 50 banners were put up to protest the nuclear waste facility siting. On April 29, the YKH invited a theater group to perform an antinuclear play and several hundred people turned out to watch.

The YKH then shifted its attention from the local to the national level. It decided that the time had come to inform the entire nation as to the dangers inherent in a central, large-scale nuclear waste storage facility. In particular, this meant joining with national environmental groups and local residents in protesting nuclear facilities in other areas. Consequently, on April 15, the YKH sent a delegation to Seoul to attend *the National*

Conference to Expel Nuclear Plants. On April 26, the YKH participated in the third annual commemoration of Chernobyl held in Pusan. What began as a local protest group was now becoming part of a large, if inchoate, national network of antinuclear and environmental groups.

In its effort to network with other groups and to raise local awareness about the dangers of nuclear energy, the YKH organized a tour of the Kori nuclear plant station. About thirty local residents joined the tour. On tour they learned first-hand about the ongoing struggle to protect their hometown by Kori residents. The people from Youngduk witnessed a demonstration by local residents against the illegal disposal of nuclear wastes. They spoke with many people who were distressed about the declining property value at Kori. They heard the stories which were circulating about how KEPCO employees refused to drink the local water for fear of the contamination by nuclear radiation, and the refusal of people to live in the KEPCO apartment building for fear of radioactivity. True or not, these rumors shocked Youngduk visitors and turned their visit into a sobering experience.

The Youngduk mobilization slowed as the Seoul government retreated from its original domineering and authoritative posture. On September 21, 1989, the governor of Kyungbuk Province appeared before the Construction Committee of the National Assembly. There he declared that the government plan to construct nuclear waste on the east coast had been canceled. A month later, however, the Korean Nuclear Energy Institute (KNEI) held discussions with representatives of the YKH and the Myon Opposition Committee. The KNEI informed the representatives that, in fact, the siting

decision had not been reconsidered by the government and Youngduk had not been removed from the list of candidate sites. It was further revealed that the siting decision was a responsibility of the NEB and the president of the Republic. It was not a matter to be decided by a provincial governor. Finally, the representatives were asked to lend their influence in support of KNEI activities. It became clear that the earlier statement of the Governor of Kyungbuk was not correct which disturbed the representatives.

In an attempt to reverse the trend of opposition to government program, KEPCO by the end of October launched a massive drive to propagate the legitimacy of the government's nuclear energy policy. Major daily newspapers in Kyungbuk area carried a series of articles under the title "Common sense of modern people on nuclear energy." It emphasized the necessity of power generation using nuclear energy. In response, the YKH Opposition Committee and the Myon Committee declared that they opposed any further site research activity and would resume the opposition drive until the government gave up the project completely. No further action was taken, however, because another candidate site, Anmyon Island, had emerged as a strong candidate site for the nuclear waste facility. By November 1990, the opposition movement at Youngduk had dissipated as it became clear that Anmyon Island, not Youngduk, was the prime candidate site.

6.2.2 Mass Mobilization at Wooljin

The residents of Wooljin have lived near nuclear plants since the early 1980s. Since 1988, KEPCO has operated two nuclear units--Wooljin Nuclear Unit 1, 2, at Wooljin. This experience with nuclear plant provided a good education for the Wooljin

residents in their later struggle against the government's plan to site a nuclear waste facility at Wooljin. A brief chronology of the Wooljin mass mobilization is shown at Table 6.2

There are four nuclear plant units at Wooljin--Wooljin Nuclear Unit 1,2,3, and 4. In July 1978, the 33th Ministry Meeting Concerned with Economy made a decision to construct two nuclear plants at Wooljin. Accordingly Wooljin Unit I and II were introduced from France in an effort to diversify nuclear technology and nuclear fuel supply and to promote the cooperation in the area of politics, economics, and technology. Like Youngkwang Unit 3 and 4, KEPCO played a major role in the construction in cooperation with foreign subcontractors. Since construction started in 1982, Wooljin I began its first commercial operation in 1988 and Wooljin II 1989 with total cost of 2,120 billion Won (KEPCO, 1995). In 1990, the 225th Nuclear Energy Board resolved the construction of Wooljin 3 and 4 in expense of 3,350 billion Won near Wooljin I and II. They all used pressurized light water type reactors with total capacity 1,000,000 kW. The construction began in 1992 and is scheduled to be finished in 1998 and 1999 respectively. According to the plan by the Ministry of Energy and Resource and KEPCO's development plan for new energy sources, for the construction of Wooljin 3 and 4, KEPCO modified the design concept of Wooljin I and II and took the 2nd and 3rd steps in the nuclear plant standardization plan (KEPCO, 1995). This set the stage for what then occurred in Wooljin.

The mass mobilization at Wooljin arose from two kinds of concern. One mobilization pushed for compensation for damage incurred from the nuclear plant. The other mobilization developed against the government's project to site an nuclear waste

facility. This study focuses on the second mobilization. The Wooljin residents were relatively quiet in comparison with other regions in the country. In 1988 when residents at Youngkwang and Kori were struggling to win economic compensation, the Wooljin residents were silent. However, after 1989 Wooljin residents began to raise their voices.

6.2.2.1 Mass Mobilization Against the Nuclear Plant at Wooljin

A brief chronology of the Wooljin mass mobilization is shown at Table 6.2. When KEPCO began to purchase the land for the nuclear power plant in 1979, Wooljin residents had little knowledge and were not interested in the controversy over nuclear energy. For the Wooljin residents the nuclear plant sounded like a huge and beneficial industrial complex. They believed what KEPCO told to them. The residents believed that nuclear plants would bring an economic boom and they would be much better off. Therefore, they accepted the project without resistance. The land was purchased at generous prices. Once KEPCO completed the land purchase, it opened the office for the construction of the nuclear plant.

It was not until early 1989 that a systemic movement in opposition to the nuclear plant by the local residents began to appear. The Wooljin residents had been silent because the Wooljin nuclear plant was recent in its operation and had no particular incidents. But they became inspired by mass movements in other areas. On January 24, 1989, the Wooljin residents organized the Wooljin Board to Guarantee the Right to Life of the People Near the Nuclear Plants (Wooljin Board). On February 4, the Wooljin Youth Organization to Oppose the Nuclear Power (Wooljin Youth) was established. The

two organizations played a significant role in the mobilization against the proposed nuclear waste facility.

The Wooljin Board was created when 25 residents gathered to talk about measures to counter KEPCO's propaganda campaign on behalf of plant construction. The residents felt a need for an formal organization that could represent their interests. They agreed to form an organization and most town leaders participated in the organization. On November 18, 1989, 30 people gathered again to declare their determination to fight abuses from KEPCO. On December 21, 1989, the residents of Wooljin decided to form a coalition of 14 groups and created the Wooljin Board after three rounds of meetings. The purpose of the Wooljin Board was to "guarantee the rights to life of the people near the nuclear plants from the direct and indirect threats resulting from the operation of nuclear plants." The organization members consisted of local farmers, fishermen, teachers, shop-owners, journalists, and religious leaders. In terms of structure, it included a Board Chairman, 2 Vice Chairmen, 1 middle man, 6 Counsels, and 26 local activists.

The Wooljin Board initially was concerned with safety and compensation for the economic damages resulting from the operation of the nuclear plant. Specifically, the early meetings discussed the issues of moving residents who lived near nuclear plants, the installation of a gauge to monitor radiation releases, protection of drinking water, the shortage of water for irrigation, the plan to evacuate residents in case of an incident at the reactor, and public uneasiness regarding nuclear plants. As was the case at Youngduk, the primary focus of Wooljin Board at this stage was on economic impact and development

issues rather than on an antinuclear ideological struggle as such. Thus, at this point there were no signs of antinuclear protest among Board members.

The Wooljin Youth Organization, unlike the Wooljin Board that accepted the nuclear plant, clearly declared an antinuclear position. The Wooljin Youth began as a small, informal, and basically politically progressive group. It consisted of those young men interested in the antinuclear movement. The bulk of its members came from the Meeting to Support the *Hankyora* Daily and the National Teachers' Union for Education Reform. The proclaimed goals of the Wooljin Youth were to create "a life framework to expel all anti-life artifacts including nuclear energy." For this purpose, the Wooljin Youth sought to (1) mobilize residents to expel the nuclear power plant, (2) to study and destroy the social and political structure that sustain anti-life and anti-human artifacts, (3) to form a coalition of all groups for an antinuclear movement, and (4) to form a coalition of grass roots and democratic groups. The Wooljin Youth had little influence until the government's plan to site a nuclear waste facility at Wooljin became public.²

Until 1989, the Wooljin residents did not take any dramatic action. Collective action was not allowed and considered inappropriate. But all this changed as Wooljin emerged as a candidate site for nuclear waste facility.

² The Wooljin Board and the Wooljin Youth were independent from each other, with little contact between them, because they had different goals and the members were quite different in social characteristics.

6.2.2.2 Mass Mobilization Against Siting A Nuclear Waste Facility at Wooljin

After March 1989, the focus of the Wooljin mobilization shifted from the compensation movement to the opposition to the construction of the proposed nuclear waste facility siting. When Wooljin was selected as the third candidate site for nuclear waste storage at the recommendation of the KNEI, the Wooljin mobilization suddenly grew and took on an antinuclear accent. On March 9, the Wooljin Board adopted a resolution as follows:

1. We strongly oppose the construction of a nuclear waste storage facility;
2. We demand contingent measures to protect the local residents in case of an emergency;
3. We demand complete public access to the temporary nuclear waste facility;
4. We demand the immediate resolution of problems that are directly related with the survival of the residents;
5. We demand the immediate cessation of false propaganda and the distortion of facts;
6. We demand regular medical examinations for residents.
7. We demand the expansion of the radiation monitoring system.

The Wooljin Board waited for a response from KEPCO for several months in anticipation of a peaceful resolution of its concern. But KEPCO showed little concern and criticized the Wooljin Board for unjustly creating problems. The Board sent a warning letter to KEPCO on April 19, 1989 saying they would take necessary actions to achieve their goals.

As May 1989 came, the residents became increasingly nervous. They sent a letter signed by 1,114 residents to KEPCO. In the letter, the Wooljin Board demanded that KEPCO:

1. Solve pending problems such as the pollution of water supply system and the shortage of irrigation water;
2. Set up an evacuation plan in case of an accident in the nuclear plants;
3. Increase the number of radiation monitors and publicize the working condition of the plant;
4. Organize a surveillance team consisting of the local residents, academics, journalists, and other social groups;
5. Provide information about nuclear plants and a public forum to debate the nuclear energy policy.
6. Put an immediate hold on the construction of a nuclear waste storage facility within the Wooljin 1 and 2 complex;
7. Stop the construction of a permanent nuclear waste storage facility at Wooljin;
8. Build hospitals specialized in the treatment of nuclear radiation exposure;
9. Stop the operation of the nuclear plant until the above demands are met.

At this point compensation was not a only issue. The residents were increasingly more concerned with the safety of nuclear plants and their potentially adverse impact on humans and the environment..

The Wooljin Board's efforts were in part rewarded through bargaining with KEPCO. The problem of the water supply system was settled when KEPCO acknowledged the responsibility for drainage and contamination of drinking water in the Wooljin area. KEPCO subsequently constructed a new water supply line to the area.

KEPCO also paid for the construction of a water bulwark to protect water at Wooljin. KEPCO promised to compensate the land appropriated for the construction of new road as soon as possible. But KEPCO continued to refuse to pay compensation money for damage to the livelihood of the local residents. It refused to pay for a new road saying that it was beyond the capacity of KEPCO. By 1989, the focus of the Wooljin Board was still on the attainment of compensation and the settlement of the problems that made the residents nervous. Plus, the Board members made it clear that the construction of a nuclear waste facility should not be allowed at Wooljin without the consent of the local residents.

The Youth Board sought to form a Kun-wide organization to mobilize the public at the grassroots level. At the time at Youngduck, KEPCO's plan to construct a nuclear waste facility was faced with a strong opposition mobilization. The Wooljin Board contacted the Wooljin Farmers Association, the Wooljin Youth Organization, the Hangjihoe (a group of people to love Wooljin), and other social groups. They gathered three times to forge an organization but failed to reach an agreement.

The mass movement took a new turn when several newspapers reported the government plan to construct additional nuclear plants at Wooljin (*Seoul Daily, Korean Economics Daily*, August 12, 1989). The Wooljin Board immediately held a mass gathering to express opposition to the government plan on August 26, 1989. The Wooljin Board then mobilized about 500 residents. The gathering instantly led to a peace march to the gate of the nuclear plant. At the gate the crowd shouted such slogans as:

No nuclear waste storage. Our dead ancestors groan.

No nuclear plants that threaten our survival.

Let's not be fooled.

Let's not shame our descendants and ancestors.

Let's not believe in the safety of nuclear energy.

On September 27, 1989, in an attempt to stop the government plan, the Wooljin Board filed a protest petition with MER, MST and KEPCO.

By May 1991, the Wooljin Board decided to accept the government plan, after proclaiming opposition in principle only, to construct additional nuclear plants on the condition of sufficient compensation. Furthermore, the Wooljin Board decided that it would restrain further collective action. This capitulation is not entirely surprising given the socioeconomic characteristics of its members and the organizational goals it professed. Most members were relatively more affluent and better educated than the average Wooljin resident. They generally understood and acknowledged the inevitability of the nuclear option as a feature of national economic development aspirations. Even when opposed to the implementation of the government's nuclear policy when it appeared adverse to the interests of Wooljin, they maintained moderate in their approach. Most Wooljin residents were not interested in the antinuclear issues presented by the local activists. In fact, many residents objected to the strong antinuclear position taken by the Wooljin Youth. The Wooljin Youth, for example, told the residents that the ongoing construction at a nearby seaport would be used for the transportation of nuclear waste when a permanent nuclear waste storage was constructed. When the group tried to stimulate antinuclear sentiments among residents by showing a video tape about the dangers of

nuclear energy, the audience of forty residents responded in a lukewarm manner. They proved more interested in learning about the possible benefits from the construction of a new seaport than in watching antinuclear propaganda. The Wooljin residents consistently preferred moderate means to solve the problems and largely eschewed the direct action of the Wooljin Youth.

On July 24, 1991, a Kun-wide antinuclear organization was created, the Struggle Committee to Fight the Construction of Nuclear Plants and Nuclear Waste Facilities (Struggle Committee). It is noteworthy that the Wooljin Juvenile Corporation., in preparing for organization, excluded the Wooljin Youth and Wooljin Farmers Association in fear of the negative consequences of their membership. In the view of the Struggle Committee, the inclusion of the two groups would, organizers feared, undermine the effectiveness of the struggle because of the known radical ideology of the Youth and Farmers.

On August 17, 1991, the Struggle Committee held a mass gathering at the Plaza of the Wooljin Kun Administration Building. Approximately 3000 people were in attendance. The Struggle Committee at the meeting adopted a resolution providing for:

1. Immediate cancellation of plans to build additional nuclear plant in the Wooljin area;
2. Immediate cessation of construction work on the Wooljin 3 and 4 reactors;
3. Expanded compensation for those economically harmed by the operation of Wooljin 1 and 2 , and public disclosure of the causes of this damage;
4. A statement of "no confidence" in the safety of nuclear plants;

5. A statement of determination to "fight to the last man" against conspiracies to harm the Wooljin people (*Wooljin Daily*, August 17, 1991).

The participants in the gathering shouted such slogans as: "Do not say nuclear plants are safe; One accident kills all of us"; "The failure to stop nuclear plants means the death of all Wooljin people"; "KEPCO must pay for the damage done fisherman"; "Would you bury nuclear waste at the ancestors' tomb?" "Is Wooljin a tourist town or a nuclear waste dump ground?" "Repent! you local influentials, stop bowing to power and money,"

Later in the afternoon, the gathering was joined by an additional 2000 residents and developed into a protest march. The march became violent when a demonstration leader fell from a truck and was seriously injured. Some demonstrators stoned the local police station and a house of a Congressman from the ruling party. On the same day, at the other parts of Wooljin there were several mass demonstrations. At the sealline terminal, demonstrators waged a battle against police with stones and molotov cocktails (*Wooljin Daily*, August 18, 1991). As a result of this mass demonstration, about 30 residents were arrested. Then another group of people demonstrated requesting the release of the arrested. Later the Wooljin J.C. and the *Wooljin Daily* sponsored a Photograph Exhibition of the August 17 Mass Demonstration against Nuclear Plant to gather sympathy for the antinuclear cause.

On September 12, 1991, 14 delegates of the Struggle Committee went to Seoul in protest of nuclear plants and met with the Minister of MER. The Minister at the meeting said that the construction of nuclear plants was unavoidable and made clear that the government would proceed to construct four additional nuclear reactors in the Wooljin

area. In response, the Struggle Committee held a general meeting to discuss what to do about the government's plan. On September 28, an informal conference was held among members of the National Assembly, the Kun and Province Congress, and the Struggle Committee on the issue of the construction of additional nuclear reactors. No conclusion was produced, but the conferees agreed to meet with concerned officials responsible for the matter. On September 7, the opposition Popular Democratic Party held a lecture on the nuclear plant at Wooljin. In the lecture, the Chairman of Public Policy for the party delivered an antinuclear message. After the lecture, about 200 residents staged a peace march.

The Struggle Committee did not always speak with one voice. At the general meeting in early November, a conservative faction largely consisting of the Kun and Provincial Congressional members argued that Wooljin 3 and 4 needed to be approved, while additional nuclear plants should be rejected. They justified this as a national necessity to generate more electric power, the difficulty of canceling the international nuclear contract with the U.S. and the expected strict governmental enforcement of laws against any illegal collective activities. But progressive faction, largely consisting of hard-line local residents, made a counter argument that the failure to prevent Wooljin 3 and 4 would lead to another failure to prevent Wooljin 5 and 6. After three hours of hot debate, the argument by hard-liners prevailed. But the solidarity of the Struggle Committee appeared to be significantly weakened.

Later in November, the Struggle Committee sponsored its second mass demonstration to protest the construction of nuclear plants. The local police banned an

outdoors gathering; thus the Struggle Committee had to find a place for gathering indoors. Many Committee members, largely the conservative faction of Kun and Province Congressional members, did not participate in the gathering.

On December 28, 1991 the opposition mobilization at Wooljin turned into a new phase as the Seoul government announced the final candidate sites for a nuclear waste facility. The final six candidate sites included Wooljin. From this day on, the mass mobilization became much fiercer and better organized. Wooljin residents did not waste time in voicing their opposition. The very next day, about 1500 residents gathered in front of the Kun Building. This gathering led to a mass demonstration. The demonstrators, were scattered by the riot police after a fierce confrontation and took refuge at the Wooljin Catholic Church. The next day, in confrontations with riot police, about 700 demonstrators broke glass windows at the Kun Administration Building and the downtown police station. That night, demonstrators threw molotov cocktails to burn KEPCO's Wooljin Power Transmission Station. Then police broke into the Catholic Church, which is supposed to be a holy shrine, and arrested residents who were taking refuge in the church. The next day, a demonstrator was injured in the process of the police's demonstration suppression effort. Some women and children joined demonstrators on this day. The Wooljin residents subsequently claimed that serious injuries resulted from the violent suppression of protestors by the authorities. They demanded that Seoul fire the Interior Minister and Science and Technology Minister, and that the Wooljin Police Chief be prosecuted.

From the first day of 1992, Wooljin began to wrestle with mass demonstrations. Eventually more than ten thousand residents joined demonstrations against the proposed nuclear waste facility. By then, the Wooljin Youth and the Wooljin Farmers Association had joined the Struggle Committee. Once aboard, the Wooljin Youth served as a key player in planning and coordinating mass demonstrations. In the meantime, Wooljin Kun congressional members issued a communique reporting the result of their meeting with the Science and Technology Minister. They claimed that Wooljin was not a candidate site for the nuclear waste facility. They also argued that the Wooljin residents were deceived by groundless rumors and asked the residents to delegate all authority to them to negotiate with the Seoul government.

The Struggle Committee in response expressed anger and distrust for the Kun congressional delegation in a counter-communique. By then only a few in the community trusted the Wooljin Kun Congress. The Struggle Committee in its communique accused the congressional members of contributing little to the opposition movement. Instead, they were actually obstructing the efforts of the Struggle Committee. The counter-communique called upon the congressional members to stop deceiving and dividing the Wooljin residents and to apologize for abandoning the duty of Kun congressional members and step down immediately.

Under pressure from the Struggle Committee, the Wooljin Kun Congress sent "a letter of public question" to the Minister of Energy and Resources. The letter asked the Minister to confirm the earlier promise that "Wooljin was not a candidate site for nuclear waste facility." The Struggle Committee asked the minister to publicize the government

promise not to construct the nuclear waste facility at Wooljin in a newspaper or public document. But the Seoul government did not reply.

The opposition mobilization at Wooljin had a significant impact on the institutional politics surrounding this issue. A member of the National Assembly from the district of Wooljin criticized the Struggle Committee for not being "pure." He argued that the Struggle Committee was manipulated by "an impure" political force and that demonstrators disrupted the livelihood of many innocent people by stoning and threats. At the general election, the Struggle Committee declared against him, arguing that "the reelection of the incumbent National Assemblyman would be a negation of our struggle against the nuclear power." The National Assemblyman at the time was serving the third term as member of the ruling Liberal Democratic Party. He was regarded as an influential player in the national political arena. But because he supported the proposed nuclear waste facility for his election campaign, he failed to maintain a seat at the general election held on March 24, 1992, despite of the historically strong pro-government orientation the Wooljin district.

On April 28, a mass demonstration in commemoration of the sixth anniversary of Chernobyl took place in front of the Wooljin Kun Administration Building. About 300 local residents were joined by environmental activists from around the country. During the event, the Chairman of the Struggle Committee recommended that the question of nuclear energy be placed on a national referendum. Observing that most other industrialized nations were turning away from the nuclear power option, he urged the government to open a national debate over whether or not to build further nuclear plants.

Despite this fierce local opposition, the Seoul government's position on nuclear energy remained firm. There was no sign of disagreement on this issue within the government or within the nuclear establishment. The construction of Wooljin 3 and 4 reactors began in late May as scheduled. But the case of nuclear waste facility was different. The Wooljin residents brought the government's plan to site an nuclear waste facility at Wooljin to a standstill. The Seoul government as of early 1997 has not been able to make a final decision on the permanent site for a nuclear waste facility.

6.2.3 Factors Affecting Mass Mobilization at Youngduk/Wooljin

6.2.3.1 Economic Damage

Youngduk and Wooljin remained relatively isolated from the rapid industrialization that occurred in recent decades in most parts of Kyungbuk Province. That is to say, these communities have not benefitted from the growing affluence associated with industrialization and economic development. Youngduk and Wooljin maintained the character of traditional rural farming communities because of the Taebak mountains, which separated them from the urban industrial region.

A major social characteristic shared by Youngduk and Wooljin is the emigration of the young to urban centers. The population of Youngduk declined from 119,498 in 1967 to 71,370 in 1988. Most of this loss was due to emigration of those in the 20-40 year age bracket. The picture of Wooljin is about the same as Youngduk. Wooljin had a total 117,602 in 1966. This declined to 72,626 in 1989 (RCDDI, 1991: 153). The industrial structure shows a typical agricultural and fishery regions. According to the Population

Census in 1985, about two thirds of workers were engaged in agricultural, fishery, and timber industries.

The local residents were strongly resentful about the threat posed by the government's nuclear program to their livelihood. Before the nuclear waste program was announced, the local residents were excited at the prospect of economic development and, indeed, the living standard had been rising. Wooljin and Youngduk are blessed with long coastlines (82 km and 53km long respectively) that are dotted with a multitude of swimming beaches with magnificent vistas. The tourist industry has emerged as the most promising area of economic development. Plus, the neighboring mountains are also famous for scenic views and hot springs. A variety of numerous tourist-related businesses, restaurants, motels, hotels, shops, etc., are found along the coast from Wooljin to Pohang. These generate annual revenues locally of about 30 billion Won (*Joongang Daily*, January 12, 1990). In the case of Wooljin, the number of tourists skyrocketed from 570,000 in 1981 to 3,450,000 in 1989. The lodging industry expanded rapidly to meet increasing tourist demand (RCDDI, 1991).

Many local residents were concerned with economic losses that the construction of a nuclear waste storage facility would bring. One resident said:

The construction of a nuclear waste facility would mean the end of Youngduk. As you know well, the mere presence of an ordinary waste disposal facility could cause serious problems for business. Who then would come to the place where deadly nuclear wastes are stored underground? If nuclear wastes were buried at Youngduk, who would come to our town to have suntan, to eat Youngduk crab [a famous local cuisine], and to eat raw fish? (RCDDI, 1991: 175).

The Wooljin Board, while opposing the construction of nuclear plants in principle, nonetheless established the following goals for its activities against KEPCO:

1. Make the employment of local residents a priority to solve the unemployment problem;
2. Expansion of the water supply system near the nuclear plant;
3. The construction of a water bulwark to protect surface water from contamination;
4. Development of a solution to the irrigation water shortage problem;
5. Compensation for damage resulting from coastal erosion;
6. Installation of an emergency alarm system near the plant.

Beyond these specific goals, however, the opposition movement worried that the presence of the proposed nuclear waste facility would frighten away tourists. Opponents of the facility were deeply concerned that tourists would not come to Youngduk for fear of nuclear radiation. It was felt that even large-scale publicity campaigns touting the beauty of the region could not counter public fear of exposure to deadly nuclear waste. As one resident expressed it: "A flood of public ads could not make people come to Youngduk [if a nuclear waste facility were built] even if free houses, land, and food are offered" (RCDDI, 1991, 175).

In June of 1990, approximately 200 local fishermen demanded the payment of substantial compensation for damage to their sea farms allegedly caused by thermal pollution from the Wooljin nuclear station. The fishermen claimed that the cooling water expelled from the reactors had raised the water temperature 3 degrees above normal in the

surrounding seabed, thereby destroying their fisheries. KEPCO responded by contracting with a professional research institute to study the effect of thermal pollution in the area. Eventually, the company refused to pay the compensation demanded.

6.2.3.2 Risk Perception as a Mobilization Factor

A study conducted by the Seoul National University in 1991 compared the views of a sample of residents at Youngduk/ Wooljin with those of others living in Kyungbuk Province. The comparative study showed that people living in Youngduk and Wooljin--where mass mobilizations regarding nuclear plants and nuclear waste facilities had occurred--consistently perceived greater risks from nuclear energy than their counterparts in the rest of the Province. For example, as is apparent in Table 6.3, the people at Youngduk and Wooljin viewed nuclear plants as more dangerous than others in the province. About half (48.2 %) of them, as compared with roughly a third (34.2 %) of the Province residents, said that nuclear plants did not operate safely. Only one-in-five (22%) of the Youngduk/Wooljin residents said that nuclear plants were safely operated as compared with about one-in-three (37.4 %) of the other Province residents. This difference is statistically significant at .05 level of probability (chi-square=18.5).

Table 6.4 shows that the Youngduk/Wooljin residents were more concerned with the danger of nuclear radioactivity than those in Kyungbuk Province as a whole. While 56.0 percent of Youngduk/Wooljin residents said that nuclear plants release radiation, fewer (43.3%) among the Kyungbuk residents felt this occurred. This difference is statistically significant at .05 level of probability (chi-square=8.8). Moreover, Table 6.5

shows that almost two-thirds (62.7 %) of the Youngduk/ Wooljin sample believed that nuclear radiation caused cancer. But, only about one-half (55.1) in the provincial sample felt this was the case. This difference is also statistically significant at 0.05 level of probability (chi-square=5.5). It is worth noting that people from Youngduk (where there was no nuclear plant but which was a candidate site for a nuclear waste facility) worried more about cancer than those at Wooljin (who had a nuclear plant). This probably reflects the fact that South Koreans in general are far more afraid of nuclear waste than they fear nuclear plants as was seen in Chapter 5.

The high level of risk associated with nuclear energy by the Youngduk residents is also apparent in the slogans employed by the Opposition Committee. During the mobilization against the proposed nuclear waste facility, the Committee stimulated and reinforced popular fears with words during demonstration such as:

1. Within 70 km radius of a nuclear waste disposal storage facility no one can survive;
2. Those who are lucky enough to survive nuclear radiation exposure will become malformed;
3. Any common people would be afraid of nuclear radioactivity. If nuclear waste is buried at Youngduk, who would come to Youngduk for vacation? who would eat food produced in Youngduk?

An antinuclear activist at Youngduk observed that: "Normally people would not come near a mass cemetery-- which is harmless. Would such people come near a nuclear waste facility which is known for deadly radioactivity?" (Interview with local resident, March 1996).

At Wooljin there were several incidents that were allegedly related to the safety of the local nuclear plants. These incidents significantly contributed to the local residents' fears about nuclear power. Less than two months after it began commercial operation in October 1989, Wooljin 1 went off-line. This made the local residents nervous and ignited a controversy over the safety of the plant. After 107 days of off-line during which repairs and extensive inspection were made, Wooljin resumed operation. Local anxiety grew when Wooljin 2 halted operation twice in 1989 for a total of 87 days (*Hankyora Daily*, November 12, 1989). Operational difficulties were exacerbated when two employees at the nuclear power station died of Leukemia in October 1989. The Wooljin Youth Coalition in reaction issued a press release criticizing KEPCO's "secret" system of managing nuclear radiation at the plant. At about the same time, the *Group for Environmental Preservation* was established out of concern for the adverse impact on public health and safety from the Wooljin nuclear plant. Consisting of a coalition of 26 local social groups, the new organization was the first comprehensive local organization formed to shape mobilization against nuclear plant. Also in June 1990, three severely malformed calves were born on a farm 6 KM north of Wooljin. The birth defects of this livestock were popularly assumed to be caused by the proximity of the farm to the Wooljin nuclear plant.

Many nuclear physicists and engineers argue that nuclear waste is not dangerous to humans and the environment if it is well processed and properly stored. But the majority of Youngduk / Wooljin residents surveyed did not believe this. As is shown in Table 6.6, only 12.1 percent of the respondents believed that a nuclear waste facility

would be safe. A majority (52.6 %) thought the facility would be unsafe. Table 6.7 shows how the local residents viewed nuclear waste in comparison with ordinary household waste. Again, their fear of nuclear waste is apparent as about 57 percent reported that it was more dangerous than household waste.

6.2.3.3 Public Distrust

The Korean national government had long enjoyed a high level of public support in Kyungbuk Province, including those citizens living at Youngduk / Wooljin. This support was due to the fact that the successive presidents of the Republic had come from the Province. The Kyungbuk residents in general proudly believed that past presidents such as Park, Chun and Roh were great leaders who had well-served the nation. The residue of traditional support to Seoul especially was apparent among the residents of Wooljin. They remained quiescent well into 1988, even though their neighbors at Youngkwang were fighting against the government over the issue associated with the operation of the nuclear plant. As one resident observed in reflecting on why the level of trust in Seoul was so high in the late 1980s: "Why should we distrust our own government at the time when those presidents worked so well for the country?" (Interview with a resident at Wooljin, March 1996).

As the citizens in these communities discovered that they faced real and imagined threats from Seoul's nuclear program, trust in the national government rapidly eroded; that is, the high level of public support dropped quickly when the government program was perceived as a threat to local interests. An incident on November 30, 1989,

dramatized the sense of distrust that quickly grew among local residents against the Seoul government and its partners in the technocratic community. On that day, a team of the Research Institute for Population and Social Development at Seoul National University held a public meeting to report the results of its recently completed study. The study was conducted under contract with MST to prepare *selecting the sites for radioactive waste disposal and deriving regional development strategies* (RCDDI, 1991). Sixty residents from Wooljin and Youngduk attended meeting in anger drove the research team out of the Seoul Press Center. Those residents, like many others who lived near the proposed sites, viewed the research study and the public presentation of its research as a government attempt to manipulate public opinion. A few days later, MST was scheduled to hold a public meeting to discuss the proposed expansion of the Wooljin nuclear plant at the Wooljin Kun Administration Building. When the Struggle Committee learned of the scheduled meeting, it called an emergency meeting to discuss how to prevent the MST presentation. Under the threat of "physical confrontation" by the Struggle Committee, MST canceled the meeting (*Wooljin Daily*, November 30 through December 5, 1989).

6.2.3.4 Government Response

Seoul's handling of its nuclear facility siting program in Kyungbuk was flawed in several ways that diminished its credibility. Its inattention to the volatile character of nuclear facility siting, especially in the era of democratization, was costly. Its failure to recognize the need for and to assure timely, accurate, and consistent communication and coordination with subnational officials on such a controversial policy generated public

distrust. For example, when burgeoning opposition at Youngduk submitted to the Youngduk Kun its "public letter" questioning the proposed nuclear waste facility, the response it received worsened the situation. The letter received in response stated that the Kun had not received any prior notice or formal instructions from the Seoul government regarding the proposed nuclear waste facility. While YKH doubted this answer, it had no choice but to accept it. Further, taking a very optimistic posture, the letter reassured YKH that Youngduk would be removed from the list of candidate site for the nuclear waste facility; this assertion proved to be without any foundation. This effort of the local government to reassure local residents that their community was in no real danger of becoming a radioactive waste storage site, of course, backfired when the Opposition Committee met with KNEI and MST. There they learned that the government had not changed, and did not expect to change, its plans to study Youngduk as a potential nuclear waste site. The inconsistent positions assumed by local and national officials thereby engendered distrust for both.

When confronted by the lack of foundation for his optimistic assertions, the Youngduk Kun Director reacted in an emotional fashion. He criticized YKH for stirring up trouble and instigating innocent people. YKH filed a lawsuit charging that he had libeled the honor of the group. When YKH publicized the lawsuit through the mass media, public distrust of the local administration inflated. The legal action, however, was designed to enhance YKH's status as a group protecting the local residents from the unwanted nuclear waste facility, rather than an effort to punish the Kun director. The intercession of local influentials and a public apology by the director led YKH to drop its

lawsuit--but the damage to the reputation of local government was already done by that time.

In a similar fashion, the way that the provincial governor handled the issue did not inspire public trust and confidence. In the midst of several days of mass demonstrations against the proposed facility at Youngduk area in March 1989, the Governor of Kyungbuk Province announced that such project would not come to the east coast. At a meeting with 300 local residents, the governor created the impression that the project was in effect at an end and would not proceed. The Kun office subsequently confirmed this to the YKH committee members. The YKH members accompanied by the Kun Director and a bureau director proceeded to the on-going street demonstration and announced the good news. There the YKH promised to change the name of the mass gathering from the "Opposition Drive" to the "Celebration of the Victory of the Youngduk people." Later national officials made it clear that the provincial governor had no authority regarding the siting of the nuclear waste facility and Youngduk remained a candidate site (YKH, 1989b).

In reaction to these developments, the YKH sued the Director of Youngduk and the Governor of Kyungbuk for abuse of authority, neglect of duty, and libel. These officials were charged with falsely announcing that "Nuclear waste facility would not come to Youngduk." The publicity from the lawsuit further reduced public confidence and trust in local and provincial government and fueled suspicions of the national government. As a member of the YKH viewed it, these governments could not be trusted because: "They

have always tried to deceive people in this matter. Basically they looked down us"

(Interview with a YKH member, March 1996).

6.2.3.5 The Role of Environmental Groups and the Mass Media

Local organizations such as the YKH and the Wooljin Board played a highly significant role in the mass mobilization in the Youngduk and Wooljin area. The role of the YKH was especially critical. As soon as it became known that Youngduk was a candidate site, the YKH formed the Opposition Committee to mobilize residents and promote systematic opposition to the project. Obviously, the liberalized political environment after 1987 contributed to the energetic and effective activities of the Opposition Committee. Activists, quite simply, no longer feared the government repression; something quite inconceivable before democratization.

Social movements need resources to be successful. These resources include not only financial resource but nonfinancial ones as well--such as knowledge, experience, leadership and tactics and strategies. While the national environmental groups in Seoul provided very little direct help to the Youngduk opposition mobilization, they did provide important indirect support. For instance, the *Young Kum Newsletter* (the official publication of the YKH) published an article written by one of the most prominent national environmentalists, Choi Yol. This article helped frame the issues of government nuclear energy policy and informed the public about the issue of nuclear waste disposal. Throughout the mobilization, the YKH was able quickly to obtain vital information, documents, and materials.

YKH ran a teashop to supply needed financial resources to support the opposition movement. Other funds were raised through personal donations and membership fees, but little financial assistance from outside the organization was raised. The reliance on largely internal funding sources served to strengthen the solidarity of the opposition movement, but it was a weakness as well as it limited its support base and overall fiscal condition. A variety of techniques originally developed and used by the student democratization movement were employed to publicize and gain support for the opposition cause. Newsletters, fliers, and banners were produced and distributed in a very effective way. Plays dramatizing the dangers of the nuclear waste project were performed in public and a significant amount of materials regularly were provided to the mass media.

The mass media played a significant role in the mobilization at Youngduk/Wooljin. Local newspapers such as *Wooljin Daily*, *Youngduk Daily*, *Youngnam Daily*, and *Kyungbuk Daily* promptly reported the development of the situation to the local residents, promoting their outrage. Local journalists, sympathetic to the cause of antinuclear movement because they were also from the same region, shared their outrage. They were in fact an active member of opposition mobilization. They were willing to report any incidents associated with the issue of nuclear energy, informing the rest of the nation about the mass demonstrations in the region. They also severely criticized the government's secret project to build the nuclear waste facility in their region. Before the opposition movement began at Youngduk/Wooljin, it may be assumed that few people in the area had knowledge about nuclear energy. The news media contributed significantly

to the dissemination of information about nuclear energy in general, and subsequently expanded antinuclear sentiment (RCDDI, 1991, 174).

6.2.4 Conclusion

The government attempt to site a nuclear waste facility at Youngduk and Wooljin was stalemated by the effective opposition mobilization of local residents. The residents of both areas perceived the risk of living near a nuclear facility as far outweighing the benefits. Survey research demonstrated that these residents perceived greater risk from nuclear phenomena than did others in Kyungbuk Province. Confronted with the perceived threats to their health, safety, and livelihood created by an nuclear waste facility and the expansion of an existing nuclear plant, local residents quickly lost faith in the Seoul government. The manner in which local, provincial, and national authorities handled the siting issue was deeply flawed--further eroding public confidence and trust. Local groups played critical role in mass mobilization at both locations--particularly the YKH. It is important to note that the ineptitude of governmental authorities in dealing with worried residents created important opportunities for the local groups to establish credibility and influence.

The Wooljin case has several important implications. It demonstrates clearly the transformation in public attitude that can swiftly transpire when the type of nuclear facility changes from a nuclear plant (perceived as somewhat troublesome at the beginning and seen as increasingly threatening over time) to a nuclear waste facility (perceived as extremely threatening from the beginning). Wooljin residents did not display significant

resistance to the construction of the initial nuclear plant--although by 1989 they were more skeptical about expanding the facility. The entirely unexpected revelation, however, that the town was a candidate for a nuclear waste facility immediately stimulated determined mobilization against the project and inspired the proliferation of anti-government attitudes.

The Youngduk/ Wooljin cases suggest that even when the national government begins with a comfortable level of public support, its methods of pursuing its nuclear energy policy--especially with regard to waste disposal--can quickly dissipate public confidence and support. When residents began to believe that policy implementation posed real threats to their individual and community interests, and that the government could no longer be trusted to protect them, opposition mobilization became inevitable in the era of democratization. Given the well-known experience of their industrial nations with the *NIMBY Syndrome* and nuclear energy and waste disposal efforts, it is difficult to understand the cavalier approach taken by the government in Seoul--even given the traditional acquiescence of people in this province to national dictates. As in apparent in Table 6.8, the survey conducted by the Seoul National University reveals that distrust for the Seoul government ranked last among seven reasons local residents opposed the construction of nuclear waste facility in their area. Although distrust of Seoul was cited by a large proportion of residents (48%), it trails the other reasons by substantial margins. People were most likely to oppose the project due to: the fear of environmental pollution (93%); danger of nuclear waste (83%); the exclusion of local citizens from decision

making (73%); adverse impact on livelihood (72%); adverse impact on local development (70%); and depression of property values (57%).

The autocratic, technocratic, and essentially secret decision making process used by the national government precluded its dealing with the kinds of fears and thwarted desires that fostered opposition to its program. Had a more honest, direct, and inclusive decision making process been employed, and resident concerns discovered earlier and dealt with, the government might well (given its foundation of local trust and deference) significantly have reduced opposition; thereby perhaps avoiding the stalemate. In any event, it is impossible to avoid the conclusion that whatever opportunity existed for the government to expeditiously site a nuclear waste facility at Youngduk/Wooljin was squandered. How does this compare with nuclear waste siting efforts elsewhere in South Korea at Anmyon Island? This is the case we consider next.

6.3 Mass Mobilization at Anmyon Island

6.3.1 Background

At the 221th meeting of the Korean Nuclear Energy Board held on December 9, 1988, the nuclear waste disposal management plan prepared by the Korean Energy Institute (KEI) was approved. Youngduk was designated as the first candidate site, but as we have seen, the effective mobilization of local opposition to Youngduk's candidacy brought the plan to a standstill. This led the government to search for other possible sites. Eventually, Anmyon Island proved to be the most attractive candidate. On November 2, 1990, the Ministry of Science and Technology (MST) announced its plan to construct

nuclear waste facility at Anmyon Island in Choongnam Province. Newspapers reported that Seoul had already obtained the land for the facility and planed to finish construction by November 1995.

Anmyon Island is located on the west coast of Korea about 70 miles from Seoul. It is a coastal village within TaeAn Kun. The island is connected with the Korean peninsula by a bridge. TaeAn Kun is designated as a national park due to its natural beauty. Ten swimming beaches dot the TaeAn coastline and attracted a million tourists each summer. In 1990 Anmyon Island was designated as a national tourist area as part of the National Tour Development Plan. This designation, and the newly paved road, led local residents to dream of better future.

6.3.2 Mass Mobilization at Anmyon Island²

A brief chronology of the Anmyon case is presented in Table 6.9. Residents of Anmyon Island first became aware of the fact that the island had been chosen as a candidate nuclear waste site, when they read about it in the newspaper (*Korean Daily* November 3, 1990). The newspaper article said that on November 2, 1990, the Minister of MST reported to his superior the Minister of Economic Planning Board about "A Project to Construct the Science Complex on the West Coast." The next day, Korean newspapers reported that the government planned to construct a nuclear waste facility at Anmyon Island in 1991. Anmyon residents were literally shocked to discover that, by the time it was made public, the siting plan awaited only *final* approval by senior officials in

² This section relies upon the Movement League to Expel Pollution, *Collection of Materials on the Antinuclear Resistance Movement at Anmyon Island* (1990).

Seoul. That is, by the time local residents became aware that they were at-risk, all that was left to be accomplished was a mere administrative procedure. In essence, the nuclear waste facility was *a done deal*.

Anmyon residents formed an organization to mobilize their opposition the day after the government announcement. On November 5, the Opposition Committee to Fight the Constructing Nuclear Waste Disposal Facility at Anmyon Island (the Opposition Committee) was organized. It was composed of several existing local groups such as the Anmyon J.C (Juvenile Corp.), Lions Club, Rotary Club, the Youth Organizations, the Community Leaders Group (*Yizang*), leaders of New Community Movement, Women Associations, and others. The following day, the Opposition Committee was expanded and grew to over 300 members. The Committee issued a communique criticizing the government's plan to site nuclear waste facility at Anmyon Island.

Certain residents near Anmyon Island responded even more swiftly to the government announcement. On November 3, as soon as newspapers reported the government plan to construct the nuclear waste facility at Anmyon Island, citizens in neighboring Sosan Kun converted the existing Preparation Committee for the Coalition of Groups for Democracy into the Coalition to Expel Pollution (the Coalition). The Coalition soon was joined by such progressive political organizations as the Preparation Committee for Democracy, the Local Chapter of the National Teachers' Union for Education Reform, the Movement League to Restore Democracy, and the Hankyora Daily Group (a vocal progressive newspaper). Coalition members visited Anmyon Island and urged the residents to form an organization to oppose the construction of the nuclear

waste facility. Soon the Coalition was expanded into the Soesan Committee to Oppose the Construction of Nuclear Waste Facility at Anmyon Island. The Committee was joined by 23 local social groups from every strata of the Soesan region.³

The Anmyon residents wasted no time in calling for immediate cancellation of the project. On November 5, forty-two local government administrators along with 28 community leaders called *Yizang* (semigovernment officials who normally are strong supporters of government policies) resigned their position in protest. They announced that they could no longer cooperate in the administration of a government that engaged in such acts of betrayal. The Opposition Committee adopted a resolution calling for a school boycott by all high school students. A large local-resident protest march led by members of the Opposition Committee was held. The burgeoning protest movement was bolstered by the addition of a formal *boycott alliance* consisting of 600 high school students. In addition, some twenty social and political organizations, with ideological views ranging from conservative to liberal, from communities neighboring Anmyon Island joined the movement. As a consequence of this action most local administration was paralyzed. Most public employees put on black ribbons saying "No nuclear waste storage at Anmyon Island." Even the local office of the ruling Democratic Liberal Party (DLP) joined the

³ Participating groups included the Soesan Chapter of Korean Elders Association, Soesan Chapter of Pollution Expulsion Association, Soesan YMCA, Soesan Lions Club, Soesan Youth Organization, Soesan Rotary Club, Soesan Coalition of New Community Movement Leaders, Soesan Chapter of Vietnam Veteran, Soesan Chapter of National Association of Reformed Teachers, Soesan Chapter of National Democratic Coalition, Soesan Pollution Study Group, Soesan Scholarship Foundation, the Soesan Farmers Association, the Soesan Economic Development Association, Soesan J.C, and others.

opposition drive, in spite of its presumed political orientation to support government policy.

The next day, November 6, the first massive mobilization took place. About 5,000 people participated in the Gathering to Resist the Construction of Nuclear Waste Disposal Facility. The Gathering led to a 7KM peace march. The peace march turned violent when a rumor spread among the marchers to the effect that the Minister of Science of Technology had already decided to proceed with the construction of the facility. The riot police blocked the road and sprayed tear gas to disperse the crowd. The marchers, however, dismissed themselves only after they heard from the Minister of MST and the governor of Choongnam Province that there was no project to build a nuclear waste facility at Anmyon Island.

When local representatives failed to obtain clear answers from national officials as to whether Seoul would proceed with the plan, the residents became more radical. They strengthened their determination to continue the struggle by whatever means necessary to protect their community, proclaiming that they would continue to fight against the DLP to cancel the unwanted facility. To that end, a force of 200 civilian "guards," including 50 high school students, were deployed at the gate of the village, symbolizing the determination of Anmyon residents to steadfastly defend itself against its own central government.

Virtual insurrection ensued when a series of negotiations between the government and local representatives failed. On November 7, the opposition demonstration brought 10,000 people into the village plaza for vigorous demonstrations. Students refused to

attend schools and most community business and public offices were closed. Police moved into the town plaza and used tear gas to disperse demonstrators. A full-scale riot broke out. Some of the demonstrators burned the local police station with *molotov cocktails*. Police arrested 8 activists including the Committee chair. On November 8, about 17,000 local residents again gathered in the town plaza to demonstrate their unbending opposition to the project. The government responded with 2,000 riot police. The highly excited demonstrators discovered 8 plainclothes police among the demonstrators and detained them for 24 hours. The demonstrators turned over and burned a police car. Later that night, the Minister of MST announced in a televised interview that the construction project had been placed on hold.

But the government had unfinished business. On November 9, the riot police penetrated a protest sit-in and arrested 74 activists. Among them nine were formally prosecuted for the illegal assembly and the disruption of public safety and order. The The Opposition Committee issued a "December Communique" announcing that:

1. The mass uprising by Anmyon residents was a defensive action to preserve the invaluable human lives and a clean environment;
2. The collective action by Anmyon residents was caused by the secret administration and sloppy decisions of the government, as well as by the government's ignorance of the views of local residents. The government therefore should be held responsible for all the unfortunate happenings;
3. The government must release those arrested in the process of mass demonstration and apologize for the action which insulted the honor of Anmyon residents.

On November 6, the governor of Choongnam announced on the TV news that there was no government plan to construct an nuclear waste facility in the Province. The

MST proclaimed the same news shortly thereafter. However, the minister added that the government would build the Second Nuclear Energy Institute by 1995 which would manage the nuclear wastes.

When local representatives visited MST, they were assured that the facility to be constructed at Anmyon Island would be interim, not a permanent nuclear waste storage. He also noted that the Choongnam Province government had full authority to decide the issue. But when the local representatives visited the governor of Choongnam, they were told that there was no plan to construct an nuclear waste facility in the province. The governor, however, admitted that he had been consulted by the MST about the construction of a "research facility."

As the violent events at Anmyon Island drew national attention, the major political parties opened an investigation of the Anmyon Island incident. The ruling Democratic Liberal Party (DLP) had a meeting with the concerned ministries to discuss the incident. The meeting confirmed the cancellation of the nuclear project at Anmyon Island. The DLP decided to form a special committee to investigate the Anmyon Island incident. The DLP contended that the incident was caused by profound public distrust in the government with regard to the proposed nuclear project. The opposition Democratic Peace Party (DPP) argued that the incident was caused by the authoritative, exclusive, and secret administrative practices of the Seoul government. The DPP demanded that the government dismiss both the Minister of MST and the Governor of Choongnam. In a communique, another opposition Democratic Party (DP) argued that the violence and the loss of property were caused by the abuse of government power. Thus those residents

involved in the violence should not be prosecuted, argued the DP. The DP formed a team of lawyers to defend the arrested residents. The Korean Popular Party (KPP), the most progressive political party in the country, argued that this incident demonstrated that the Seoul government must be *concerned* with representing and protecting local interests. It criticized the government for being indifferent to local sentiments and for failing to represent local interests. The KPP, which had long been interested in nuclear energy policy, argued that Seoul also must reduce the scale of nuclear projects and strengthen safety measures at nuclear plants (*Hankyora Daily*, November 10, 11, and 13, 1990).

In the face of the well-publicized and violent resistance from its citizens, the government could no longer sustain its nuclear waste disposal plan. After restoring a tenuous peace to Anmyon Island, Seoul officials announced that the government would not initiate construction of a nuclear waste facility until the "misunderstandings" of local residents were resolved. The crisis thus ended with a complete victory for local residents. Victory was not without cost; rumors of significant casualties from the riot were common throughout South Korea. The government lost face. Seoul fired the Minister of Science and Technology and the Police Chief of Choongnam Province for mishandling the incident at Anmyon Island. Seoul also proclaimed that it would bring radical left-wing groups to justice for creating the riots at Anmyon Island.

As a consequence of mass mobilization at Anmyon Island, on June 7, 1991, the 227th meeting of the Nuclear Energy Board decided to withdraw the plan to build "the Second Nuclear Energy Institute" at Anmyon Island. The national problem of safely disposing nuclear wastes remained unsolved.

The voice of opposition was heard at other places in Choongnam Province. For instance, a mass mobilization (although more limited in scope and lower in intensity) as compared to Anmyon Island, took place at the Hongsung Kun. The existing Hongsung Committee for Democracy (HLD) called a meeting to discuss "the Anmyon Island issue," and visited the Soesan Committee. After negotiating with various local groups, the HLD formed the Hongsung Committee to Oppose the Construction of Nuclear Waste Facility at Anmyon Island (the Hongsung Committee). A total 30 local groups across the spectrum of social origins and political orientations joined the Hongsung Committee.⁴ It called for immediate hold on the government plan to build the nuclear waste facility, proclaiming that it would assist to the end Anmyon Island residents's struggle against the government plan.

6.3.3 Analysis of Case

6.3.3.1 Economic Factors and Local Experience⁵

Anmyon Island is blessed not only with a natural beauty but with excellent natural condition for the development of the fishing and seaweed farming industry. In the early 1980s, an estimated 2,300 families surrounding the local harbor at Chunsoo were engaged in farming sea clams and seaweed. About 80 percent of those employed on Anmyon

⁴ Membership included such groups as: Hongsung Lions Club, Hongsung Rotary Club, Hongsung YMCA, Hongsung Lawyers Association, Hongsung Christian Association, Hongsung Medical Doctor Association, Pharmacist Association, Hongsung Chapter of Citizen Coalition for Democracy, Hongsung J.C. Hongsung Dentist Association, and others.

⁵ This section based upon Lee (1992).

Island worked in seaweed farming industry. The families enjoyed the second highest annual income in Choongnam Province thanks to the sea and its bounty. But the national government plan to build an nuclear waste facility in the area immediately threatened this economic base. For most local residents, the plan was instantly regarded as a threat to the fishery industry in the area. They feared damage to the ecosystem at the local harbor by the operation of the nuclear facility, which might very well cut or totally eliminate their source of income.

The bad experiences of Anmyon residents with past regional economic development programs may account for a significant part of the instant mass mobilization against the nuclear waste project. Many Anmyon residents have learned through bitter experience that economic development plans always promised large benefits, but they in fact brought damage to their livelihood. Having felt victimized by previous regional economic development efforts in the past, residents of Anmyon Island area tended to be suspicious of new initiatives in general--let alone one that meant turning the Island into a nuclear waste site.

Anmyon Island residents, for example, were mindful of the negative impact of the government's west cost reclamation project which damaged the ecosystem of Chunsoo Harbor. The subsequent decline of the fishery industry was remembered well. Although residents long battled with the government to obtain compensation for the damages sustained from the project, no satisfactory compensation was ever paid. The struggle over compensation provided a good education for the later mobilization against the nuclear waste facility project.

In 1983, the livelihood of local residents was significantly threatened by another government's reclamation project at the Soesan AB District. Water contaminated by the reclamation project process destroyed parts of seaweed farms near Chunsoo Harbor. After a prolonged struggle with the Hyundai Corporation (which had undertaken the project for the government), fishermen were paid only a small proportion of the 1.3 billion Won in damages they claimed resulted from the early reclamation process. Greatly discontented with this settlement, local fishermen began strongly to distrust outsiders and became an important recruitment pool for the nuclear waste opposition mobilization later.

By the time the reclamation work ended in 1983, the sea farm area was almost completely destroyed. The fishermen at Anmyon Island area demanded that Hyundai Corporation pay a total of 5.9 billion Won in compensation. For two years the government and Hyundai did not respond. Only after 700 fishermen staged a sit-in at Hyundai headquarter in Seoul, did serious negotiations begin. After three rounds of negotiations, it was agreed that an independent investigation of the damage done to the sea farms would be conducted. The Pusan Fishery College, an investigator trusted by both sides in the dispute, estimated that the total damage sustained came to 18 million Won. Hyundai, however, refused to pay any compensation. In a formal letter of refusal, Hyundai claimed that it was not responsible for the damages caused by the reclamation project. Instead, Hyundai only agreed to request that the Ministry of Agriculture and Fishery consider the case.

Hyundai's refusal to pay compensation infuriated the people at Anmyon Island. In September 1985 about 500 residents broke through a police line at the reclamation site

and staged a sit-in. Despite mounting public pressure, Hyundai did not relent. In October about 700 residents rallied to travel to Seoul to protest at Hyundai headquarters. But, the police broke up the meeting and arrests were made. The local police station was later stoned in retaliation.

Hyundai's refusal to pay compensation was based on the claim that local fishery rights had been surrendered when the reclamation project began. In 1986, an agreement finally was negotiated among Choongnam Province, the Seoul government, and the affected local residents. It was agreed that 4.9 billion Won in damages was owed for the damage to the sea farm, but Hyundai still refused to pay and, on legal grounds, the government could not force Hyundai to pay (the Korean Pollution Institute, 1986). This bitter experience with economic development fueled local suspicions and taught hard-won lessons in opposition mobilization against the government nuclear waste project.

Unfortunately the reclamation case was not an isolated one in this region. In the late 1980s, *the Third Petro-Chemical Complex* was built at Soesan Kun amidst promises of economic benefits. Subsequently, the operation of the chemical complex resulted in severe pollution. The total fish catch taken in the nearby fishing grounds declined significantly and malformed fish was often caught. Local residents suddenly were experiencing increase in diseases, especially skin diseases. In 1989, about 1400 local residents signed a petition to protest an expansion of petro-chemical factory, but the effort was in vain. A law-suit was subsequently filed seeking a court-order to cancel the administrative action that granted the factory permission to use the sea. But the suit was dismissed to the great dissatisfaction and frustration of the local residents. About this

time, the residents were also disturbed by the problems associated with the construction of an American Air Force base nearby.

6.3.3.2 The Risk Perception Factor

The Anmyon residents tended to perceive nuclear energy as a high risk technology. As shown in Table 6.10, a study of public opinion in the area revealed that about two-thirds of the respondents (67.7 %) said that nuclear energy constituted a "great risk." Less than five percent (4.4 %) respondents thought it involved "little risk." Table 6.11 shows that the reason for opposing the nuclear waste facility most cited by Anmyon residents was concern for the safety and security of plant operation. Six-of-ten (61%) of those surveyed indicated this was the reason for their opposition; they simply did not believe that it would operate safely. Concern for damage to agriculture and fishing came in a distant second, only 17 percent of respondents cited this reason.

6.3.3.3 Public Distrust in the Government/ Deceptive Administration

Perhaps, the most telling aspect of the Anmyon Island case is that the government developed its nuclear waste project in secret. Plans were developed under the euphemistic name *the Second Nuclear Energy Research Institute*. This was an indeed phoney name that camouflaged the real entity of the government project. When the first proposal for the plan was drafted September 1990, Seoul classified it as *the third-level secret*. To be sure, the government indeed intended to construct, in addition to the nuclear waste facility, a large scale research complex. The main purpose of the proposed research complex was to promote research to further the development of nuclear energy and

maritime technology. The plan envisioned the creation of several government-supported public policy centers. Whether or not the government *intended* to be deceptive, opposition groups *accused* public officials of gross and deliberate deception. They portrayed the proposed research complex as a crude *ruse* to draw public attention from the true purpose of the project--to turn Anmyon Island into a nuclear wasteland.

In addition to the attempt to hide behind bureaucratic euphemisms that in the end only emboldened critics, the government had other credibility problems. Anmyon Island residents remembered an earlier, aborted government plan to transform the island into a new international resort town along the lines of Honolulu, Hawaii. The cruel twist of shifting from tourism as a means of economic development to nuclear waste disposal was especially resented by local citizens. This, in conjunction with the other unpopular and problematic regional development projects discussed earlier, fueled public cynicism, distrust, and resentment in the Anmyon Island region.

To the residents of Anmyon Island, the government plan to bring highly-radioactive nuclear waste to their community was an exercise in *deceptive administration*. Throughout the case, the strongest expressions of distrust and suspicion against the government were made. These feelings were seen as especially hardened when, at a press conference, the Minister of Science and Technology, Dr. K.M. Chung, announced Seoul's determination expeditiously to proceed with the project--the opposition of local residents and proliferating protest demonstrations notwithstanding. Dr. Chung sought to defend the Seoul government from the charge that it had failed to respect the wishes, or consult closely with, the officials of Choognam Province.

To that end, Dr. Chung revealed the project had actually been pursued at the earnest request of Choongnam Province officials, despite their later protestations to the contrary. The record subsequently revealed that, indeed, there was prior consultation and agreement between the central government and Choongnam Province officials. In their desire to distance themselves from the ferociously unpopular proposed nuclear waste facility, provincial officials conveniently had failed to publicize the earlier consultation and cooperation. This served to further deepen mass feelings of suspicion, distrust, and betrayal. Table 6.12 shows that the exclusion of local residents from policy-making was the primary cause of mass uprising at Anmyon Island (30.1 %). The deep-rooted public distrust in the government was the second cause of the mass uprising (24.4 %). Only 22.6 percent of the residents said the uprising took place to prevent environmental pollution.

6.3.3.4 Regionalism

Many in the Anmyon region were suspicious that they were not respected by officials in Seoul and therefore discriminated against when it came to national public policy. First of course, there were many unfortunate experiences with economic development projects in the region discussed earlier. Second, and more telling in the minds of the people, was the fact that Seoul changed its plans to locate the nuclear waste facility from the east coast to the west. Further, the transformation of Anmyon Island from a place renowned for its natural beauty into a nuclear waste dumping ground was considered by many throughout Choongnam Province as an evidence of national prejudice

against the province. The sense of isolation permeated the region and stimulated the will to resist the national project.

At its peak of mass demonstration against the nuclear waste project, some of the more radical residents argued for the independence of Anmyon Island from South Korea. Although one might question whether they were truly serious about secession, some activists paraded through the streets wearing a shirt proclaiming the "Anmyon Republic." Especially resented was the long history of neglect by the Seoul government of economic development in the region. As one resident expressed it:

The Seoul government has neglected the development of Anmyon Island until now. Now they want to construct a nuclear waste dump in our land. Let me tell you we do not want such government. For the construction of peaceful and healthy Anmyon Island, we need to get independence (Lee, 1992: 362).

Associated with regionalism as a factor stimulating opposition mobilization was a widespread love of home town among the people. An important force promoting the rapid mobilization of opposition to the government program was the strong sense of solidarity among people in the region rooted in love for their community. There are only two middle schools and one high school around Anmyon Island. This fosters strong ties among alumni and provide a network for mass mobilization. During the struggle, even senior high school students who were facing their college entrance examination boycotted classes to join demonstrations. As one student expressed it, "What is education good for if our homeland becomes a land of death?" (Lee, 1992: 363).

The strong love of hometown prevented any ideological division among the various social groups who came together to fight the nuclear waste facility. Participant

groups ranged from a progressive organizations such as the Soesan Committee to Prepare Democracy to the most conservative pro-government groups such as the Soesan Veteran Association. The mass mobilization included nonideological organizations such as Lions Club, religious groups, cultural groups, and athletic groups. Ordinarily these groups avoid even the slightest hint of anti-governmental activity—but love of community enabled their alliance with explicitly political opposition groups.

6.3.3.5 Government Response

Imprudent actions taken by officials in Choongnam Province and at the national MST contributed to the deepening distrust of the people. Initially, these authorities denied the very existence of the nuclear waste project. Then they tried to pass responsibility for it to other authorities. On November 3, 1990, provincial officials denied there was an agreement with the MST, proclaiming that they had no responsibility in the matter. The Governor of Choongnam Province stated that:

Until now we have not been notified nor consulted by MST with regard to the construction of nuclear waste facility. The nuclear facility mentioned in the news media is MST's own idea. *We have nothing to do with it.* Seoul is responsible for the construction of nuclear waste facility. *We will not accept the project* (ChoongAng Daily, November 4, 1990).

As a further step to appease outraged citizens in the Anmyon Island area, the governor sent an executive order to the Director of TaeAn Kun. In this order the Kun officials were directed to inform local residents that no Choongnam officials had been consulted by the MST, nor had they agreed to the recent purchase of land for the nuclear project. The

Governor repeated these protestations of innocence on a television news program on November 6.

At the same time, Minister of Science and Technology was also distancing his agency from any nuclear facility siting decision. In a press conference, the minister said that: "There are no plans to construct a permanent nuclear waste facility at Anmyon Island." The minister added, however, there was a plan to construct a second "research institute" by 1995 at Anmyon Island. Unfolding events and later public disclosures made it unmistakably clear that the "research institute" was a mere ploy to disarm the burgeoning opposition mobilization. When the ruse was exposed, national officials lost entirely whatever credibility and trust they originally enjoyed. This short-term, desperate tactic proved strategically self-defeating.

Governmental responses to mass demonstrations against the nuclear waste project were consistently ineffective and often counterproductive. For example, on November 8, 1990, during a mass demonstration, helicopters were used by police to distribute fliers containing a "Message from the Choongnam Governor." The intention was to defuse a potentially explosive situation. The use of helicopters, however, in a civilian setting traditionally signaled that police were going to attack a mob and arrest activists. The sudden appearance of helicopters was assumed to mean exactly this and the incipient mass uprising against authority escalated further (*Daejon Daily*, November 9, 1990).

Despite increasingly ferocious opposition at Anmyon Island, the MST made its internal decision to proceed with the nuclear waste construction plan. This final go-ahead, of course, merely formalized the government's existing long term nuclear energy

development program, which crucially relied upon the establishment of an in-country nuclear waste management and permanent storage system. In his November press conference announcing this decision, the Ministr firmly declared that:

The opposition of local residents is not something unusual or unexpected. It is regret that the mass media released information prior to the government's public announcement. But we have to go through this process once. It is time to let the whole nation know about the government policy and seek public understanding (*DongAh Daily*, November 6, 1990).

Hoping to ward off further negative reactions among the public, the minister asked newspaper reporters when referring to the program to employ the phrase "waste preservation and management," rather than "nuclear waste." The minister's hope proved ephemeral.

In spite of (one is tempted to say *because of*) governmental efforts to control it, the opposition mobilization became more intensely radical. Seoul attributed the cause of the escalating opposition to external groups or "impure forces." It claimed that left-wing radical groups instigated the mass uprising. The Interior Ministry ordered the arrest of individuals found among demonstrators from such "outside forces" as the National College Association and the National League of Workers. In a November report to the Interior Ministry, the provincial police claimed that about 200 radical, leftist college students led the most recent large-scale demonstration. To news reporters, the Interior Ministry emphasized, then, that the troubles at Anmyon Island were caused by the presence of "the external forces." Immediately thereafter, on November 9, 1990, over 2400 riot police blockaded Anmyon Island and arrested all suspicious persons. Seventy

four people were arrested--of these 28 were high school students and the rest were local residents. Embarrassed by this widely-publicized failure to establish the presence of nefarious external forces, the Interior Ministry rebuked the police for failing to capture the outside troublemakers (*DongAh Daily*, November 10, 1990).

The citizens of the Anmyon Island, of course, resented the police allegations that they were subject to the control of external forces and radical instigators. In a newspaper interview, the Chairman of the Opposition Committee forcefully rejected such claims: "The mass demonstration took place without intervention from the outside. We organized ourselves and the residents participated voluntarily" (*Hankyora Daily*, November 11, 1990). Six years later the resentment against such claims was still apparent. As one resident put it: "The allegation that we were controlled by outsiders was an insult to our people. We determined ourselves what to do" (Interview with an Anmyon Island resident, March 1996). Given the recent history of repression and autocracy in South Korea, the government's tactic of dodging substantive problems by attacking supposedly radical elements was threadbare by 1990. The attempt to use it to control mass opposition at Anmyon Island only served further to diminish trust and respect for established authority on the nuclear waste project issue.

6.3.3.6 Role of Environmental Groups and Mass Media

Environmental groups played a significant role in the supporting the opposition mobilization at Anmyon Island. Local residents maintained close contact with national environmental groups, such as MLEP. Although the environmental groups may have not

created the turmoil, they were directly involved in the mobilization. Analysis by Chun (1992) suggests that the mass mobilization at Anmyon Island was a product of networking among national and regional, permanent and temporary environmental groups. There is circumstantial and direct evidence to support this point. The remarkably swift and systematic collective actions would not be possible without carefully prepared plans and networking among various environmental groups. In the morning of November 3, the *Hankyora Daily* reported the government plan to site nuclear waste facility at Anmyon Island. The local residents did not know there was such a plan until that morning. Within ten hours of the announcement, the Soesan-Taeon Movement League to Expel Pollution (STMLEP) was organized. On the same day, the National Center to Expel Nuclear Plant (the National Center) in Seoul issued a communique, "For the Opposition to the Nuclear Waste Facility at Anmyon Island." This communique argued for the immediate cancellation of the government project to build nuclear waste facility and was issued without local consent. This communique provided the basic goals of mass mobilizations at Anmyon Island. On November 4, STMLEP printed 5,000 communique papers and distributed them throughout the entire Seosan-Taeon region. STMLEP representatives visited Anmyon Island to meet with local influentials and the young members of the community. They urged local residents to organize a representative group to oppose the government plan to site nuclear waste facility. The local residents agreed with STMLEP to fight for their common goals to the end. In the communique issued on November 4, STMLEP revealed that it was backed by the National Center which included 20 social groups. Further, the communique by STMLEP and the communique by the National

Center were almost identical. . This suggests that there were strong ties between the National Center and STMLEP. On November 5, the National MLEP put up 20 notes in Soesan city and distributed 10,000 newsletters to be inserted within local newspapers.

The MLEP sought to form an opposition network among Anmyon Island, Seosan, Pusan, and Kwangjoo by forming an national organization to the assist Anmyon Islanders Fighting against the government project. MLEP established an investigation committee on the Anmyon Island situation. The investigation committee wrote a report on November 12, arguing for the necessity of encouraging and strengthening the struggle in the Seosan-Taean region. This, it was hoped, would lead to the mobilization of effective opposition at Anmyon Island. The report indicated that MLEP leaders were concerned with the government's "false" propaganda which by that time had won some favor from the local people. It concluded that it was necessary to encourage students from Soesan-Taean regions return to home and to send some *traveling agents* to the region (Choi, 1992).

Throughout the case, almost every day, the MLEP issued communiques criticizing the government nuclear program at Anmyon Island. The criticism focused specifically on the government's secret administrative practices and official neglect of local resident rights. They argued that government nuclear energy policy favored the rich and the power at the expense of the poor living in the hinterland. In the communiques, they urged the government to open a national debate and provide for a referendum to decide the matter. The two groups emphasized the fact that most industrialized nations ceased to build nuclear plants and argued that Anmyon residents must learn from those nations.

The role of mass media in the mass mobilization at Anmyon Island was significant. News media coverage on the Anmyon Island situation was quite extensive. From the first day of mass mobilization until the last, most major news media from Seoul maintained a presence in Anmyon Island. As discussed in Chapter 4, the news media coverage of the Anmyon Island incident reflected well the characteristics of journalism as practiced in South Korea. Many newspapers reported critically about the problems of nuclear waste facilities and the government's secret administrative practices. Some progressive newspapers such as *Hankyora* Daily showed strong sympathy to the residents' concerns about adverse economic impacts and threats to health and safety. The extensive media coverage served (1) to make the Anmyon Islanders aware of the issue and promote their outrage; (2) to inform the rest of the nation about the insurrection on the Island and fueled criticism of the government; and (3) exposed government deception. The Anmyon residents were heavily dependent upon the mass media for their information. Table 6.13 shows that about 76 percent of the Anmyon residents heard about nuclear energy through news papers and TV.

6.3.4 Conclusion

The Anmyon Island case is a microcosm of the government failure successfully to site a nuclear waste facility in South Korea. By the time the case was closed, the credibility of the government regarding its ability to promote the nuclear waste project was entirely destroyed. Public trust and confidence in the government virtually disappeared at the Island area. Naturally, the reputation of national officials in Seoul

responsible for nuclear waste management program was severely damaged. The abject failure of Seoul officials to take seriously local resident rights invited resistance to the imposition of national power. Seoul's inability to appreciate the depth and power of local resistance inspired opposition that was more determined and violent. In the aftermath of Anmyon Island the MST suffered the humiliation of surrendering jurisdiction over nuclear waste management to the public corporation KEPCO. In the era of democratization, the traditional bureaucracy's closed decision-making process and autocratic implementation style simply proved insufficient.

The regrettably violent, but nevertheless successful, mobilization of Anmyon residents in this case had its roots in the recent past. Bitter previous experiences with governmental economic development plans primed their suspicions of outsiders, government agencies, and contractors. The inept and well publicized effort to promote national nuclear energy projects on the east coast fed these suspicions. The traditional sense of regional negligence was inflamed when the MST turned to the west coast for its nuclear waste project. This sense of regional insecurity in general was greatly aggravated by public fear of nuclear energy and radioactive waste. Citizens in the Anmyon area viewed nuclear energy as highly hazardous and were deeply concerned for its reputed deleterious impact on human health and safety. Finally, the role played by antinuclear groups and mass media cannot be underestimated.

In the end the Seoul government failed to site the nuclear waste facility so central to its national energy policy. In the face of determined and even violent local resistance, the national government simply was compelled to back away from its plans. All three

cases took place after the democracy movement triumphed in 1987. This promoted not only a spirit of local resistance, but facilitated the mobilization process. In the era of democratization it was easier to organize on social issues, information was more freely disseminated, and people became more assertive of their rights. When the government initiated the projects, the Korean public was already developing a significant, and more skeptical view of nuclear power. The stakes of local residents near proposed nuclear facilities were even greater and immediately recognized. Quite simply, government practices from the autocratic era simply did not work, indeed became counterproductive. The newly democratized Korean society allowed communities better to protect their interests against undesired national intrusions. At the same time, the implementation of crucial energy policy was stymied and the problem of nuclear waste management and disposal remained unsolved.

It must be remembered that the opposition movement against nuclear waste were substantially different from an antinuclear movement in the west. Rather, the dominant motivation for most participants in the mobilization was the protection of economic interests. Consequently, the local residents were *not* especially interested in ideological issues raised by environmental groups. Their primary concerns with the nuclear waste projects involved three issues in particular (with different emphasis depending on the community involved): (1) the expected damage to the economic base of local communities; (2) the facility's deleterious impacts on human health and safety; and (3) the arbitrary and discriminatory imposition of central administrative authority to the detriment of their communities. For the most part, residents in the affected communities refused to

believe that an nuclear waste facility would bring any positive benefits for the local economy and their livelihood. They felt the presence of such a facility would end any hopes of real economic development and prosperity. Being denied timely and accurate information and exclusion from the decision process only served to exacerbate and validate these fears.

Finally, the instinct of Koreans to preserve their hometown played a significant role in explaining the eruption of mass mobilization against the proposed nuclear waste project. This reflects the traditional, static, and agrarian nature of Korean society. In such a society, the home town is a very important source of social identification. Most people identify strongly with the communities in which they were born and raised. For such people, the hometown has a very important meaning. Any threat to the hometown inspires determined resistance. One Youngduk resident perhaps expressed this best when she said, "If our descendants have to live with fear of nuclear radiation because we allow nuclear waste to be buried here, we are guilty of selling our heritage for money" (An interview with a local resident, February 1996).

CHAPTER SEVEN

SUMMARY, POLICY IMPACTS, AND IMPLICATIONS

7.1 Summary of the Study

The issue of siting nuclear facilities emerged in the late 1980s as one of the most important and difficult sociopolitical problems in South Korea. The Seoul government experienced tremendous difficulties because of mass mobilizations against its program to site nuclear facilities--especially those for radioactive waste disposal. The case of South Korea clearly indicates that the *NIMBY Syndrome* is a product of socioeconomic conditions and political alienation as well as a widespread popular fear of nuclear radioactivity. This study has focused on the political, psychological, and economic dimension of South Korea's emerging policy deadlock showing how the reaction of affected local residents is structured under economic and social constraints. This chapter summarizes the study and discusses the impact of mass mobilizations on the government's nuclear facility siting programs. Then it discusses the policy implications and recommendations that arise from the research.

This study argues that South Korea is closing on deadlock in critical areas of national energy policy. This situation, we contend, is a long-term consequence of the rapid socioeconomic changes in 1970s and 1980s. Due to rapid economic growth, changes in occupational structure, expansion of education, and mass communication development, the political culture of South Korea shifted significantly. A consequence of this transformation is the explosion demands for public participation in public affairs. Since democratization, these demands have been converted into actual mobilization for mass

participation in the policy implementation process. In this culture, mass mobilizations against imposed government nuclear programs were inevitable. Our case studies show in detail how, why, and to what effect local opposition mobilizations in the democratic era occur. We found that the mobilizations of local residents near nuclear facilities consistently demonstrated the imperatives of public involvement in the public policy process in a democratic state.

This study started with a review of the changing administrative and political environment of South Korea. We saw that the working environment for South Korean nuclear energy policy under a democratic regime is vastly different from that under the previous authoritarian regimes. The third chapter reviewed specifically South Korea's nuclear energy policy in the general context of energy policy. Viewing nuclear energy as having a strategic importance in economic development, Seoul has strived to site nuclear facilities. The fourth chapter discussed the socioeconomic, political, and cultural characteristics of the Korean society that are specifically relevant to nuclear energy policy. The characteristics of the contemporary South Korean society, summarized in the concepts of risk perception, public distrust, and bureaucratic decision-making, greatly affected public reactions to proposed nuclear facility. In the case studies of mass mobilizations at Youngkwang, Kori, Youngduk/ Wooljin, and Anmyon Island we saw how local residents became suspicious and hostile to Seoul's nuclear programs. Their perceived risk about nuclear energy, deeply rooted in the history and culture of the society, was heightened when they experienced economic damage to their lives. The desire to be informed and participate in making public policy increased as the public

distrust in the government deepened. Local and national environmental groups played an important role in the mobilizations.

Korean nuclear energy policy has been shaped mostly by the national executive in Seoul. The President's determination to develop nuclear weapons has been critical to the development of the field. There has been little room for the legislature, political parties, and interest groups to operate in the nuclear arena. From its inception, Korean nuclear energy policy has been determined by the bureaucratic establishment in Seoul. This has had a great impact on the later development and implementation of the facility siting program. The principle of secrecy and bureaucratic guardianship inherited from the practice of nuclear weapon development have become a tradition in the administration of nuclear energy policy.

Perhaps, the single most important contributing factor to the emerging policy deadlock is the dramatic democratization in 1987. Seoul had few problems with siting nuclear facilities until 1987. Then, it began to face tremendous difficulties in finding sites for nuclear facilities especially for nuclear waste disposal. As of early 1997, Seoul has not been able to site a single the nuclear waste facility. Additional nuclear plants, for instance Youngkwang 5 and 6, were sited only after substantial amount of compensation money and concessions were made. The collapse of authoritarianism directly influenced mass political behavior. It allowed the people to speak out and mobilize in opposition to government policy. It allowed local residents to join local and national environmental groups that opposed Seoul's nuclear facility siting program. The newly obtained freedom of the press contributed to the growing sense of political efficacy and an awareness of the

possibilities of democratic action. Democratization enabled the people to challenge previously settled issues, such as the policy of unrestrained modernization and economic growth.

The effect of democratization was clearly demonstrated at Kori, Wooljin, and Youngkwang. There the government had already finished the construction of nuclear plants without major difficulties. Local residents had shown little resistance to the incoming nuclear plants. Rather, they had welcomed nuclear plants in expectation of economic boom. But, after democratization they no longer stood still when they felt threats to their livelihood. When the government announced projects to build additional nuclear reactors, the local residents mobilized and demonstrated in protest. By then, local residents had developed a significant interest in the issue of nuclear energy. As the compensation mobilizations failed to produce satisfactory results, the residents shifted their focus from economic compensation to opposition to the construction of additional facilities. In the process, the incipient antinuclear ideology of newly formed environmental groups became attractive, persuasive, and useful to local activists.

The opposition mobilization against the proposed nuclear waste facility at Youngduk/ Wooljin and at Anmyon Island were considerably different from those at Youngkwang and Kori. The former were more similar to antinuclear movements in industrial countries. Of course, local residents primarily worried about the negative impact of the nuclear waste facility on their livelihood. But they tended to be more interested in the ideological issues of environmentalists such as environmental protection and preservation of traditional life-styles. However, it must be noted that the mass

mobilizations against nuclear waste facilities in South Korea were considerably different from an antinuclear movement in the west. While antinuclear movements in the west tend to focus on environmental preservation, health, and safety—primary the focus of opposition mobilizations in South Korea, similar to those in Japan, tended to be on the negative impact of the development projects on the livelihood of local residents (McKean, 1981; Matsushita, 1975). The dominant motivation for most participants in the mobilization was the protection of local economic interests. Consequently, local residents would only go so far to fight for the ideological issues raised by environmentalists. Their primary concerns with the nuclear waste projects involved two issues: (1) the arbitrary and discriminatory imposition of central administrative authority to the detriment of their communities, and (2) the expected damage to the local lifestyle and livelihood.

This study, in the Wooljin case, demonstrates clearly how public attitudes can swiftly change when the type of nuclear facility changes from a nuclear plant to a nuclear waste facility. This revealed an important bias in Korean culture as it confronts nuclear energy. While Wooljin residents did not show any significant resistance to initial and additional nuclear plants—although they were more skeptical about it by 1989— they showed bitter resistance to the proposed nuclear waste facility. The residents perceived a nuclear plant as somewhat troublesome but regarded it something with which they could live. Residents, however, perceived a nuclear waste facility as extremely threatening from the beginning and regarded it as something with which they could never live. This study, through the cases of the Youngduk/ Wooljin mass mobilizations, suggests that, even when the national government begins with a comfortable level of public support,

maintaining public support for nuclear facility siting is problematic indeed. For once residents come to believe that the government program posed a genuine threat to both individual and community interests, and that the government can no longer be trusted to protect them, their support for government can decline instantly. In this situation opposition mobilization becomes likely if not inevitable. That is, even the highest level of public support can drop at any time if the government fails to serve local interests.

Given the well-known experience of industrialized nations with the NIMBY Syndrome and nuclear energy and waste disposal efforts, it is difficult to understand the cavalier approach taken by the Seoul government--even given the traditional acquiescence of the people to national mandates. The autocratic, technocratic, and essentially secret decision-making process used by the national government precluded its dealing with the kinds of fears and concerns that fostered opposition to its program. Had a more honest, direct, and inclusive decision-making process been employed, and residents' concerns discovered and dealt with, the government might well significantly have reduced opposition; thereby perhaps avoiding the stalemate. In this sense, the Anmyon case was a microcosm of the government failure to date to site a nuclear waste facility in South Korea. Imprudent government reactions to initial opposition critically damaged the credibility of the government. This damaged critically its capability to carry out its nuclear waste project. The abject failure of Seoul officials to take seriously local resident rights invited resistance to the imposition of national power. Seoul's inability to appreciate the depth and power of local resistance inspired opposition that grew more determined, violent, and decisive. Again, the closed, indeed secret, decision-making process with

regard to the plan to build a national nuclear waste facility and the Seoul government's heavy handed reaction to the mass mobilization took a bad situation and made it much worse. The mobilization in the end stalemated the program.

7.2 Impact of the Mass Mobilizations on the Government Policy

The mass mobilizations against nuclear plants or proposed nuclear waste facilities have in a variety of ways affected the on the way the Seoul government now operates with regard to the siting, construction, and operation of nuclear facilities. In the face of the policy disaster at Anmyon Island, the Seoul government was in fact forced to employ new approaches in its nuclear energy policy. Seoul now employs a variety of tactics to promote *local* support for nuclear projects, although it continues to have a distant and contentious relationship with antinuclear and environmental groups. Most especially, the national government now provides greater assistance to regions near nuclear facilities, promotes certain forms of local public participation, and has increased its public relations activities.

7.2.1 A New Way of Siting Nuclear Facilities

Realizing that there have been fundamental flaws in the programs for siting nuclear facilities in the past, the Seoul government has adopted a new approach. The Ministry of Science and Technology (MST) developed an *open bid system* for siting nuclear facilities (*Korean Daily*, February 10, 1991). In this system, known as a *Dutch Auction*, once a community is in a candidate pool, the community has to offer the lowest bid price to make a successful bid. This new approach acknowledged and emphasized the rights to

choice of local residents, although national environmental groups and local opposition groups criticized this as "a bait" and an insult against innocent people. The approach appears to be effective to some extent. The government received forty-one applications for hosting nuclear waste facilities in 1991. But the government has not been able to proceed with its nuclear waste facility project in any the places from which applications were filed because of bitter resistance from opposition groups. These groups claim that the government manipulates local public opinion in its favor and proclaim that they will use all necessary means to resist the government's plan.

In line with the new approach, the government made efforts to assure candidate sites for the nuclear waste facility. The MST contracted with the Institute of Population and Development at the Seoul National University to search for appropriate candidate sites. The Institute was expected to conduct a nation-wide search for eligible sites in a fashion that might assure the effective "management of nuclear energy waste and regional cooperation." The Korean Energy and Resource Institute conducted a study on the reuse of abandoned mines. In September 1991, the government established the *Nuclear Environment Management Center* to handle nuclear wastes (*Annals of Science and Technology*, 1991).

7.2.2 Assistance to Regions Near Nuclear Facilities

On June 16, 1989, the Seoul government enacted the *Law Concerning Assistance to Regions Near Nuclear Plants*. It hoped that the law would help the government deal with the discontent of local residents near nuclear facilities. According to this law, the

government can provide financial and nonfinancial assistance to regions near nuclear facilities. Since 1989, the size of aid program has increased from an annual total of 37.3 billion Won to 59.6 billion Won. To date a total of 103,4 billion Won has been expended in the assistance program.. This assistance has been spent on the improvement of local conditions by expanding the social infrastructure, creating income boosting programs, and educating children (KEPCO, 1995). This law has been amended twice since enactment. The Seoul government changed the law twice, in 1990 and 1995, to meet increasing demands for aid to regions near nuclear facilities, reflecting ever increasing unrest over the issue of nuclear facility siting. According to the changed law in 1990, to implement its aid programs in a more effective and consistent manner, the government decided to increase funding levels. The revenue for the statutory program comes from a 0.8 percent levy on the profits from KEPCO's sale of electricity. The law also stipulated that special assistance may be granted to a local region when new or additional nuclear plants are constructed.

7.2.3 Public Participation in Nuclear Power Plant Operation

Since the late 1980s, the government has promoted limited forms of public participation in the management and operation of nuclear power plants. This participation is largely centered in the area of *radiation monitoring*. Local residents are involved in the examination of the radiation gauge system surrounding each nuclear power station, the collection of materials for radiation tests, and organizing meetings at which test results are presented. Since 1991 local residents, in cooperation with engineers from KEPCO,

participate in the examination of the radiation gauge system four times a year. The local residents collect radiation test data themselves and send them to designated universities for evaluation. The evaluation results are sent directly to the local residents, who then present them at public meetings held annually. So far all of the evaluations have been negative for radioactive contamination; i.e. no evidence has been obtained as to radiation leaks from the operation of any nuclear reactor. The local residents active in this program are largely drawn from the leaders of the New Community Movement and the Community Development Groups. But most environmental groups are excluded from the process. Of course, this makes the environmental groups angry with the government. They call the process of public participation in the radiation monitoring system "phony science," and contend that the government manipulates the truth with this program..

7.2.4 Public Relations

The government ended its monopoly of information about nuclear programs and now makes more information as to its plans and operations available to the public. KEPCO has opened the management of its nuclear plants to the public. It produces several publications with regard to the status of nuclear reactors. KEPCO distributes regularly the *Nuclear Plant News* at local regions and publishes annually a *White Paper on Nuclear Power Generation*. These publications include information on nuclear radiation release, nuclear waste, and accident reports. Other government agencies produce publications such as *The Nuclear Annals* and the *Nuclear Safety White Paper*.

KEPCO revised its organizational structure to promote better public relations. It

established a Regional Cooperation Office at each power plant. The Korean Nuclear Energy Institute established the Department of Public Affairs under the direct authority of the Director in 1989. Two years later, the Institute increased the number of employees to strengthen public relation activities. In February 1990, the Korean Nuclear Fuel Corporation also established a new office for public relations. In 1992, the Korean Nuclear Industry established the Institute of Nuclear Energy Culture. These agencies using books, video tapes, and pamphlets seek to promote their public relations with the public at-large and the local residents near nuclear facilities in particular. Since 1990, they have organized tours for the representatives of coastal area Kuns to visit Japanese nuclear facilities. Each nuclear plant now invites local influentials, journalists, farmers, and fisherman to open houses at exhibition centers and nuclear plants. KEPCO sponsors public debate forums and seminars to increase public understanding of nuclear energy. The Minister of MST has made official visits to seven islands in an attempt to assure cooperation from local residents at potential future nuclear facility sites.

The mass mobilizations against nuclear programs resulted in changes in the way the government handles the programs. The government and KEPCO introduced a new concept for siting nuclear facilities; expanded aid to local regions; involved the local residents in the management of nuclear facilities; and improved relations not only with local residents but the public in general. The outcome of these efforts have been positive at least in the area of nuclear plant siting. The government successfully sited the Youngkwang 5 and 6 reactors without serious difficulties. But those efforts have proven ineffective in solving the problem of siting a nuclear waste facility. The government

attempt to site the nuclear waste facility at Kulup Island in 1995 proved entirely unsuccessful, despite all kinds of new approaches (new science and technology, a public relations campaign, and other social engineering techniques). As of early 1997, the government had not sited its proposed nuclear waste facility.

7.3 Implications and Policy Recommendations

The Korean cases studied here confirm the *multidimensional* nature of the problem of siting nuclear facilities in the contemporary era. In this sense the Korean situation mirrors that found elsewhere. In Korea, as in America for example:

The siting problem has numerous dimensions—scientific, economic, political, sociological, psychological, legal. In many ways the legal problems are the simplest because if the politics are right, Congress and the state legislatures can change the laws. A political consensus is a prerequisite to a legal solution, and a political consensus cannot be achieved unless the fundamental economic, sociological, and psychological concerns are addressed (Gerrard, 1994: 4-5).

What, then, is the likelihood of such a *political consensus* being attained in South Korea with regard to nuclear facility siting?

This study found that the aggregation of, as well as articulation of, the public interest upon which political consensus depends in a democratic system are very difficult to obtain in South Korea. There is no legitimate institution, at least in the eyes of local residents, which can represent the true interest of the local residents. Therefore, whenever policy conflicts involve local stakes, the government has no proper partner with which to negotiate. Moreover, divisions and conflicts among the local residents put a big obstacle in the way to reaching agreement. Korea has a short history of local self-determination and long history of central power oppression. Most major industrial projects have been

planned and pursued by technobureacrats in Seoul. In this situation, the public willingness to accept nuclear energy policy in general, and the siting nuclear facilities in particular, depends less upon the public knowledge about nuclear energy than upon the reliability and credibility of those public officials responsible for the policy. As we have seen, there has been a serious breakdown in this system.

The South Korean cases confirms the proposition that a significant relationship exists between the degree of political representation of pertinent interests and the success of public policy (Kraft, 105). Where the representation of stakeholders is inadequate, a policy is likely to fail because, if the stakes are sufficient, even a numerical minority will not remain silent. Clearly, nuclear facility siting is a typical case of such high stake policy. As democratization proceeds in previously authoritarian systems, mass participation becomes increasingly essential in the policy process. This leads to the confirmation of the prediction that "there will be an increasing tendency for citizens with particular demands to organize themselves outside the established political institutions in general and outside the existing parties in particular" (Kaase and March, 1979: 40-41). The dilemma of modern government lies in the fact that few regimes have yet proven sufficiently effective to fully absorb the long-term revolution of rising expectations. The rise of new groups and their differentiated demands exemplified by environmentalism exacerbates this dilemma. As the old political consensus about the imperatives of modernization, economic development, and national security disintegrates, mass mobilizations against controversial government projects raise the critical question of democracy as both an *end* and as a *means* (Paehlke, 1989: 34). The construction of a political system that is more

responsive and responsible--that is capable simultaneously of protecting local-minority rights and promoting national-majority interests--challenges not only South Korea, but governments around the globe.

The case of South Korea contradicts the proposition that the environmentalism is a general phenomenon in post-industrial age reflecting higher order values. One characteristic of Korean environmentalism is that, just as in Japan, the primary concern is, not to protect nature for its own sake, but to prevent or to remedy the direct hazards to human health or the resources upon which their livelihood is based (Pierce, 41). In South Korea, it was lower order values, physiological and material needs, in concert with relative socioeconomic deprivation and political alienation, that impelled local residents to violently oppose the government's plan to turn their community into a nuclear waste disposal site. The most radical local opponents come from those who have a low level of education, low income, and low socioeconomic status (NCDDI, 1991). These together contribute to the formation of low order values--physiological and material needs.

The current state of scientific knowledge and technological development does not provide definitive answer to the conflicting public policy choices. It is by no means unusual for studies by reputable scientific organizations to generate contradictory and inconsistent conclusions. Science, at its best, only reduces uncertainty in making social and political judgment (Bucholz et al., 1992: 74), it does not eliminate it. While scientific knowledge and expertise must be respected in formulating and implementing policy choices, the real world of policy process does not work that way. The South Korea experiences testifies eloquently that scientific and technological policy, such as a nuclear

facility siting program, involves as much economic, social and political considerations as any other social programs (Hamlett, 1992 :209). That is, military, corporate-business and techno-bureaucratic elites who once monopolized the South Korean policy process, now must operate under the constraints of a more democratic political environment.

The difficulties of siting nuclear waste facility originates in part from the lack of a "democratic system" in South Korea. The country lacks a network of dialogue and a decision making system among the public. The Seoul government and nuclear plant builders could not find a proper partner to negotiate with. Even the existence of local governments do not help much solve the problem. It seems that one answer to this policy deadlock is the activation of the system of local self-determination, which would establish the system of decision-making among the people. The lack of experience of Koreans with pluralistic public policy-making, in which majority rule and the rule of law as well as public participation play a crucial role, have been critically detrimental to the successful implementation of the programs. Moreover, the Seoul government has shown little sign of preparing for the rapidly changing political environment. The public policy practice based on central government authority and command tends to be more costly in these days and it no longer works.

Today, it is almost a cliché to argue that "Government must open the policy process and get the public involved." Nevertheless, it is still very important to ensure "public involvement" in a given policy process, so that no stakeholders are ignored or misrepresented in the process (Fitzgerald, 1990). The significance of public involvement is not merely in obtaining public consent and it may not help solve the problem, but its

significance is in psychologically recognizing the existence of local people. The public may not be able to play any role in making such highly scientific and technological policy, but they want to be recognized in the process. This suggests that policy makers must be sensitive to the self-respect of local residents. If the residents feel that a nuclear facility has come to their home town because it has been rejected by the people in another province, it hurts their community self-respect and engenders the will to resist..

Amidst the contemporary democratization of the South Korean regime, the ancient Korean culture of *deference and defiance* remains a powerful influence (Kihl, 1984: 17). The growing tension between economic growth and NIMBYism inherent in South Korean energy policy, for example, clearly runs the constant danger of erupting spontaneously into local violence. To be sure, we expect that they constitute major elements of a profound challenge in democratizing nations the world over. Clearly, politics and policy in South Korea remains a "high risk" system (Kihl, 1984: 21).

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APPENDIX

Table 2.1. Provisions of the 1948 Constitution of the Republic of Korea Concerning Economic Order.

Chapter VI: Economy	
Article 85	
Mineral and other important underground resources, marine resources, water power, and other economically usable natural power shall be owned by the state. . .	
Article 87	
Important enterprises within the following industries shall be placed under state operation: transportation, communication, finance and insurance, electricity, water utilization, water works, gas, and other related to public welfare. A license for private operation or cancellation of said license based on public needs shall be granted in accordance with the provisions of law. Foreign trade shall be under the control of the state.	
Article 88	
If required for vital and urgent needs of national defense or the livelihood of the people, privately owned enterprises may be transferred to state ownership or placed under state control or management. Such acts shall be performed in accordance with the provision of law.	

Table 2.2 The South Korean Regime Type and Regime Changes. (In percent)

Regime Types	5 Years Ago	Now (1988)	5 Years From Now
A. Non-democratic			
Dictatorial	64.4	17.4	3.3
Dictatorial-Authoritarian	27.5	36.9	11.6
B. Democratic			
Democratic-Authoritarian	6.6	34.9	32.0
Democratic	1.1	10.6	52.5

Source: Adapted from Doh Chull Shin et al., *The Future of Korean Democracy* (Seoul: Seoul National University, 1990): 21.

Table 2.3 Public Opinion About Regime Change in Five Years. (In percent)

Prediction	
The regime will deteriorate	1.7
The regime will be the same	23.7
The regime will change gradually	53.0
The regime will change radically	20.0

Source: Adapted from Doh Chull Shin et al., *The Future of Korean Democracy*. (Seoul: Seoul National University, 1990): 28.

Table 2.4. Public Opinion About The Degree of Democratization Since the Roh Government. (In percent)

Greatly democratized	5.0
Somewhat democratized	41.7
Little change	37.2
Further deteriorated	16.0
No answer	0.2

Source: Social Science Research Center, *A Survey Report of the Korean People's Belief System in Reference to the Coming 21st Century* (Seoul: Seoul National University, 1990): 28.

Table 2.5. Real GDP per capita of South Korea, 1962-1988.
(in dollars)

Year	GDP
1962	958
1967	1300
1972	1893
1977	2860
1982	3278
1987	4699
1988	5156

Source: World Bank, *World Development Report* (NY: Oxford University Press, 1991)

Table 2.6. School Enrollments as Percentages of Corresponding Age Groups.

Type of School	1953	1965	1975
Elementary	59.6	91.6	107.6*
Middle	21.1	39.4	74.0
High	12.4	27.0	40.5
College	3.1	6.9	8.6

Source: Edward S. Mason, *Economic and Social Modernization of the Republic of Korea* (Cambridge, Mass.: Harvard University Press, 1980): 352.

*Percentage greater than 100 reflects the presence of students older than corresponding age group.

Table 2.7. School Enrollment in South Korea, 1960-88.
(In percent)

Year	Secondary	Tertiary
1960	27	5
1965	35	6
1967	34	--
1970	42	8
1975	56	10
1980	76	16
1985	89	32
1988	89	38

Source: Adapted from Il SaKong, *Korea in the World Economy*. (Washington, DC: Institute for International Economics, 1993):236.

Table 3.1. Gross Power Generation in South Korea, 1980-95
(in Gwh)

	1980	1990	1995
Hydro	1,984	6,361	5,478
Coal	2,481	19,961	48,813
Oil	9,297	18,857	42,045
Nuclear	3,477	52,997	67,029

Source: KEPCO, *KEPCO Quarterly* (Seoul: Korean Electric Power Corporation, 1st Quarter 1996) 18.

Table 3.2. National Agency Division of Responsibility for Nuclear Energy Policy in South Korea.

Office	Responsibility
Economic Planning Board (EPB)	Basic planning and bargaining for foreign financing
Ministry of Commerce and Industry (MCI)	Detailed planning and foreign financing, construction, & operation of plants
Ministry of Science and Technology (MST)	Technological development of nuclear plants; safety regulation & legislation of nuclear energy; legislation & regulation on the disposal of nuclear wastes; legislation on the compensation for damage from the development of nuclear energy

Source: KEPCO, *KEPCO 90: White Paper on Nuclear Energy* (Seoul: Korean Electric Power Corporation, 1990): 76-77.

Table 3.3. Government Organizations Concerned with Nuclear Energy Policy.

The Prime Minister

The Nuclear Energy Board

The Economic Planning Board

The Ministry of Science and Technology

 The Bureau of Nuclear Energy

 The Office of Nuclear Energy Policy

 The Office of Nuclear Energy Development

 The Bureau of Safety Regulation

 The Office of Foreign Cooperation

 The Office of Safety Regulation

 The Office of Nuclear Reactor

 The Office of Radiation

 The Research Institute of Korean Nuclear Energy

 The Research Institute of Nuclear Safety and Technology

 The Research Institute of Korean Energy and Resource

The Ministry of Energy and Resource

 The Division of Power Generation

 The Korean Electric Power Corporation (KEPCO)

The Ministry of Commerce and Industry

Source: The Korean Nuclear Energy Institute, *A Study on the Strategic Development of the National Nuclear Technology*. (Seoul: Ministry of Science and Technology, 1990).

Table 3.4. Storage Capacity of Low and Medium Level Nuclear Waste by Nuclear Power Plants. (unit: 200 liter drum)

Sites	Reactor	Storage Capacity	Cumulative Stock (1994)	Expected Year Filled
Kori	4	50,200	29,851	2014
YoungK	2	9,000	2,145	2018
Wooljin	2	23,400	6,960	2014
Walsung	1	17,400	5,846	2010
Total	9	99,900	44,802	

Source: KEPCO, *KEPCO 95: White Paper on Nuclear Energy* (Seoul: Korean Electric Power Corporation, 1995): 126.

Table 3.5. Storage Capacity of Spent Fuel by Nuclear Power Plants. (unit: ton)

Sites	Reactor	Storage Capacity	Cumulative Stock (1994)	Expected Year Filled
Kori	1	225	129	1997
	2	376	196	
	3	316	247	
	4	316	165	
YoungK	1	316	164	1998
	2	316	148	
Wooljin	1	200	116	2000
	2	378	110	
Walsung	1	1,440	1,093	1997
Total		4,073	1,093	

Source: KEPCO, *KEPCO 95: White Paper on Nuclear Energy* (Seoul: Korean Electric Power Corporation, 1995): 124..

Table 4.1. Rank in Public Risk Assessment Comparison Between South Korea and the United States.

Rank	South Korea Source of Risk	Score	United States Source of Risk
1	Drinking water contamination	1.21	Smoking
2	Work in the mine	1.37	Alcoholic beverages
3	Nuclear radiation	1.38	Motor vehicles
4	Ozone depletion	1.43	Handguns
5	Urban fuel gas	1.45	Electric power
6	Nuclear waste storage	1.47	Motor cycles
7	General waste storage	1.53	Swimming
8	Pesticides	1.57	Surgery
9	Cutter work	1.77	X rays
10	Acid rain	1.82	Railroads
11	LPG gas	1.94	Aviation
12	Subway construction	1.94	Large construction
13	Benzene	1.96	Bicycle
14	Asbestos work	2.28	Hunting
15	Nuclear power generation	2.49	Home appliances
16	Travel by ship	3.42	Fire fighting
17	Auto travel	4.00	Police work
18	Ride elevator	4.56	Contraceptives
19	Air travel	5.02	Commercial aviation
20	Travel by train	6.57	Nuclear power

Sources: For the Korean public, Y.P. Kim, "Korean Risk Assessment of Technology and Nuclear Power." *Nuclear Power Industry* 14 (1994): 47. For the American public, Paul Slovic *et al.*, "Facts and fears: Understanding perceived risk." in *Social Risk Assessment: How Safe is Safe Enough?* eds. R.C. Schwing and W.A. Albers, Jr. (New York: Plenum Press, 1980): 181-214.

Note: The score of 4 for auto travel was given arbitrarily by Kim.

Table 4.2. Korean Public Opinion As To What Facilities Would Be Most Likely to Stimulate Personal Opposition if Sited in Their Neighborhood. (National sample)

Nuclear Waste Disposal Facility	44.4%
General Waste Disposal Facility	16.1
Human Body Incinerator	10.4
Nuclear Power Plants	9.3
Chemical Manufacturing Co.	8.9
Charcoal Manufacturing Co.	6.5
Airport	3.2
Gas Storage	1.2
(N=1528)	100.0

Source: Y.J. Park and S.Y. Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 43.

Table 4.3. Differences Among Koreans in Risk Assessment by Education.

Rank	High School or Less	Score	College or More	Score
	Source of Risk		Source of Risk	
1	Drinking water contamination	1.24	Drinking water Contamination	1.20
2	Nuclear radiation	1.34	Work in the mine	1.38
3	Nuclear waste disposal storage	1.38	Nuclear radiation	1.43
4	Work in the mine	1.39	Ozone depletion	1.42
5	Ozone depletion	1.42	Urban fuel gas	1.46
6	Urban fuel gas	1.45	Nuclear waste disposal storage	1.51
7	General waste	1.48	General waste	1.53
8	Pesticides	1.57	Pesticides	1.57
9	Cutter work	1.73	Cutter work	1.78
10	Acid rain	1.83	Acid rain	1.83
11	Subway const.	1.95	Benzen work	1.95
12	LPG gas	1.97	LPG gas	1.96
13	Benzen work	2.07	Subway const.	1.97
14	Nuclear power	2.28	Asbestos work	2.32
15	Asbestos work	2.34	Nuclear power	2.59
16	Travel by ship	3.45	Travel by ship	3.45
17	Auto travel	4.00	Auto travel	4.00
18	Ride elevator	4.25	Ride elevator	4.67
19	Air travel	4.90	Air travel	5.13
20	Travel by rail	6.45	Travel by rail	
N=	(712)		(700)	

Source: Y.P. Kim, "Korean Risk Assessment of Technology and Nuclear Power." *Nuclear Power Industry* 14 (1994):50

Table 4.4. Korean Public Images of Nuclear Energy. (N=1528; in percent)

Image	
Positive	9.9%
Negative	52.5
Neutral	16.5
Positive and negative	2.2
Don't know	18.9
100.0	

Source: Y.J. Park and S.Y Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 33.

Table 4.5. Korean Public Opinion About Nuclear Plant Safety. (N=1528; in percent)

Very safe	0.5
Relatively safe	15.1
Usual	26.7
Relatively dangerous	36.5
Very dangerous	5.0
Don't know	16.2
100.0	

Source: Y.J. Park and S.Y Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 34.

Table 4.6. Korean Public Opinion Poll on Nuclear Plant Effects & Safety.
(N=1528; in percent)

	Yes	No	Don't Know	No Answer
Nuclear plants in South Korea are safely constructed.	29.5	34.6	35.8	0.1
Nuclear plants in industrialized nations are safely managed.	40.7	26.4	32.7	0.1
Nuclear plants in South Korea are safely managed.	27.3	36.8	35.6	0.3
Nuclear plants leak a large amount of nuclear radiation and it harms human health.	40.2	28.9	30.8	0.2
The people near nuclear plants take a high chance to get cancer.	55.2	17.0	27.4	0.4
Sea around nuclear plants is contaminated by nuclear radiation.	41.8	24.9	33.1	0.3
Nuclear plants could explode like nuclear bomb.	48.6	27.0	24.0	0.4

Source: Y.J. Park and S.Y. Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 38.

Table 4.7. Public Assessment of Safety of Nuclear Waste Management in Korea.
(In percent)

Very well managed	1.6
Relatively well managed	28.9
Relatively badly managed	62.8
Not at all well managed	6.7

Source: Y.J. Park and S.Y Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 47.

Table 4.8. Public Views on Primary Reasons for Mass Uprising at Anmyon Island.
(National Sample)

Exclusion of local residents from policy-making	36.1%
To prevent environmental pollution	35.1
Local residents' misunderstanding of nuclear waste	13.7
Public distrust in the government	10.4
Radicalization of political environment	1.9
Don't know	2.8
(N= 1,026)	100.0

Source: Y.J. Park and S.Y Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 76.

Table 4.9. Perceived Degree of Economic Development in Area of Residence.
(Cholla Province; in percent)

Response Category	
Relatively underdeveloped compared to other areas	73.4
About the same compared to other areas	19.5
More developed compared to other areas	7.1

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 226.

Table 4.10. Sources of Information About Nuclear Energy Among Koreans.
(N=1528; multiple responses allowed; in percent)

Mass Media	70.9
Friends	11.5
Schools	4.1
Family	4.0
Government agency	3.9
Antinuclear groups	3.5
Political groups	2.2
Have heard nothing	24.9

Source: Y.J. Park and S.Y. Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 47.

Table 4.11. Impact of Media Exposure on the Public Attitudes Toward Nuclear Energy
(N=1525; in percent)

Response category	
More positive than before	20.9
More negative than before	26.1
No impact	22.8
Don't know	5.3
Have heard nothing	24.9

Source: Y.J. Park and S.Y. Yi, "Public Perception About Nuclear Energy," in *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul: Seoul National University, 1992): 49.

Table 4.12. Credibility of Information About Nuclear Issues by Sources.
(N=529; in percent)

	TV/Radio	Newspaper/ Magazine	Government	Antinuclear groups
Credible	77.4	79.4	58.1	84.0
Incredible	22.6	20.6	41.9	16.0

Source: Korean Social Science Research Association, *The Ways to Improve Public Understanding of Nuclear Waste Management.*, (Seoul: KSCRA: 1992): 49.

Table 4.13. Joint Resolution by Kori, Wolsung, and Youngkwang Residents to Struggle Against Nuclear Plants.

Under the name of the Third Light, the nuclear superpowers have constructed nuclear plants. The real objective of nuclear plants is to produce plutonium for manufacturing nuclear bombs. The nuclear bombs and nuclear plants are the two sides of a coin. Both put serious threats to the world peace and human survival. In this country, since 1978 when the first nuclear plants started operation, total 193 accidents has occurred. Many people within and near nuclear plants were harmed by the release of nuclear radiation. But those accidents were kept in secret and new nuclear plant projects are in order. That the nuclear plants are not safe has been proved by the accidents of the Three Mile Island of the United States and Chernobyl of USSR. The safety issue of nuclear plants goes beyond the environmental issue. It is an issue of human survival. It is now terrifying all of us.

Most rich people benefit from using power generated by nuclear plants and live in extravagant Seoul. If the nuclear plants are so safe as nuclear plants people argue, why don't they build the nuclear plants near Han River [near Seoul] around the KEPCO headquarters? . . .

We cannot forgive the government which is concerned only with speedy construction of nuclear plants, ignoring the rights of the people to life . . .

We, the people from the three regions near nuclear plants, announce in public that we will fight to the end in alliance with each other for the damage compensation and emigration. We will fight to the end for the sake of the antinuclear plant movement and antipollution movement to keep the peace in the Korean Peninsula and to preserve our rights to survival. We demand:

1. the immediate cessation of the operation of nuclear plants which put the lives and survival of the people at risk;
2. the apology of KEPCO. It oppresses the rights of the people to survive in the name of the Third Light;
3. the revelation of all the secrets of the nuclear plants to the public;
4. the compensation of the economic loss be paid instantly;.
5. an emigration plans for the residents near nuclear plant site;
6. the immediate cessation of the construction of nuclear plants Youngkwang 3 & 4.
7. the punishment of those police and KEPCO employees involved in violent suppression of the people staging a peaceful demonstration.

December 12, 1988

The Kori Struggle Committee to Fight Nuclear Plants
 The Wolsung Struggle Committee to Fight Nuclear Plants
 The Youngkwang Struggle Committee to Fight Nuclear Plants

Source: Movement League to Expel Pollution, "Joint Resolution by Kori, Wolsung, and Youngkwang Residents to Struggle Against Nuclear Plant,," (Seoul: MLEP, December 12, 1988).

Table 5.1. Chronology of Key Events for Mass Mobilization at Youngkwang.

<i>Stage 1</i>	
December 1981	Permission to construct YK 1 & 2; residents petition KEPCO
June 1985	<i>Hyundai Journal</i> incident
May 25, 1986	YK 1 begins commercial operation
April 9, 1986	Kaemari Regional Group demands damage compensation
June 9, 1986	Mass demonstration for damage compensation
July 30, 1986	Mass demonstration at KEPCO headquarters in Seoul
January 1989	Hyundai pays damage compensation for explosion work
June 10, 1987	YK 2 begins commercial operation
June 30, 1987	Second petition to KEPCO and mass demonstration
August 9, 1988	KEPCO pays damage compensation
<i>Stage 2</i>	
July 30, 1988	Sungsanri Regional Committee established
August 30, 1988	Residents deliver demands to KEPCO
October 17, 1988	Annual Inspection of National Affairs of National Assembly
October 23, 1988	Residents distribute materials to publicize complaints
December 12, 1988	Demonstration at KEPCO headquarters in Seoul
January 1989	Youngkwang People Against Nuclear Plant distribute fliers
January 20, 1989	Petition for Emigration issued

Table 5.1 (continued)

January 27, 1989	Preparation Committee to Resist the Construction YK 3 & 4 sponsors general meeting
February 18, 1989	MLEP forms at Youngkwang
April 12, 1989	University presidents in ChunNam Province issue communique opposing nuclear plant
April 15, 1989	The National Center to Expel Nuclear Plant established
April 26, 1989	The National Center celebrates the 4th Anniversary of Chernobyl
June 5, 1989	The KwangJoo- ChunNam Environmental Proclamation
September, 1989	Mass signature drive opens
December, 1989	The National Center held a national meeting
December, 1989	KEPCO obtains permission to construct YK 3 and 4

Table 5.2. The Number of Tourists Using Youngkwang Swimming Beach.

Year	No. of Tourists	Ratio (%)
1977	340,000	
1978	367,000	
1979	389,000	100
1980	56,000	15
1981	159,000	44
1982	80,000	22
1983	123,000	34
1984	120,000	34
1985	89,000	24
1986	38,000	10

Source: Youngkwang Kun, *Management Report of the Kaemari Ocean Beach*.
(Youngkwang: Kun, 1986)

Table 5.3. Images Associated With Nuclear Energy in Public Mind.
(Cholla Province; in percent)

Environmental pollution	54.1
Nuclear bomb	21.4
Power generation	19.8
Medical treatment	1.0
Science and research	1.0
Other	2.6
(N=647)	100.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 210

Table 5.4. Public Evaluation of Nuclear Plant Safety, National as Compared to Provincial Opinions. (N=647)

	National	Cholla
Very safe	.5	1.6
Relatively safe	15.1	7.2
Usual	26.7	21.0
Dangerous	36.5	51.0
Extremely dangerous	5.0	19.3
Don't know	16.2	.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 212

Table 5.5. Reasons People Consider Nuclear Plants Dangerous. (Cholla Province; N=368)

Defective parts within nuclear facility	19.3
Poor technology to operate nuclear plants	7.1
Leak of nuclear radioactive materials	59.2
Possibility of explosion	14.4
	100.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 212

Table 5.6. Preferred Technology for Increasing Power Generation.
(N=694; in percent)

Response category	National sample	Cholla sample
Hydroelectric energy	25.8	29.4
Nuclear energy	23.8	11.3
Alternative energies	36.0	35.5
Fossil energy	4.5	2.8
Don't know	9.9	21.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 216.

Table 5.7. Public Belief in the Government Declarations on Nuclear Facility Safety.
(Cholla Province; N=368)

	Nuclear Power Plants	Nuclear Waste Facilities
Believe very much	2.4	1.5
Believe to some extent	22.1	20.0
Seriously doubt	44.2	50.6
Don't believe at all	31.2	27.9

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 214.

Table 5.8. Regional Familiarity With Nuclear Waste.
(Cholla Province; N=414; in percent)

Has heard of nuclear waste	63.8
Has not heard of nuclear waste	36.2
	100.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 212

Table 5.9. Source of Information About Nuclear Waste.
(Cholla Province; N=414; in percent)

Newspaper	17.2%
TV or Radio	69.3
Book or magazine	3.5
Lecture	5.6
Other persons	3.0
Other	1.4
	100.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 213

Table 5.10. Chronology of Key Events for Mass Mobilization at Kori.

March 1971	Construction at Kori 1 begins
July 1978	Kori 1 starts operation
December 1979	Permission to begin construction on Kori 3 & 4
September 1985	Kori 3 begins operation
April 29, 1986	Kori 4 begins operation
January 1988	Mass demonstration for damage compensation
August 1988	Gilchunri residents issue petition
October 1988	Meeting with AINA members
November 1988	The Gilchunri Committee for Emigration established
December 5, 1988	Gilchunri and Hoamri residents demonstrate
December 7, 1988	Nuclear waste excavated at Hoamri
December 12, 1988	Joint demonstration by residents of Youngkwang and Wolsung
April 1989	Nuclear waste excavated for the second time
February 1990	The Local League for Development formed
June 1990	Local newspaper reports Kori KEPCO plans to build temporary storage facility for nuclear waste
March 1991	Kori KEPCO renews attempts build a temporary storage facility
April 1991	Mass protest against KEPCO
July 1991	Local leaders vote to allow construction of storage facility

Table 6.1. Chronology of Key Events for Mass Mobilization at Youngduk.

January 1984	The 211st NEB meeting selects three candidate sites for a nuclear waste facility (NLF)
February 1989	Youngduk residents hear for the first time they are a candidate site & the YKH call a protest meeting
March 2, 1989	The YKH Opposition Committee is established
March 11, 1989	YKC is established
March 12, 1989	Namjung Myon Opposition Committee is established
March 19, 1989	The first mass demonstration occurs
April 1, 1989	YKH visits KEI and MST.
April 10, 1989	The Movement League presents a lecture in Youngduk
April 17, 1989	YKH sues the Kun Director and the provincial governor
September 1989	The governor proclaims government siting plan is canceled.
February 1990	Seoul announces a plan to build an NWF at another location.

Table 6.2. Chronology of Key Events for Mass Mobilization at Wooljin.

October 1982	The construction of Wooljin 1 started
September 1988	Wooljin 1 & 2 started operation
January 24, 1989	The Wooljin Board was established.
February 4, 1989	The Wooljin Youth was organized
May 1989	The Wooljin Board petitions KEPCO.
August 1989	Mass demonstration
July 1990	NEB decided to build Wooljin 3 & 4
May 1991	The Wooljin Board accepts the government plan for Wooljin 3 & 4
July 1991	The Struggle Committee is created.
August 1991	Mass demonstration
September 1991	The Struggle Committee meets with the MER minister
November 1991	Mass demonstration
December 1991	Seoul announced Wooljin as one of candidate sites for NWF
January 1992	Mass demonstration begins & continues through February 22.
April 1992	National Convention in memory of Chernobyl
May 1992	The construction of Wooljin 3 & 4 begins

Table 6.3. Youngduk/Wooljin Residents' Opinions About Safety of Nuclear Plants.
(In percent)

	Youngduk/Wooljin	Kyungbuk
Yes	22.0	37.4
No	48.2	34.2
Don't know	29.8	28.3
N=	627	187

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 161.

Note: Chi-square=19.4; Statistically significant at 0.05 level. Chi-square is calculated based upon the *original* table for this study.

Table 6.4. Youngduk/Wooljin Residents' Opinions on Whether Nuclear Plants Release Radiation During Operation. (In percent)

	Youngduk/Wooljin	Kyungbuk
They release radiation	56.0	43.3
They do not release radiation	20.7	28.9
Don't know	23.3	27.8
N=	627	187

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 161.

Note: Note: Chi-square=8.8; Statistically significant at 0.05 level. Chi-square is calculated based upon the *original* table for this study.

Table 6.5. Youngduk/Wooljin Residents' Opinion as to Whether Nuclear Radiation Causes Cancer. (In percent)

	Youngduk/Wooljin	Kyungbuk
Nuclear radiation causes cancer	62.7	55.1
Nuclear radiation does not cause cancer	11.3	17.1
Don't know	25.8	27.8
N=	627	187

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 162.

Note: Chi-square=5.46; Statistically significant at 0.05 level. Chi-square is calculated based upon the *original* table for this study.

Table 6.6. Youngduk/Wooljin Residents' Opinion on Safety of a Nuclear Waste Facility. (N=627; in percent)

Believe nuclear waste facility <i>completely</i> safe	12.1
Believe nuclear waste facility <i>a little</i> safe	27.6
Believe nuclear waste facility is <i>unsafe</i>	52.6
Don't know	7.5
	100.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 164.

Table 6.7 Youngduk/Wooljin Residents' Opinions About Danger of Ordinary and Radioactive Waste. (N=627; in percent)

Nuclear waste is more dangerous	56.9
They are about the same	21.4
Ordinary waste is more dangerous	16.3
Don't know	4.5
	100.0

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 165.

Table 6.8. Reasons Residents Oppose Construction of a Nuclear Facility in Their Town. (N=627; in percent)

Reasons to oppose	Yes	No	Don't Know	No Answer
Hazardousness of nuclear waste	83.1	9.4	7.0	.5
Local residents' distrust in the government	48.3	36.0	15.3	.3
Local residents' exclusion from policy-making	72.9	15.8	11.2	.2
Environmental pollution threat	92.5	3.5	3.5	.2
Adverse impact on livelihood	71.6	17.2	10.8	.3
Decline in property values	57.1	30.6	12.1	.2
Adverse effect on local development	69.7	21.2	8.6	.5

Source: RCDDI. *The Final Report: Toward Selecting the Sites for Radioactive Waste Disposal and Deriving Regional Development Strategies* (Seoul: Seoul National University, 1991): 173

Table 6.9. Chronology of Key Events for Mass Mobilization at Anmyon Island.

December 1988	The 221st meeting of NEB approves a nuclear waste disposal management plan
November 2, 1990	MST reports plan to construct NWF at Anmyon to Minister of Economic Planning Board
November 3, 1990	Anmyon residents discover town is candidate NWF site from Newspaper story
	The Coalition to Expel Pollution established in Sosan Kun
November 5, 1990	The Opposition Committee organized
	Local administrators resign in protest
	March to Expel NWF
November 6, 1990	First mass protest held & march to reject NWF follows.
November 7-8, 1990	Residents meet with MST minister and Choongnam governor
	Mass protest meetings turn violent & rioting occurs
	MST announces it will not proceed with Anmyon NWF
November 9, 1990	Riot police assault sit-in protest & make arrests
	Political parties open investigation into Anmyon affair
	Minister of MST and provincial police chief dismissed
June 1991	NEB withdraws plan to build NWF at Anmyon Island.

Table 6.10. Anmyon Area Residents' Perception of the Risk From Nuclear Energy.
(N=158; in percent)

Nuclear energy constitutes a <i>great</i> risk	67.7
Nuclear energy constitutes <i>some</i> risk	13.9
Nuclear energy constitutes <i>little</i> risk	4.4
Don't know	13.9

Source: Whan Hong Lee, "A Study on the Local Movement Under Local Self-Determination" MA Thesis, Choong Nam University, 1993: 60.

Table 6.11. Anmyon Area Residents' Reasons to Oppose the Nuclear Waste Facility.
(N=174; in percent)

Expect facility is dangerous	61.2
Expect damage to agricultural & fisheries	16.6
Expect declines in value of property	6.9
Expect environmental pollution	15.3

Source: K. H. Chun and J.C. Ka, "The Anmyon Mass Movement and Nuclear Energy," In *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul National University, 1992): 136.

Table 6.12. Anmyon Island Residents' Opinion on Primary Cause of Mass Uprising.
(N=208; in percent)

Exclusion of local residents from policy-making on project	30.1
Public distrust of the government	24.4
Desire to prevent environmental pollution from project	22.6
Local residents' misunderstanding of nuclear waste	10.8
Radicalization of the political environment	1.7
Don't know	5.5

Source: K. H. Chun and J.C. Ka, "The Anmyon Mass Movement and Nuclear Energy," In *Nuclear Energy and Local Interests*, eds. H.R. Kim and D.S. Hong (Seoul National University, 1992): 134.

Table 6.13. Anmyon Area Residents' Primary Source of Information About Nuclear Energy. (In percent)

Television	43.7
Newspapers	32.3
Magazines	3.2
KEPCO	2.5
Government	2.5
Other	12.0

Source: Whan Hong Lee, "A Study on the Local Movement Under Local Self-Determination" MA Thesis, Choong Nam University, 1993: 57.

Note: N is not given in the original study.

VITA

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