

Constrained Cooperation in South Korea's Nuclear Power Policy and Its Side Effects

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I. Introduction

Since the inauguration of GORI No.1 nuclear power plant (NPP) in 1978, Korean government has been urging cooperation from its people on issues surrounding nuclear power plants. Despite the Chernobyl incident, policies on extension of nuclear power plants in response to the necessity of diversification of energy had been briskly commenced until the late 1980s and the energy supply share of nuclear power exceeded that of coal in 1986 and thereafter. Anti-nuclear movement was not effective under authoritarian government and when the government was vanished, discourse on economic development and energy security filled the vacancy. Areas near NPP where relatively large disapproval was experienced were imposed by acceptability enhancement policy focusing on financial compensation.

As a consequence, Korea is now one of the highest rated pro-nuclear countries. In the survey conducted right after the Fukushima incident, Korea, despite its closest proximity to Japan, was reported to be one of the most nuclear-friendly countries.¹ Furthermore, Korea exported its strategy of achieving such a high acceptability to multiples countries like Singapore.² Reversely, this high acceptability in turn becomes the political foundation for additional pro-nuclear policies. Unlike other developed countries right after Fukushima incident, this unusual continuation of Korea's pro-nuclear policy was attributed to the silent support from public.

As such, Korean nuclear plant management policy did not encounter a single large-scale opposition from public and successfully derived its people's cooperation. However, it is premature and somewhat uncomfortable to discuss success of Korea's nuclear policy with this one sided fact. Rather, it seems that the difficulties of which Korea's nuclear policy is facing are related to this surprisingly high acceptability. This paper criticizes conventional conceptions on nuclear power plants and people's cooperation in terms of following three perspectives.

¹ Marc Dumoulin, "WORLDWIDE BAROMETER OF VIEWS ON NUCLEAR ENERGY After Japan Earthquake", Win Gallup International, April 19, 2011.

² Energy Planet, June 1, 2013 (7:00 pm), KONEPA Blog, October 26, 2011, <http://blog.naver.com/energyplanet?Redirect=Log&logNo=10122409367>.

Firstly, imposition of excessive value on 'nuclear acceptability' and resulting side effects are discussed. Korea has been putting acceptability at its top priority in deciding nuclear policy. As a result, review of specificity and safety was often neglected and led to risks and costs. Historical analysis is performed on events that expose such problems to support this argument.

Secondly, recycling of fragmentary financial compensation to simply evade conflict distorted acceptability management policy. Distorted acceptability management resulted in numerous adverse side effects such as paradox of 'high acceptability-low credibility', enslavement of local economy by nuclear plant, and alienation between regions and outside. In-depth field work conducted on diverse actors of and near Uljin and Gori nuclear power plants is provided to support this argument.

Thirdly, single sided 'cooperative environment' with no influential counter organization against industry led to loosened management system. The aftermath of recent Gori scandal clearly exposes such problems. Interview on major Korean anti-nuclear activist and in-depth analysis on Gori scandal is conducted to validate such points.

In conclusion, it seems that the instinctive fear of Korean government on conflict led to present day's situation and dealing with current conflict is ultimately beneficial to Korea nuclear policy. 2006 reformation of nuclear management policy in France, which focused on 'credibility' through 'transparency' rather than 'acceptability', is analyzed. French case study will help nuclear plant operator earn trust are provided. Finally, applicability of the French case to Korea is discussed.

1. Literature Review

There was long trend of research, which set up the public acceptability as an ultimate goal of nuclear energy policy. To reach that goal, researches have developed the better conflict management with the means of reliance building, transparency improvement, and fair process. The trend is related with the spread of participatory democracy in society at large, including science and technology governance.

In European countries, the practice of involving public and stakeholder actors in science and technology decision-making processes has arisen primarily as a mean to ameliorate the public skepticism, cynicism, and mistrust that has undermined technology development plans.³ In particular, new nuclear policies focused on transparency were established as a way to win back public trust after experiencing strengthened anti-nuclear sentiment from Three Mile Island (TMI) accident in 1979 and the Chernobyl disaster in.^{4,5}

³ Hagendijk, R. and Irwin, A., "Public Deliberation and Governance: Engaging with Science and Technology in Contemporary Europe", *Minerva* 44 (2006): 167-84, accessed June 1, 2013, doi: 10.1007/s11024-006-0012-x.

⁴ Frewer, L., Rowe, G., & Sjöberg, L., "The 10th Anniversary of the Chernobyl Accident: The Impact of media reporting of risk on public risk perceptions in Five European Countries", Reading: Institute of Food Research (1998), accessed June 1, 2013, http://www.dynam-it.com/lennart/attachments/116_frewer_rowe_sjoberg.pdf.

In similar macroscopic context, Chung said that building up public acceptability through informing and communication became important in policy since the late 1980s after the nation's political democratization, unlike the earlier expertism and secrecy into public relation strategies⁶

There are also a bundle of researches that are discussing detailed procedural methods to enhance public acceptability.

In particular, a local referendum introduced in 2005 by the Korean government received much critical attention. The government announced four candidate sites and operated local referendums as a decisive part in selecting low/mid-level nuclear waste repository siting. Following the Special Act on Assistance to the Locations of Facilities for Disposal of Low and Intermediate Level Radioactive Wastes established in 2005, the region with the highest approval rate was to receive around 300 millions dollars plus operating costs and recruit a science project with a high power proton accelerator and the KNEF headquarter along with the repository facility. A coastal city of Gyeongju was selected with an approval rate of 89.5%. In regards to the referendum, Cha and Min⁷ appraised that the new attempt to increase public acceptability was good but insufficient. They pointed that it lacked deliberative processes. Kim⁸ demonstrated that regional conflicts were exacerbated due to the inadequate public acceptability management policy.

These researches well organized the background of importing a concept of public acceptability and the requirement to achieve high acceptability. However, the researches cannot explain why is the acceptability so important. They accepted the value of public acceptability without critiques on it. Therefore, the paper is now raising a question. For what the acceptability has treated importantly and what does the acceptability represent?

II. Cooperation in Nuclear Power Policy and the Problems

1. Imposition of excessive value on 'nuclear acceptability' and resulting side effects

As appeared in literature review, managing public acceptability was the center of Korea's NPP policy. Among, the case of selecting low- and intermediate- level radioactive wastes site is a good case, which

⁵ Dawson, Jane I., and Robert G. Darst. "Meeting the challenge of permanent nuclear waste disposal in an expanding Europe: Transparency, trust and democracy." *Environmental Politics* 15.4 (2006): 610-627, accessed June 1, 2013, doi: 10.1080/09644010600785226.

⁶ Chung, "Banpajjang ipjisunjeong ae seo jeonmoonsung ũi jungchiwa gwahak gisuljuk anjunsung damron. ũI gunyul" [Division between Politics and Scientific Technology on Selecting a site for Radioactive Waste Disposal Facilities]. In *Kyunjaewa sa hwai tong gwan* 93 (2012): 72-103.

⁷ Cha, S.-J. and Min, E.J., "Bangpajjang Bujisunjeong ũl dul laussan galdũng gwa minjujuũi" [Conflicts on Choosing a site for Radioactive Waste Disposal facilities and Democracy]. In *ECO* 10.1 (2006): 43-70.

⁸ Kim, Y.-J., "Bangpajjang ipjisungjung gwajung ũ i jung check network bunsuk-Kyungjoo ji yuk youchi. hwaldong ũl joongshim ũro" [Analysis on the Political Network of the procedure on selecting a site for Radioactive Waste Disposal Facilities- Focusing on the Kyungjoo area]. In *Korean Studies Information system* 2005. *Dan il ho* (2005): 213-242.

shows historical progress of conflict management policy in nuclear power sector. Due to the historical feature of modern Korea, conflict on NPP was rather inconspicuous under the authoritarian government. However the problem of selecting low- and intermediate- level radioactive wastes site, despite its relatively lighter safety issue, which started under democratic regime is appraised as the first and the most prominent conflict case in the Korean history of nuclear policy. The site for nuclear waste repository was selected 9 times over the past 20 years but they were all rejected by local residents.⁹ In each case of conflict, government suggested 'carrots' such as giving special fund or supporting local development. However, as the carrots for evading conflict became bad practice that impose excessive value to the acceptability and passes over the other political principles, government has made decisions which neglect safety and specialty in the policy making process and it led to the risk and the cost.

The first large-scale demonstration based on NPP conflict broke out in Anmyeondo, Chungcheongnam-do, in November 1990. It was very sensitive period in which public concerns on nuclear safety were rising with the news report that Younggwang NPP staff delivered a brainless child. When Anmyeondo was announced as the site for nuclear waste repository, the residents' discontents simmered. After 6 days of radical demonstration, government decided to repeal its decision and Minister of Science and Technology Geun-mo Chung, was replaced as a consequence. After the incident, the government launched an extensive advertisement plan to publicize their nuclear policy.

After being discontented in Anmyeondo, the government turned to a small island in Incheon city, Goolupdo, in 1994. The island was inhabited by only 9 households, which were relatively ignorant to the nuclear power and its side effect. It was evident that the government was well aware of such 'blocked conflict' and it prematurely announced to build a repository on the island without even scrutinizing the island's geographical eligibility. After the official announcement of repository construction plan, an active fault was detected under the island. Active fault is a region of extremely high likelihood of earthquake where safety and stability of NPP is greatly compromised. Hence, the government had to repeal its decision once again but this time not because of opposition from local residents but due to its impulsive measures that rely on acceptability rather than political principles and philosophy.

Continually, Uljin, Youngduk, Young-gwang, Gochang, etc. was selected as the site, but they are all recalled soon after residents' opposition.

In 2003, Buan of Jeonbuk province became the core of heated dispute. Kim jong Kyu, then-city ("Gun") mayor, independently submitted the request of host for repository despite the disapproval from city's ("Gun") assembly and government prepared construction of repository knowing Mr. Kim's dogmatic action. This enraged the citizens and caused them to stage numerous violent protests outside the government complex in Gwacheon, south of Seoul. The protest had lasted for 15 months. This incident

⁹ Choi, M.-A., "*Wonjun, Daejeonwhan shijeom watda: Bangpajang Ter Eiship nyeon gan a-hop cha rae bunbok*" [Structure of Nuclear Facility, Going Back and Forth: A site for Radioactive Waste Disposal facilities has been disputed 9 times over 20 years]

<http://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=102&oid=032&aid=0002124271>.

became the turning point, which changed the paradigm of government on acceptability of residents. The government refrained from finding regions of fewer conflicts and attempted to promote cooperation from people by seeking procedural democracy and imposing exorbitant reward. As a result, 20 years of controversy over selecting repository site was ceased by the acceptance of Gyeongju city through referendum. In return, government promised 300 billion won for compensation and relocation of KHNP headquarter in Gyeongju city.

In current criteria, the siting is decided by conducted points in scale of 100: 15 points for site suitability, 35 points for environmental effect, 20 points for construction sustainability and 30 points for residents' acceptability. Surprisingly high weight on residents' acceptability makes it tempting to question the validity of government's priority in decision-making even though other criteria are considered. Moreover, government disclosed only reports on acceptability rating of cities previously considered as potential candidate for repository site but reports on other sectors are not opened to public with the reason of "possibility to raise unnecessary social conflict"¹⁰. An additional report on NPP site was not disclosed for the same reason and reports on geological safety survey on Gyeongju radioactive waste disposal facility went public four after it selection, which was 2009.

Such suspicions led to recent surfacing of controversy over the suitability of repository in Gyeongju area. Discovery of flaccid aquifer layers and leakage of underground water below NPP construction site initiated dispute over site eligibility and through report from civil-level investigation, the problem has been exposed and criticized. Dr. So-gu Kim, a leading expert on earthquakes and the head of the Korea Seismological Institute, analyzed the underground structure over 200 km distance between Ulsan and Uljin using seismic waves in June of 2011. As a result, Dr. Kim observed an unusual change in pattern of seismic wave over 50 km length from the point located 100 km away from Ulsan. Dr. Kim, in his interviewed with Kyeonghyang newspaper¹¹, said, "Based on my measurement, a sudden slowing down of relative speed of seismic wave implies formation of fault and subsequent intrusion of water in the area". He then asserts, "Considering the area is the origin of Gyeongju's past earthquakes, this fault is eminently active and result form another similar experiment shows that there exists 50 km length of active fault only 30 km away and 10 km deep from Gyeongju". He also criticized, "(Weolseong) NPPs and repository in Gyeongju is under the danger of earthquake".

Such critique elucidates unprincipled NPP governance policy of government for evading conflict again and even makes people to reconsider past major decisions. IAEA is currently advising not to build NPP

¹⁰ Park, J.-H., Lee, G.-Y., and Lee, S.-H., "*Wonjun ji ūl ddang, anjungsung gumsa boda jumin seomyung buter bat nŭn nara*" [A Country considering Permission of residents prior to the Safety problems for building Atomic facilities]

<http://www.hani.co.kr/arti/society/environment/470181.html>

¹¹ Choi, M.-A., "*Walsung wonjeon ingeon jiha ae o-ship km hwalsung dan chung*" [Walsung Nuclear Facility, Active Fault in nearby basement]. In *Kyunghyang shinmun*, June 20, 2011, accessed June 1, 2013., http://news.khan.co.kr/kh_news/khan_art_view.html?artid=201106200324135&code=940701

near 80~160 km proximity of active fault. According to this criterion, not only Weolseong NPPs but also Gori NPPs are inadequately located. However these claims for safety are not considered seriously. Even though such decisions were unilaterally made by authoritative government for their political convenience, looking at the problems that neighboring country Japan is facing, scientific insights on active faults should be not be dismissed. However, the government is not only disregarding such voices but rather attempts to exploit the fact that it is easier to draw acceptance in regions already have NPPs built to accommodate additional NPPs.

Although not having direct influence on safety of NPP as for the case with active fault, concentrated NPP building practice based on least degree of conflict has been subjected to multi-perspective criticism. As shown in the figure below, the east coast of Korea is known to house one of the highest density sites of NPP in the world. This densely packed NPP can be criticized as unsafe, immoral, and inefficient in energy distribution.



<Picture 1> S.Korea's NPPs in 2013.06.01, KAIF (www.kaif.or.kr)

As the closest neighbor of Japan, which suffered from nuclear accident caused by earthquake, it is irrational that current nuclear policy of Korea blindly pursues public acceptability rather than considering geologic feature. This suggests the absence of the principles on nuclear governance and inordinate intervention of public acceptability in nuclear decision-making. Government should understand that the cooperation is not a sufficient but one of the necessary conditions for nuclear power policy.

2. Evasion of conflict and distorted acceptability management

As the radioactive waste site case shows, Korean government has evaded conflicts with the economic compensation. However, this management policy is not only unhelpful to further nuclear management policy, but also brings in diverse side effects on the near-NPP regions and the outside. I have visited Uljin and Gori in November 19th to 22nd in 2011 and performed fieldwork to reveal the side effects thoroughly. It was not very long period, I could meet diverse important people there: local pro- and anti- nuclear opinion leaders, people in charge of managing local acceptability at local KHNP, workers in local KHNP, members of local assembly, a lawyer have sued the KHNP for its inattention on managing NPPs, members

of Civil Environmental Monitoring Unit and leaders of local villages near by NPPs. In addition, I could meet Hun-suk Lee, who is the major anti-nuclear activist in the central anti-nuclear movement, Prof. Kyun-ryeol Seo, who teaches nuclear technology at the Seoul National University and criticizes 'nuclear cartel' as a member of the nuclear group, and Dr. Gwang-sik Choi, who is a member of Korea Institute of Nuclear Safety (KINS) and has claimed on 'transparent' policy on nuclear management, in the beginning of the 2012.

III. Acceptability management policy in Korea

Korean government have focused on economic compensation for the local acceptability management and stressing importance of electric power for the overall acceptability management.

Before Fukushima incident, it was difficult to see an article on NPP posted in newspapers other than local periodicals. Statistics show that during 1 month period of January 2011, only 18 writings related to 'nuclear energy' were found among columns, opinions, and articles from Chosun daily, Joongang daily, Dongah daily, Hankyoreh, Kyunghyang shinmun, and Pressian. This was a period of extraordinarily high public awareness on NPP due to win a NPP contract in UAE. On the other hand, public news broadcasts warning of energy shortage every year in summer and winter periods arouses unconscious approval for need for additional NPP. As such, on one hand, Korean government attempts to hide double sided nature of NPP and on the other hand, stresses the need for NPP.

On the far side, the deal proposed by Korea acceptability governance policy on locals near NPPs is a highlight to outsiders. The representative law of Korea's local acceptance governance policy is 'legislation on supporting surrounding area of power plant (SSP-law)'. This law ensures financial support to region within 10 km boundary of NPP.

In 2006, government has reformed the SSP-law as "the effort to settle civil complaints from surrounding area, which claimed the unrealistic fund size and inefficient business supporting system". Reformation was a mean to 'improve local residents' receptivity. The major change from SSP-law's revision in Korea is the foundation of Clause 2, Article 13 which is about the financial resources and decision of supporting fund and the reformation of Article 10 which is about the possible supporting business. On this account, segmentalized previous supporting business has combined and larger scale business that had restricted with limit on the supporting fund was able to carried out. Therefore local-customized business became practicable. In addition, the newly passed Clause 2, Article 13 allowed regions where degree of local opposition was severe to receive financial support from developmental industries in addition to existing subsidies which will provide more room for additional execution of supportive businesses. Therefore the supporting fund for the near-NPP area of the nuclear power plant has increased 4 times to 10 times.¹²

¹² "Gukgabupryung jungbo center: bupryung" [Korean Laws Center: Korean Laws]. In Korean Laws Center, accessed June 1, 2013, <http://www.law.go.kr/lsInfoP.do?lsiSeq=136937&efYd=20130323#0000>.

However, the problem is that the wholesome demurrer is not well accepted under this economic compensation policy. People in charge of local acceptability management tended to interpret local residents' demand as a means to achieve larger compensation. Mr. Kihong Kim, who is in charge of managing local acceptability in the Uljin KHNP said,

“From the nuclear waste vitrification, steam generator replacement, and Gyeongju's waste repository to the simple conflicts around local cafeteria ... these are all related to their own compensation, financial compensation and economical compensation. After all, what they say is all related to money. They bring up all these things to get more compensation.”

Local residents pleaded trouble under the KHNP's frame. Yong-wha Seo, prosperity chairman of Weol-ne village, which is the nearest village of Gori NPPs, answered the question for their cooperative manner to the government's NPP policy as below;

"The reason that we don't demonstrate isn't that we don't feel anxious. Villagers' living is threatened, because within 5 km around the Gori plant was bound as the Greenbelt. If the discussion about the safety is getting larger, villagers' living will be more threatened. Besides, when we say that we feel anxiety, people's awareness about the near-NPP area will be getting worse. And this will make situation worse. We are just suppressing."

Mr. Seo's claim implies the acceptability is mere a constrained one and may not represent public sentiment on NPPs.

IV. Paradox of 'high acceptability-low credibility'

KONEPA (Korea Nuclear Energy Promotion Agency) conducts public survey every year and reflects people's voices in policies. Although the size of public survey has been reduced since Fukushima incident, it is continuously being performed. However, as discussed above, it merely acts as another tool used by government to enforce high acceptability based nuclear policy and cannot be used as a standard to understand the locals.

[Table 1] Public survey results on NPP for 1993-2009, KONEPA

연 도		1993	1995	1997	2000	2002	2005	2006	2007	2008	2009
원자력발전 필요성		85.5	85.5	83.1	84.4	83.9	95.4	86.8	82.8	89.8	83.7
원전 안전성		34.4	30.5	38.6	33.6	37.6	70.6	46.0	51.4	58.3	61.1
방폐물 관리 안전성		23.1	22.8	26.3	23.4	41.5	53.7	41.3	53.4	64.6	59.6
원전 건설	신규 증설	74.7	55.5	59.1	48.3	39.2	64.9	52.0	43.6	41.4	50.6
	현상 유지	14.1	27.1	28.2	34.0	48.5	28.1	28.5	38.2	51.2	39.7
거주지 수용도		14.0	12.4	22.1	10.9	16.2	50.5	22.3	27.4	23.7	26.9
조사 회사	방법	면접	면접	면접	면접	면접	전화	면접	면접	면접	면접
	모집단	만18세 ↑	만18세 ↑	만18세 ↑	만18세 ↑	만18세 ↑	만20세 ↑	만20세 ↑	만20세 ↑	만20세 ↑	만19세 ↑
	크기	2,000명	1,525명	1,524명	1,500명	1,007명	1,542명	1,548명	1,548명	1,500명	1,500명
	표본 오차	95%±2.2%	95%±2.5%	95%±2.5%	95%±2.2%	95%±3.1%	95%±2.5%	95%±2.5%	95%±2.5%	95%±2.5%	95%±2.5%
	기간	93. 9	95.10	97.10	00.11	02.12	05.12	06.12	07.12	08.12	09.10
	회사	갤럽	갤럽	갤럽	TNS	R&R	갤럽	한국	R&R	R&R	미디어

Table 1 shows the nationwide public survey results conducted from 1993 to 2009 by KONEPA. KONEPA relates ‘NPP Safety’ criterion to credibility and states that “credibility on safety of domestic NPPs is generally increasing among people”¹³. However, it is not adequate to interpret ‘NPP is safe’ as a belief that nuclear plants are being well-managed. Also, additional surveys asking people why do they think NPP is safe states that 47.1% answered due to its ‘world wide use’, 43.2% on ‘meticulous management’, 35.3% on ‘trust on nuclear power technology’ and etc.. This reports about 1/3 of survey participants who answered ‘NPP is safe’ trusts Korea’s nuclear plant management.

Based on the survey, it is true that credibility on NPP is gradually increasing; this level of trust is relatively low compared to public conception on need for or acceptance on NPPs. Furthermore, there is no clear and appropriate index for criteria for public survey to quantify the level of ‘credibility’. This reflects Korean government’s inclined focus on NPP acceptability over formation of trusts among people.

In addition, above survey is conducted during so called ‘nuclear power renaissance period’ in which Korea, in particular, was facing a large scale advertisement on winning the UAE nuclear plant contract. Thus, recent (closed-door) results cannot be interpreted as the optimistic preview of public sentiment like above.

Mr. Hyung-sam Kim of Gun-Nam leads the pro-nuclear group in Uljin. He claims that “construction of new nuclear power plant should be carried for the long term benefit of Uljin. Compensation from the hosting the plant should be spent on cutting taxes, developing infrastructure, and etc. in promotion of accommodating businesses for future economic independence of the city.” He explained his conversion

¹³ KHNP, “2010 wonjaryuk baljeon baekseo” [A Paper on the Development of Atomic Power 2010]. In Administrative Publication, number: 11-1410000-00273-10.

from anti-nuclear to pro-nuclear side: “I realized there is no victory in blindly being against it”, “After a long time of being an anti-nuclear activist, there was no other choice but to give in.” He criticized anti-nuclear or free-nuclear advocates as being “impractical and idealistic” and said that their actions are “inconsiderate of local residents’ economic condition.”

However, even Mr. Hyung-sam Kim answered negatively to the question on the NPP management credibility. He said “Of course I can’t believe.” He also commented, “However we should consider local’s realistic situation”, which implies his support on building additional NPP in the region was not based on credibility but somewhat realistic interests such as economic factors.

However, credibility would be more crucial factor than acceptability in the long-term consideration. Acceptability without credibility can be easily collapse in urgent situation. In addition, especially the case of Korea, which did not sufficiently build response strategy on extreme situation about public sentiment, is expected to be hard to control the situations and makes people to be worry.

1. Impoverishment of near-NPP regions: case study of Uljin and Gori

Another interesting discovery in the fieldwork was that local people rather think that economic compensation impoverished the local’s economic basement. In the case of Uljin, anti-nuclear movement and local cultural movement were performed in a line of connection. Kyu-bong Lee, the local anti-nuclear activist, was also a person in charge of ‘Keumgang pine tree restoration movement’. He also worked for ‘Local history museum project’. Hyo-sun Nam, the traditional local opinion leader of anti-nuclear movement was majored in regional studies and studies long times to reveal the local value of Uljin. He is also a chair person of local press.

Gori, which has been tied into Greenbelt upon construction of NPP, is worse than Uljin. Local residents say “NPP harmed the local’s potential for development”. Yong-wha Seo have nostalgia on the past prosperity of his homeland. When he recalled “a richest village in the Busan area”, his hometown in the past, he critics NPP that “the local economic and cultural base was completely destructed due to the NPPs” and “local residents have endured a huge sacrifice” He argues that the economic compensation through SSP-law is only prosper and even “KHNP should compensate the distorted local’s potential to be developed”

Amount of compensation is increasing year by year and superficial acceptability is satisfactory. However, the problems are festering under the surface. Actually, Uljin and Gori are both the fishing industry based village and their impoverishment cannot be said caused by only NPP building. However, there is definite need to improve government NPP management policy.

[Picture 2] Chinon's wine label including the picture of local nuclear power plants, Gabrielle Hecht (2009)



Above picture is a wine label in Chinon, France. It includes a local nuclear power plants. Gabrielle Hecht introduced this case in his book 'The Radiance of France' as the good case of NPP melted into the local culture. Despite, there was a violent objection toward NPP when it was first decided to be built in Chinon, current relationship between local residents and NPP promoters are very fine. Chinon's NPP has its characteristic un-authoritarian culture. Therefore workers could talk about their job relatively freely, and it led to increase transparency of local NPP management. The transparent management sometimes caused small-scale conflicts, but it ultimately occurred a huge credibility on local NPP. The residents started to involve NPP in their community and that "cute" NPP could be used for the label of local products.¹⁴ In contract, an anonymous technical worker in Uljin KHNP said, "Although I lived over 20 years in Uljin, I feel like I am still a stranger here"

V. Alienation Between Local and the Outside led Scanty Oppositions and Corrupted NPP Management
Finally, I would like to discuss the alienation between local and the outside due to the SSP-law and reveal how it led to scanty opposition and corrupted management of NPP.

1. The New Conflicts between Surroundings and Outsides after Fukushima

In Aprin 21st, which was soon after the Fukushima nuclear accident, Busan city council's Sung-Suk Lee, Jae-Gap Lo, and Il-gwun Lee, and 60 district representatives and members of local legislative body issued declaration for "the shutdown of Gori NPP Unit 1" and "the rescind of building new nuclear plant in Busan". Almost 1/3 of Busan members of district representatives among 182 people were joined for this declaration. Gori NPP Unit 1, which is the first nuclear plant in Korea, stopped running June 2007 after the first operation in April 1978 and reactivated for 10 years from January 2008. However, none of the

¹⁴ Gabrielle Hecht, *The Radiance of France* (Cambridge: The MIT Press, 2009), 201-270.

members of Kijang legislative body where the plant is placed were signed for this declaration for the shutdown of plant. It doesn't mean they're with the reactivation; it is clear that there are disaccord about the Gori NPP Unit 1's reactivation between the surroundings and outsides of the plant. We met Mr. Hong-Bok Kang, member of Kijang legislative body, to ask about this controversial topic. "This problem (reactivation of Gori NPP Unit1) is not to be opposed. They (who are asserting the shutdown) don't know the fact." He stressed. As a vice-chairman of the Civil Environmental Monitoring Unit, he said he sometimes get angry to the attitude of KHNP which attempts to hide the information. He also said "However, this is totally different topic with the life extension of NPP Unit 1". He told that life extension is very complicated problem that many issues like compensation are involved. Also, he said "It is residents' opinion that Gijang is not opposed to the Gori NPP Unit 1's reactivation."

2. Economic Compensation Decides the Boundary between Surroundings and Outsides

It is noticeable that there are divergent opinions about the scope of 'surrounding' that Mr. Kang said within that local community. According to Mr. Kang, he limits the Gijang Gun as the 'surrounding'. However Mr. Gap-Yong Park, village foreman of Gilchun which is the nearest town situated less than 5km away from the Gori plant and Yong-Wha Seo, prosperity chairman of Weol-ne, separated themselves by calling Gijang villagers as "those people", because Gijang is farther than their village from NPP. They are hostile toward the district council and Gijang villagers. "District council using budget at other areas to get the votes even though SSP-law clearly state that budget must be used in the areas within 5km from the plant". In regards to the newly getting interested people in Seoul and Busan, he criticized "Those people are just onlookers who are not get involved." It is very interesting that when Mr. Kang or the nearest villagers decide the boundary of 'the local' and claim their right, both sides follow the standard that SSP-law determined. It means that 'economic compensation' is the cause of the different standpoints about the nuclear plant. Therefore, it seems clear that economic compensation is one of the most important decision-maker. However, according to the fact that Gilchun, and Weol-ne villagers who are living in most supported village are demanding collective migration, it will be the hasty generalization if we claim economic compensation is the only factor. Just like the previous survey, people demand trust, safety, and clarity, in addition to the economic compensation when accepting the nuclear plant. If we ignore these demands and just make policies for more economic compensation, it can cause more problems like interregional conflict. Demands for the values more than the economic compensation is getting larger after the Fukushima nuclear accident.

3. Outsides' Increasing Demands for Safety and Transparency after Fukushima

Society for the Busan regional lawyers applied for an injunction to the Busan district court for the shutdown of Gori NPP Unit 1 which is being operated more than 30 years, well over its life expectancy. They asserted Gori NPP Unit 1 must be stopped because it is old and dangerous and there are lots of unchanged parts. Also its outer wall is getting weaker. We met Mr. Dong-Gyu Kang who is the main lawyer of the suit and heard detailed story. In an answer to the question asking why did he decide to file

this suit, he said that "Before the Fukushima nuclear accident, I don't know well about the regional nuclear plant. However after the accident, I realized that range of the nuclear accident is quite wide. Therefore I got worried about this" and he goes on "KHNP is managing nuclear plants without releasing the result for the safety evaluation. Our suit is neither the opposite for the nuclear power, nor the demand for the shutdown of Gori NPP Unit 1. There are opinions claiming that there are problems on the safety of the Gory plant, and the Fukushima accident aroused public's attention. Therefore our demand is simply temporary cessation the Gory NPP Unit 1 for safety check."

After that, he told about the difficulties during the case. "There are so many limitations of the information that we can get, after the suit there were few information about the nuclear plant that we could access. Even though those accessible information was limited in terms of the time and the place by KHNP. Safety evaluation report was allowed for only 30 minutes. It was too short for the non-experts." He said he got to know KHNP is authoritative and hiding.

4. Alienation between Local and the Outside led Scanty Oppositions and Corrupted NPP Management
Another difficulty was on the process to recruit the citizen plaintiffs. In Korea, public suit is not widely recruited. It consumed many time to recruit citizen plaintiffs, but through the internet they finally recruited 97 citizen plaintiffs. Lawyer Kang said awareness for the nuclear safety and clarity of the information is growing. However there were very few Gijang villagers involved in the citizen plaintiffs. He said that "They are concerned about not only the safety, but also the compensation. So position can be different."

In this manner, when environmental organizations join the negotiation table, they do no more than providing locals appropriate reasons for financial compensation in many cases. Representative Mr. Lee Hun Seok of free-nuclear organization Energy Justice Movement described these phenomena as "A bit bitter but inevitable, the goal of local residents and ours are definitely different and we cannot intervene that kind of (related to compensation) discussions. When we're debating about (anti-nuclear) movements the story always boils down to financial issues. And I think that is understandable". However, Hyo-sun Nam in Uljin argued somewhat regret on this issue.

"Due to the different interests of local and outside activists, it is hard to work together. It is frustrate situation that no single large-scaled group exist to influence on KHNP's arbitrary decision."

Prof. Kyun-ryeol Seo, in department of nuclear technology in Seoul National University, also criticized the problem of 'nuclear cartel', which causes the corruption of the NPP management and argued that the absence of the influential opposition power on NPP issue led current situations.

VI. Conclusion

The paper criticized Korean government's public acceptability management policy on nuclear field. With its huge dependence on public acceptability, the policy maker often passed over other important factors in NPP policy and introduced economic-compensation-focused policy to get cooperation easily. However those kinds of policies caused various side effects: paradox of 'high acceptability-low credibility', enslavement of local economy by nuclear plant, and alienation between regions and outside, which can cause Scanty Oppositions and Corrupted NPP Management.

To overcome the problems, the Chinon's case introduced in this paper is important. The case showed that how transparency can build credibility and be concluded in health relationship between people and NPP operator. Actually, French performed huge reformation on nuclear management policy on 2006 based on this kind of logic model. 'Program act on transparency and security on nuclear matters' has been passed on June 2006. This law reinforces the independent regulations on France's nuclear activity and allows publics to get the immediate and accurate information about it.

Alain BUGAT, the director of the French CEA, visited Korea in 2007 and gave a lecture, telling about the cause of such change in France. He said, "Every related parts of nuclear energy should provide honest and clear information to the public. It takes a long time of effort to gain trusts form the public, but if the cover-up occurs, it can disappear in a moment"¹⁵, clarifying that the system reformation in France was to improve the receptivity through enhancing the public trust. Like France made 'transparency' and 'trust' as their most important political principle this is time to get out of constrained nuclear management policy and build new principles in Korea.

¹⁵ Alain BUGAT, "France wonjaryuk boonya ũi hyunwhang gwa jeonmang mit jeon segae wonjaryuk renaissance rŭl ũI han France ũI vision, wonjaryuk sanup" [The perspectives and present conditions of France's Atomic Power; its Vision and Industry on the Renaissance of World Atomic Power] Paper presented at the 22nd Korean Atomic Power Convention, Seoul, April 17-18, 2007.

Reference

- Alain BUGAT, “*France wonjaryuk boonya ũi hyunwhang gwa jeonmang mit jeon segae wonjaryuk renaissance rŭl ũi han France ũi vision, wonjaryuk sanup*” [The perspectives and present conditions of France’s Atomic Power; its Vision and Industry on the Renaissance of World Atomic Power] Paper presented at the 22nd Korean Atomic Power Convention, Seoul, April 17-18, 2007.
- Cha, S.-J. and Min, E.J., “*Bangpaijang Bujisunjeong ũl dul laussan galdŭng gwa minjujuŭi*” [Conflicts on Choosing a site for Radioactive Waste Disposal facilities and Democracy]. In ECO 10.1 (2006): 43-70.
- Choi, M.-A., “*Wonjun, Daejeonwhan shijeom watda: Bangpaijang Ter Eiship nyeon gan a-hop cha rae bunbok*” [Structure of Nuclear Facility, Going Back and Forth: A site for Radioactive Waste Disposal facilities has been disputed 9 times over 20 years]. In Kyunghyang shinmun, April 13, 2011, accessed June 1, 2013, <http://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=102&oid=032&aid=0002124271>
- Choi, M.-A., “*Walsung wonjeon ingeon jiha ae o-ship km hwalsung dan chung*” [Walsung Nuclear Facility, Active Fault in nearby basement]. In Kyunghyang shinmun, June 20, 2011, accessed June 1, 2013, http://news.khan.co.kr/kh_news/khan_art_view.html?artid=201106200324135&code=940701
- Chung, “*Banpaijang ipjisunjeong ae seo jeonmoonsung ũi jungchiwa gwahak gisuljuk anjunsung damron ũi gunyul*” [Division between Politics and Scientific Technology on Selecting a site for Radioactive Waste Disposal Facilities]. In Kyunjaewa sa hwai tong gwan 93 (2012): 72-103.
- Dawson, Jane I., and Robert G. Darst. "Meeting the challenge of permanent nuclear waste disposal in an expanding Europe: Transparency, trust and democracy." *Environmental Politics* 15.4 (2006): 610-627, accessed June 1, 2013, doi: 10.1080/09644010600785226
- Frewer, L., Rowe, G., & Sjöberg, L., “The 10th Anniversary of the Chernobyl Accident: The Impact of media reporting of risk on public risk perceptions in Five European Countries”, Reading: Institute of Food Research (1998), accessed June 1, 2013, http://www.dynam-it.com/lennart/attachments/116_frewer_rowe_sjoberg.pdf
- Gabrielle Hecht, *The Radiance of France*. Cambridge: The MIT Press, 2009.
- Hagendijk, R. and Irwin, A., “Public Deliberation and Governance: Engaging with Science and Technology in Contemporary Europe”, *Minerva* 44 (2006): 167-84, accessed June 1, 2013, doi: 10.1007/s11024-006-0012-x
- KHNP, “*2010 wonjaryuk baljeon baekseo*” [A Paper on the Development of Atomic Power 2010]. In Administrative Publication, number: 11-1410000-00273-10
- Kim, Y.-J., “*Bangpaijang ipjisungjung gwajung ũ i jung check network bunsuk-Kyungjoo ji yuk youchi hwaldong ũl joongshim ũro*” [Analysis on the Political Network of the procedure on selecting a site for Radioactive Waste Disposal Facilities- Focusing on the Kyungjoo area]. In *Korean Studies Information system* 2005. Dan il ho (2005): 213-242.
- KONEPA Blog, <http://blog.naver.com/energyplanet?Redirect=Log&logNo=10122409367>

Marc Dumoulin, "Worldwide Barometer of Views on Nuclear Energy After Japan Earthquake", Win Gallup International, April 19, 2011, accessed June 1, 2013,
http://survey.dedicated.be/Tabular_Presentation.pdf

Park, J.-H., Lee, G.-Y., and Lee, S.-H., "*Wonjun ji ūl ddang, anjungsung gumsa boda jumin seomyung buter bat nŭn nara* " [A Country considering Permission of residents prior to the Safety problems for building Atomic facilities]. In Hankyoreh, March 28, 2011, accessed June 1, 2013,

<http://www.hani.co.kr/arti/society/environment/470181.html>

"*Gukgabupryung jungbo center: bupryung*" [Korean Laws Center: Korean Laws]. In Korean Laws Center, accessed June 1, 2013,

<http://www.law.go.kr/lsInfoP.do?lsiSeq=136937&efYd=20130323#0000>

