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ANTI-NUCLEAR PROTEST AND THE PUBLIC ACCEPTANCE PROGRAM: A SOCIOLOGICAL EXPERIMENT ON ANMYON ISLAND, KOREA

KWANG-HEE JUN
Chung Nam National University

In this study we attempt to explain the lack of public acceptance of nuclear power through a case study of Anmyon islanders' violent protest against the nuclear waste plants. Results from the national survey reveal that three fourth of the respondents should reconsider the island as a possible candidate for the nuclear waste disposal facilities. According to our local survey, as interrupted by the islanders, there are wide variations in individual responses between townspeople and site villagers with respect to their awareness of the main reason the anti-nuclear protest took place, their approval of the project in case the government initiates the second drive toward the waste management program, and their judgment of the possibility of compromise with the government at the second drive toward the project. In this paper, we conclude that it would be of great necessity to put strong emphasis on the role of mass media and the importance of local development programs in order to improve the public acceptance of nuclear power.

INTRODUCTION

The primary objective of this paper is to describe the lack of public acceptance of nuclear power among the local population and administration, utilizing our personal experience of sociological intervention or survey experiment on Anmyon Island (AMI), which is located on the southwestern coast of the Korean peninsula. In this country, there have been no substantial variations among regions, both in the form of public opposition that has taken place, and in the degree to which it has affected nuclear projects. We believe that the public's confidence is heavily influenced by the issue of spent fuel and waste management, in particular the disposal of high-level radioactive wastes, by the siting of nuclear installations, by the potential for environmental hazards, and by occupational and accident risks (Cohen 1980; Cotgrove 1982).

In this paper, we start with a description of the nature of the AMI anti-

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nuclear protest movement, taking into consideration that the nuclear waste management program is an important political issue, as it is linked to the problem of public acceptance of nuclear power. According to nuclear experts, AMI might have been appropriately chosen as the site for radioactive waste management, with a multitude of technical criteria, including site ecology, geology and seismic activity, local population density, land use, and the proximity of hazardous facilities. Anti-nuclear protest from the local population and administration, however, has made it extremely difficult to carry out the government plan to find an acceptable site for the back end of the nuclear fuel cycle.

THE AMI ANTI-NUCLEAR PROTEST

In Korea, strong resistance had already frustrated plans to build a radioactive waste disposal facility in Uljin, Yongdok, on the eastern coast and several sites on the southern coast, and the bid to set aside 3.3 million to 6.6 million square meters of Anmyon Island had met the same fate. Anmyon islanders' violent protest against plans to build a nuclear waste disposal facility reflects well the government's lack of thorough nuclear energy management programs, as well as growing public concern over the safety of radioactive waste materials, and mistrust in administrative affairs. The Ministry of Science and Technology had continued to deny the report that the national government would set up a nuclear waste dump in Anmyon island on the west coast, just saying that it was planning to build a nuclear power-related research institution.

With the collapse of the plan to build a radioactive waste disposal facility on Amyon island, the national government was determined to look for another site for the waste storage and treatment. But it was not an easy task and it was highly probable that residents near any proposed site would put up a fight to block the government plan, as was the case for Anmyon islanders. In the light of the vacillating government attitude and the residents' stubborn opposition, together with the people's high sensitivity to nuclear power, as some nuclear experts have predicted, the nuclear waste management project appears to face a deadlock in Korea.

It was the object of great concern to know about what kinds of protest organizations islanders had formed for their struggle against the government plan to manage the back end of the nuclear fuel cycle. The nature of the protest movement is likely to be determined by the forms of protest organizations, which can be classified into the following categories: (1) those based upon existing local organizations and their routine

intermediary suborganizations; (2) those deviating from or having no connections with existing local order and suborganizations; and (3) those which are formed through the rearrangement of routine intermediary suborganizations. The organizational basis and the ideological diversity of protest organizations have made it difficult to grasp the true nature of the protest movement against the plan to build a nuclear waste disposal facility on the island. However, understanding existing forms of intermediary suborganizations (New Village Club, Veterans' Associations, Women's Clubs, Mothers' Clubs, etc.) and, based upon these, obtaining a firm grasp of the formation of a "steering committee" against the nuclear waste disposal plan was an important task required to promote the acceptance of nuclear industries and to become familiar with the nature and range of activities of fundamental environmentalists, anti-nuclear pacifists, and other various non-governmental organizations.

For the present, it appears inevitable to reserve our judgment about whether or not the Anmyon islanders voluntarily participated in their protest activities in November, 1990. When the government announced the plan to build a nuclear waste disposal facility on the island, they were not entirely familiar with the concept of nuclear-related energy production. Outsiders, particularly environmental and anti-nuclear pacifist organizations, had helped islanders excite public fears of accidents involving substantial radiation release; damage of fishing grounds around the power plants; unlawful underground storage of radioactive waste materials; radioactive overdoses of nuclear plant workers; and the birth of deformed children near the power plants. At the phasedown stage of the protest movement, official local representatives had asked the local administration officials for a detailed explanation of the nuclear-related research institution, with an inspection visit to the Korea Atomic Energy Research Institute and other nuclear facilities. The "steering committee" continued to oppose the construction plan strongly, however, just saying that the local acceptance of the invitation to KAERI would lead to the immediate initiation of the government plan to dump radioactive waste materials in their local area.

In the second stage of the anti-nuclear protest movement, local residents usually begin to appreciate the importance of the intraorganizational division of labor, and their domain of interests as lying behind the problems of administration and policy-making, to identify the targets of their activities, and to redefine the domain of their activities. In other words, protest movements proceed from a spontaneous to a goal-oriented resolution of local interests. They also proceed from trivial complaints to the

public's assertion of general welfare and rights, particularly the right to life. In due process, residents begin to make a critical evaluation of the nuclear-related facilities as lying behind the problems of administration and regional development, and incorporate the rank and file of their protest movements into local administration and other mechanisms of decision-making which provide them with a solution to policy-related financial costs in relation to the construction project.

The Anmyon islanders may begin a second stage of their anti-nuclear movements after the government authorities prove that the island satisfactorily meets the geochemical conditions for the disposal of nuclear waste materials and the islanders finally reach an agreement on the governmental plan to build facilities through dialogue and mutual compromise. The demand-oriented nature of this movement may differ entirely from the opposition-oriented nature of the first phase of the local movement. This stage of protest movement may never take place if the government officials continue to nullify their initial plans, but if they do not, it may take place very soon, with the government's second drive toward the construction of the nuclear waste disposal facilities on that island. The islanders appear to hold individualistic views on the problems of nuclear safety, but this was not necessarily so at the collective level. The degree of confidence in nuclear safety operates in opposite directions between the individual-level and the collective-level, and this will be a key factor in determining the level of individual renumeration in the siting process. The islanders, particularly town residents, then asked for the renumeration for their possessions, such as their arable land, buildings, and dwellings, the level of which was comparable with that of the renumeration made by the government for the military airport construction project in their neighboring areas. If the government approves the islanders' demands, they must be evacuated from the island, and for this purpose, the authorities will need a total budget of more than 2.0 billion dollars.

NATIONAL AWARENESS OF THE AMI PROTEST MOVEMENT

We examine the national-level awareness of the Anmyon islanders' anti-nuclear protest against the plan to build a nuclear waste treatment facility on the east side of the island, using the result of a national survey, as carried out last year by the Population and Development Studies Center, Seoul National University. The survey sample consisted of about 1,500 adults aged 20 and above in the nation as a whole, except Jeju Province, an island located at the southern tip of the Korean peninsula. The questions asked in

the survey covered: (1) awareness and evaluation of energy production and environmental pollution; (2) evaluation of the problems of safety and operation skills of the nuclear power plants; (3) opinions about the additional construction of the nuclear power plants; (4) awareness of and opinions about the skills of nuclear waste treatment; and (5) personal interests in nuclear power and the future of public information.

In Table 1, we see what proportion of the respondents knew that a anti-nuclear protest movement took place in Anmyon Island on the southwestern coast of the Korean peninsula. Of the total, more than two thirds (about 70 percent) had knowledge of the protest movement against the government plan to build a so-called nuclear-related research institution. In the bottom panel of Table 1, most of those who had knowlege of the protest movement answered that it took place because the government had paid no particular attention to islanders' opinions in the governmental process of decision-making (36.1 percent), or because of their great fear of environmental contamination arising from the radioactive waste treatment plants (35.1 percent).

The survey result shows how the respondents made an evaluation of the islanders' anti-nuclear reactions which were revealed during the AMI protest movement. The proportion of those who answered that the reactions

TABLE 1. AWARENESS ABOUT AND THE REASONS CITED FOR THE OCCURRENCE OF THE AMI ANTI-NUCLEAR PROTEST

Response Category	%
Do not know the protest activities	29.6
Know the activities	70.4
Local residents were excluded from the decision-making	(36.1)
Environmental pollution due to the radioactive wastes	(35.1)
Residents' lack of knowledge about the waste materials	(13.7)
Residents' lack of confidence in administration	(10.4)
Because of the nationwide diffusion of radicalization	(1.9)
Others	(.7)
Don't know	(2.1)
Total	(100.0)
Total	100.0
(N)	(1,528)

were too radical was rather small (16.7 percent), while a majority of the respondents said that the reactions were natural and inevitable (73.5 percent), or stronger and more powerful reactions were needed to block the government plan (6.5 percent). We believe that in general, most Korean citizens had a great emotional sympathy with the islanders' behavior revealed during the protest movement which took place in November 1991.

The fact that nuclear experts assess the probability of radiation release to be extremely low is not enough to allay islanders' fears which are at the heart of public opposition to the nuclear-generated electricity, as well as to the radioactive waste management programs. Government leadership, which is viable and stable, is required in the making of energy choices, in defining energy policies, and in carrying out firmly the decisions taken. In this, we believe that credibility is an essential element. Good leadership by itself is likely to go a long way towards resolving many of the doubts and uncertainties surrounding the nuclear waste management program.

It may be argued that the AMI protest movement, as influenced heavily by the propagation of anti-nuclear pacifist organizations, simply reflects the local-level expression of complaints against the one-sided, stubborn government plan to build nuclear waste treatment plants. But, results from the national survey reveal the fact that different layers of Korean citizens have great dissatisfaction with the problems of decision-making with respect to the growth of nuclear-generated energy production, and that complaints are expressed more strongly among Korean "yuppies", i.e., those who are younger, have schooling beyond college graduation, and who earn, on average, 1,500-2,000 dollars per month.

The Korean government made a great mistake when it was developing nuclear energy policies by taking a decisive step to repeal the plan to build the nuclear waste disposal facility on Amyon Island last November, after islanders participated in the protest movement. Table 2 shows whether or

TABLE 2. THE POSSIBILITY OF RECONSIDERING AMI AS A POSSIBLE CANDIDATE FOR THE DISPOSAL OF NUCLEAR WASTE MATERIALS

Response Category	%	%
Include AMI among site candidates	29.6	76.6
Exclude AMI from site candidates	70.4	23.4
No response		—
Do not know AMI protest activities	(36.1)	—
Total	100.0	100.0
(N)	(1,528)	(1,066)

not the government should reconsider the island as a possible site for the nuclear waste treatment plant, given satisfactory conditions for siting it on the island. Three fourths of the respondents (76.6 percent) answered that AMI should be considered as a site candidate, along with other places which meet the geological conditions for dumping radioactive waste materials.

Results from the national survey show that sociodemographic subgroups reveal little variations with respect to the opinions about the possibility of reconsidering the island as a site for the nuclear waste management program. Undoubtedly, this shows that both the national government and KAERI should have been extremely cautious in the consideration of geological conditions and, in the exploration of ways for persuading the islanders to accept the siting of the nuclear waste management facilities. At this stage, however, both of them must be fully prepared at any time to make any kinds of sacrifice and to accept the financial costs needed for the construction of the nuclear waste disposal facilities, bearing in mind the fact that "once the first button was put into the wrong hole", as brought about by the behind-scene manipulation tactics, it is not possible to put the other buttons into the right holes.

EXPERIENCE OF THE SURVEY EXPERIMENT

We first need to explain why it was necessary to stop conducting our local surveys which were initially supposed to be used to interview ordinary residents and opinion leaders on Anmyon island. In June 1991 after we made a final draft of the survey questionnaire, nuclear industries and the problems of environmental contamination were brought up as an issue in the local elections which had not been called over the last thirty years in Korea. We were determined that it would be wise to postpone our survey schedule and to field it after the election, because the objective of our survey research must not be intermixed with the campaign issues raised by local candidates whose sole objectives were to win the elections. In July 1991, meanwhile, another local research team, as guided by faculty members and their staff assistants at Keymyong University (Taegu), started to conduct their surveys on the east coast sites designated previously as candidates for the nuclear waste disposal facilities. But we heard that local officials had continued to intervene in the survey process, and found that it was necessary for our research team to give full consideration to the likelihood of similar interruption by the local residents and authorities on Anmyon island.

We made a final decision to carry out our local survey experiment on the island from July 28 to August 3, 1991, and the Dean of the College of Social Science, Chungnam National University sent letters for concerted action to the chiefs of the local adminstration and police substation. The messages delivered to them contained the fact that it was deeply regrettable that rampant drives toward the construction of power plants and the nuclear waste management program were the direct cause for the AMI anti-nuclear protest movement; and that the research team had the strong wish to ask for the full-hearted cooperation of the local administration with the surveying process on the island. Our local survey team contained two investigators, a staff assistant, and 17 interviewers (15 females and two males), whose majors were sociology and public administration. On August 3, 1991, we went to both the town office and police substation to ask for their cooperation with the survey process on the island. But, we met members from the "steering committee" against the government plan to build nuclear-related facilities on the island. After reviewing the contents of our structured questionnaire, they became greatly disturbed because they perceived the purpose of our survey research as another drive toward a sensitive subject, rather than a study dealing with the search of causes for the failure on Anmyon island. They asked for the discontinuation of our local survey research, and told us that if we did not agree, they could not guarantee the physical safety of our survey teams on the island. One member of the "steering committee" also accused our group of interviewers of being the "prostitutes of the Korean government", and said that young unmarried islanders would find it difficult to find their spouses in the marriage market, given the public's fear of the substantial release of radiation after the construction of the nuclear-related facility on Anmyon island.

We delivered a copy of our questionnaires to a county assemblyman, following the requests of members from the 'steering committee' who met us in the town office. While talking with the assemblyman, we were informed that he would promise to cooperate fully with our efforts toward the survey process, saying that he would call in about 150 islanders, probably strong opponents of the nuclear-related facilities, the next day, so that we could proceed with our survey experiments in the form of group interviews at the town office. We decided to agree to his temporary proposal because it was necessary to show our support to his meeting us halfway to establish a bridgehead with stubborn members of the steering committee. On August 4, 1991, a group of anti-nuclear islanders were assembled in the conference room of the Anmyon Agricultural Cooperative Branch Office,

and it was found that the gathering of islanders was not there for the purpose of our group interview, but as a continuing part of their anti-nuclear protest that took place November 1990. We found it impossible to ascertain individual responses to our survey questionnaire, and we stopped talking about the surveying process. The principal investigator attempted to assuage the pertubation of the group assembled there, using such evidence as the findings from his inspection visit of the nuclear power plants and waste disposal facilities in Canada and the United States. We had very strong feeling that they were to play in a political game with us as part of the resistance against the plan to build a nuclear-related facility on their home island.

LOCAL EXPERIMENT AND SOME ADDITIONAL DATA

We summarize results from our local survey experiment which was carried out during October 13-14, 1991, in order to deal with opinions about the nuclear waste management program on the island. Anmyon island itself contains both a town with the population of a little larger than 13,500, and rural villages with populations a little smaller than 3,500. The survey experiment area consists of two zones: one is the town market place which was the core of the island, while the other is from a group of small and remote villages, which was designated by the government as part of the candidate site for dumping the radioactive waste materials. Survey results, as shown from Tables 5 to Table 14, were standardized, using the age-sex distribution of the island population taken from the 1985 Population and Housing Census. The results should be interpreted with the fact in mind that due to the protests of desperate members from the "steering committee" we were forced to complete only half of our target sample in the survey process on the island.

Table 3 shows that three fourths of respondents had participated in the anti-nuclear protest which took place in November, 1991 (75.9 percent of town islanders and 77.2 percent of site villagers). According to the report,

TABLE 3. ISLANDERS' PARTICIPATION IN THE ANTI-NUCLEAR PROTEST MOVEMENT

Response Category	Anmyon Town	Site Village
Did not participate	24.1	22.8
Participated	75.9	77.2
Total	100.0	100.0
(N)	(208)	(72)

TABLE 4. ISLANDERS' PARTICIPATION IN THE ANTI-NUCLEAR PROTEST MOVEMENT

Response Category	Anmyon Town	Site Village
Islanders excluded from the decision-making	30.1	24.9
Environmental contamination due to nuclear wastes	22.6	9.1
Islanders' lack of knowledge about nuclear wastes	10.8	27.8
Islanders' lack of confidence in government affairs	24.4	34.0
Because of the nationwide diffusion of radicalization	1.7	0.0
Worsening living environment and degraded local development	4.9	0.0
Others	0.0	0.0
Don't know well	5.5	4.1
Total	100.1	99.9
(N)	(208)	(72)

nearly 12,000 angry protesters clashed with the riot police, setting a police substation and an arms storehouse ablaze, and beating up local officials. This amounts to approximately three fourths of the islanders, and our survey result does not reveal any serious shortcomings in the revisualization of the anti-nuclear protest.

Turning to Table 4, we examine the islanders' awareness of the main reasons they cited in answering the question about why the anti-nuclear protest movement took place. Town residents and site villagers answered that it took place mainly because their opinions were not reflected at all in the governmental process of decision-making (30.1 percent and 24.9 percent), and because of their lack of confidence in, or dissatifaction with the national government (24.4 percent and 30.0 percent). We find a delicate difference between townspeople and site villagers, however, in the way that they perceive the nature of radioactive waste materials. About 20 percent of town residents answered that it took place because of the potential contamination of surrounding environments from the radioactive waste materials, if the facility were to be built. On the other hand, about 35 percent of the site villagers mentioned their lack of knowledge about the radioactive waste materials as being the principal reason for the anti-nuclear protest movement. Like the results from the national survey, our local survey experiment shows that the national diffusion of radical disposition and fear of a worsening living environment, as well as of degraded regional

development, were not the main reasons to be cited for the anti-nuclear protest movement.

In the light of this, we believe that the public acceptance of nuclear power cannot be won even if the local islanders can be provided with more information on nuclear reactors, safety, risks and benefits, and radiation release (Krueger 1988). Many of those opposed to nuclear power reject any information presenting it in a favorable light, and remain unconvinced by arguments on safety, need, or economic benefit. On the other hand, we found that there were a considerable number of people who had no opinion, one way or another. The simple message that "nuclear power is dangerous--radiation causes cancer" may have been received by them. However, no attempt has been made to to counter this claim. At the other extreme of the spectrum are a small group of site villagers who are predominantly pro-nuclear. Their members are seen as the "safeguards" of personal interests, rather than local and national interests, because they do not attempt to look for nuclear information or they are not particularly interested in technical innovation in relation to the back end of the nuclear fuel cycles.

We believe that it is worthwile to pay full attention to the difference between townspeople and site villagers with respect to their self-evaluations of the reactions they had revealed during the anti-nuclear protest movement. Among town respondents, two thirds answered that motivations and reactions were both natural and well justified, while 28 percent answered that motivations were well grounded but reactions were too radical and could not be justified at all. On the other hand, 40 percent of site villagers answered that both motivations and reactions were made spontaneously, while about one half answered that motivations were well grounded but reactions were too radical to justify them. This provides indirect, but clear evidence that town residents constituted the core of the anti-nuclear protest, but site villagers had played an intermediary role in assisting them in the AMI protest activities.

Provincial authorities and the Ministry of Science and Technology had made a temporary decision to repeal the government plan to build nuclear waste treatment facilities, immediately after the anti-nuclear protest became violent, particularly in clashes with riot police. It was also endorsed by the decision made by the 227th Conference of the Korean Atomic Energy Commission. According to our survey experiment, however, about 70 percent of town respondents and nearly all site villagers had no true confidence in the government's cancellation of the project. About 83 percent of town respondents and 96 percent of site villagers revealed their strong or moderate interest in another drive towards the construction project. This

shows that as compared with town residents, the construction project is a problem of life and death for site villagers, who want to host the nuclear facilities as one way of improving their personal lot.

It would be of great interest to examine how the islanders receive the second drive toward the construction project, although it was repealed for the time being by the decision made by the 227th Conference of the Korean Atomic Energy Commission, As shown in Table 5, 85 percent of the town respondents and 15 percent of the site villagers opposed the additional drive plan, while 9 percent and 80 percent respectively approved the plan. This implies that despite the resumption of their steering committee's anti-nuclear activities on the southern tip of the island, site villagers were extremely favorable toward the second drive plan which can be prepared by the Korean government in the near future. This result from the survey experiment will be helpful in redirecting the government's attention to the site villagers, rather than to the town residents. The national government and KAERI, the sole licensing agency for the radioactive waste management program, however, should establish the practice of dealing directly with local communities affected by the plan to build nuclear-related disposal and treatment plants. For example, an independent local information commission may be set up before the construction project begins in order to answer concerns expressed locally, and to look after local interests, and to block the continuation of the anti-nuclear protest among the local population and administration.

In our survey, we asked how respondents consideredhe need for financial support in the project for building a nuclear waste disposal facility. Of Anmyon town residents, all answered that they would need financial support at the individual-level, as well as at the community-level. On the other hand, 94 percent of site villagers answered that they would need monetary support in the process of siting nuclear-related research institutions. Among those who opposed the nuclear waste management

TABLE 5. ISLANDERS' APPROVAL OF THE PROJECT IN CASE THE GOVERNMENT INITIATES ANOTHER DRIVE TOWARD THE NUCLEAR WASTE PROGRAM

Response Category	Anmyon Town	Site Village
Will approve	9.2	79.3
Will not approve	83.7	15.4
Don't know	7.1	5.4
Total	100.0	100.0
(N)	(208)	(72)

program, town residents expressed great fear of the facility itself (61. 2 percent) as being the main reason for opposition. On the other hand, site villagers cited a variety of reasons, such as a worsening living environment arising from the damage to farms, mountains, and fishing grounds (35.0 percent), fear of the facility itself (25.0 percent), and contamination of living arrangements (35.0 percent). For site villagers, however, the size of our study sample has made it difficult to reach a meaningful conclusion.

We have also asked questions about the possibility of conditional approval for the second drive toward the plan to build a nuclear-related facility. According to the result, three fourths of town residents expressed unconditional disapproval, while 25 percent expressed their opinions about conditional approval, depending upon the amount of economic support, the contents of local development projects, and the improvement in living conditions. About 60 percent of site villagers expressed their conditional approval, but it is difficult to reach a meaningful conclusion here because of the problem of sample size.

One of the critical findings that our survey teams have identified in the fielding of our survey on the island is that respondents were more interested in individual-level renumeration for their household possessions, rather than in the local cooperation and development projects. They, particularly town islanders, argued that the level of individual renumeration should be comparable to that of the renumeration made by the government for the military airport construction project in their neighboring Haemi area. This kind of local claim routinely takes place in large-scale development projects initiated by the national government (e.g., nuclear power plants, thermal power stations, large hydropower schemes, and underground gas storage) and it is a matter of great concern with which the Korean Atomic Energy Research Institute must cope in securing sites for

TABLE 6. ISLANDERS' JUDGEMENT OF THE POSSIBILITY OF COMPROMISE WITH THE GOVERNMENT AT THE TIME OF ANOTHER DRIVE TOWARD THE CONSTRUCTION PROJECT

Response Category	Anmyon Town	Site Village
Can be definitely compromised	10.5	11.2
Can be largely compromised	32.6	82.6
Can be partially compromised	26.9	0.0
Cannot be compromised at all	24.6	0.0
Don't know well	5.3	6.2
Total	100.0	100.0
(N)	(208)	(72)

nuclear power plants and the construction of other nuclear-related facilities.

In Table 6, about 50 percent of the town residents answered that they would not reach a compromise with the government, while only 6 percent of site villagers answered so. This indicates that the islanders, particularly the town residents, continue to oppose the second drive toward the project itself; and that the success of the nuclear waste management program depends upon the government's strong will or leadership. We found a clue to this in our process of dialogue with members of the "steering committee" from the fact that an official village leader, who was formerly the chairman of a committee for the resolution of the anti-nuclear protest movement, was personally severely tortured by the chairman of the "steering committee" against the nuclear waste disposal facility. He expressed his regret to members of the steering committee because they did not include him in the dialogue between them and the research team. We know that his intent was, after making sure of the problems of nuclear safety at the inspection visit of KAERI and nuclear-related plants, to pioneer the siting of the nuclear waste management facilities, along with the safeguards necessary for renumeration for household possessions, such as arable lands, building, dwellings, and mountains.

DISCUSSION AND CONCLUSION

The primary purpose of this study is to obtain the public acceptance of nuclear power through the local development project in the siting process for dumping radioactive waste materials. In this study, we found it necessary to assess intersubjective issues concerning the pros and cons of the nuclear industries, using islanders as the object of our study. But our survey has been not perfectly successful in identifying the needs of the local population and administration, given their great fear of nuclear-generated enrgy production.

Nuclear power is one of the controversial but most valuable sources of energy production (NEA, OECD 1984; Zetterberg 1980; Touraine 1980). The first nuclear power station in Korea is Kori Plant in Yangsan County of Kyongnam Province: the construction began in 1970; and since its completion in 1978, it has been in full operation. Since the construction of the first station, eight additional plants have been constructed or are in full operation. Unfortunately, however, a majority of Korean citizens have extremely limited access to the information currently available and, as a consequence, they tend to treat nuclear power as the object of great fear and threat.

Underlying a presentation of this paper are two propositions, which the World Health Organization had pointed out about 30 years ago (WHO 1958): (1) the public will need protection from undue anxieties and fears toward nuclear energy; and (2) any nuclear enterprise will itself need protection from the repercussion aroused by these anxieties and fears, which may impede its work on the local, national, and international level. We found it extremely difficult to find an optimal condition which meets these two propositions. This is mainly because nuclear power has severe constraints which other energy sources do not have in common; and the constraints, which have their roots in the extra-scientific nature of nuclear power itself, have been treated as great 'misfortunes' of nuclear power since the operation of the first nuclear plant in the United States.

The first 'misfortune' of nuclear power refers to the risk of having contact with radiation. This brings forth the problem of nuclear safety, especially because it is a scientific technique for energy production through the use of radioactive materials, such as uranium and plutonium. The second 'misfortune' is the danger of spreading nuclear arms, or of exploiting it for military purpose, rather than for peaceful purposes. Plant construction itself may not immediately lead to the building of nuclear arms, but world history reveals that this problem of peaceful use has been discussed with extreme precaution by the nuclear professionals of the United States, the first nation to have nuclear weapons in the world.

The third 'misfortune', which has been influenced by the first and second, is the public acceptance problem, .i.e., how nuclear power can be accepted by the general public. Prior to the Chernobyl accident and even afterwards, the former Soviet state authorities gave strong emphasis to the necessity of nuclear power as having something to do with economic reality, rather than the ideological struggle between the East and the West. The totalitarian state appears to have been greatly successful in suppressing all opposition groups, holding the view that 'anti-nuclear' is a non-scientific or un-Soviet idea. Unfortunately, however, the situation has been entirely different in the west and in the east. The public acceptance program has received greater attention in the Western world, because the existence of strong opposition groups has increased the necessity for developing favorable attitudes towards nuclear power. It is a cost necessary to maintain a liberal democracy in that it takes time and effort to persuade the public. It should be remembered, however, that extreme opposition without the chance for dialogue and compromise requires the sacrifice of a liberal democracy.

Our experience with public information programs shows that communications are more successfully established and information is better

received and understood by small groups rather than at the national level. We believe, however, that in Korea, anti-nuclear activities of the environmental and pacifist organizations have put strong emphasis on the 'misfortunes' of nuclear power, and that even in the near future, they will have greatly negative influences upon the nuclear waste management program, as well as on the siting of nuclear power plants. The task of raising public understanding of the strategic role played by nuclear energy production in the national economy requires a continuing effort. The principle that the public should be regularly kept up-to-date with general information on the issue of nuclear power should be firmly established.

We need to pay particular attention to the role of the mass media in the process of improving the public acceptance of nuclear power. Newspapers and television are the main sources of nuclear information for the Korean public. They are often looked upon as the ultimate source of influence through which the views of the national government, the expert groups, and others are delivered to the public. These organizations themselves, however, are under varied influences and pressures, sometimes financial and sometimes ideological. Newpapers and magazines have editorial policies, and they also face competition for sales. News items and articles on nuclear power may reflect the bias of individual journalists as well as the quality and accuracy of their sources.

Our experience from the Anmyon island experiment survey that local feeling must be studied and taken into account from the earliest stage when nuclear sites are being considered. In addition, we have to take into full consideration the fact that a local community accepting a nuclear waste disposal facility should be given financial help, if possible, even at the individual-level, if siting requirements for the radioactive waste management can be met. This financing should be part of a regional, economic, and social development program and may take various forms: reduced local tax rates; subsidies for the development of local amenities; and preferential treatment of local contractors and opportunities for local development. Schemes of this kind are in force in several countries, such as France, Italy, Japan, and Spain.

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KWANG-HEE JUN *is Associate Professor of Sociology, Chungnam National University.*