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Essay

Environmental Conflicts and Activism with Industrialization in South Korea

When South Korea launched the first 5-year economic development plan in 1962 to industrialize Korea, little attention was given to the environment. The industrialization process has been successful and as a result, the quality of the environment has been continually deteriorating in South Korea resulting in numerous environmental conflicts. The earliest environmental activism that arose was the struggles of the inhabitants in industrial complexes for survival. The government removed inhabitants from the affected areas instead of solving the root causes of the environmental problems. The activism began to disperse into areas surrounding metropolitan cities and industrial areas and even into rural areas as environmentally-susceptible facilities such as nuclear waste repositories and landfills, which often resulted in violent riots. The environmental conflicts have been aggravated since numerous construction projects have boomed in the country. In particular, the so-called National Policy Projects such as large-scale reclamation as well as dam and road construction brought forth nationwide environmental conflicts and activism. Such conflicts often resulted in the breakdown of communities as well as serious economic loss to their inhabitants. Most of these conflicts share common causes, i.e., undemocratic processes in decision making, lack of fair impact assessment procedures, and severe economic loss to the local inhabitants. All of the processes used to resolve the conflicts, e.g., negotiation, mediation, arbitration, and ultimately lawsuits have been painful and costly. Transparency and democracy in the decision-making process and the fairness in impact assessment are essential to prevent such conflicts or to resolve them. In addition, the voice of the minority victims should not be ignored. In order to ensure this, sustainable governance building is necessary incorporating the government, corporations and citizens. Sustainable development is the key issue to help prevent environmental conflicts arising. There have been positive aspects of the environmental activism, e.g., through the activism, the communities have been strengthened, environmental awareness has risen and social capital has built up.

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1 Changes in Environmental Ethics with Industrialization

Korean people used to have very strict environmental ethics in the past. During the Chosun Dynasty (1392 – 1897), environmental crimes used to be punished by the constitution, i.e., Gyeonggukdaejeon. Illegal logging of trees, destruction of forests, dumping of wastes such as ash and manure and pollution of rivers used to be severely punished. In one such example, according to the constitution, the penalty for illegal logging in 'Forbidden Mountains' designated to protect green areas, which was equivalent to the 'Green Belt' system in England today, was ninety lashes plus restoration of the damaged trees. However, the actual penalty enforced by ordinances was harsher, e.g., the penalty for illegal logging of a pine tree used to be one hundred lashes, one hundred lashes plus lifetime military service for two trees or more and one hundred lashes plus deportation to Manchuria [1] for ten trees or more. The dumping of ash or manure was punished with thirty to eighty lashes and damaging forests by releasing cattle with one hundred lashes [1]. Hendrick Hamel, a Dutch sailor who drifted to Korea after being shipwrecked in the 17th century, reported that one hundred lashes in Korea could result in death [2].

Koreans did not regard nature as a resource for human use but regarded human beings as members of nature, and sought a life in harmony with it. They regarded such acts as the destruction or pollution of nature or the wasteful use of resources as crimes that would incur divine wrath.

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Houses and towns were built so as to minimize damage to the environment and the use of energy and resources. Houses were usually built facing the south with mountains to the north to fence off cold wind and maximize the use of sunlight. The Korean *ondol* is a good example of the thrifty use of energy. It is a heating system that warms up a house using exhaust-gas channels built under the earthen floor, connected to the cooking fireplace in the kitchen. The act of cooking twice a day was enough to warm the house all day long. It is one of the most efficient heating systems in the world. Towns and cities were usually not built on open plains, since these were ideal places for agricultural farming.

People sought a life in harmony with nature. They were frugal in their use of resources and avoided pollution to almost a perfect level. All resources were recycled and there were no wastes to be disposed of. Vegetable gardens and domestic animals were used to recycle food wastes. Night soil and ashes were used for compost. Dish water was used to boil straw for cattle fodder. Even pouring hot water on soil was regarded as sinful because people thought it would kill the soil. Villagers used to establish financial clubs to plant trees in mountains. All the rivers in Korea were of drinking water quality until 1960.

The Korean environmental ethics was deeply shaken during the Japanese invasion. Japan, gaining power over Korea after murdering Queen Min in 1895, began to exploit Korea's forestry resources and did it openly after winning the Russo-Japanese War in 1904. Korea was annexed to Japan in 1910. According to the survey, by 1910 Korean forests had already been reduced to 700 million m^3, which is equivalent to 46 m^3/ha in density. This was again reduced to 200 million m^3 or 13 m^3/ha in density by 1945, i.e., almost a 70% decrease in 35 years [3]. Elderly people reported that the Yalu River and the Busan Harbor used to be covered with log rafts to be shipped to Japan. The deforestation activity became extremely severe during the last stages of World War II. Koreans were forced to supply charcoal to Japan for energy to support the war since Japan did not have enough energy sources at that time. Thus, people had to cut down every available tree. As a result, mountains near villages became completely bare.

The remaining forests were further devastated during the Korean War (1950 to 1952). In 1952, when the war ended, the forests were reduced to 36 million m^3 in South Korea or 5.6 m^3/ha in density. The deforestation had an enormous impact on Korea's environment. The land could no longer control floods or droughts and there was heavy soil erosion and rapid degradation of soils. In addition, the destruction of the environment was no longer considered as a crime.

When the South Korean Government launched the first 5-year economic development plan in 1962 to industrialize Korea by following Western countries, the environmental ethics were completely changed. The per-capita income in 1962 was only US$ 82, less than half the US$ 79 in Ghana during the same year [4]. The environment was regarded as an enemy to the economy, so that even mention of the environment was regarded as national treachery. Prof. Jong-Hoon Won of the Busan National University of Fisheries was abducted by the KCIA (Korean Central Intelligence Agency) and tortured after publishing the environmental pollution levels of fishery farms. The dean of the university was fired. Prof. Won reportedly died a few years after from the injuries of the torture. It is well known in Korea that Prof. Won was tortured by KCIA, but the cause of his death a few years later was not clearly known. However, one of his former students insisted that torture was the cause in personal communication with the current author in 1999.

The government encouraged environmental pollution rather than controlling it. There used to be an environmental law called the Pollution Prevention Law. However, the law was so lax that industries, even those not operating treatment facilities, were in no way hindered by it. Such loose environmental policy inevitably invited pollution-causing industries to Korea from abroad. Mr. Lawrence Summers, former Secretary of the Treasury of the USA, insisted that pollution should be exported to developing countries. He listed three reasons. Firstly, the cost of health-impairing pollution is lower because labor cost is cheaper in developing countries. Secondly, the impacts of pollution are less pronounced in developing countries because they are under-polluted. Thirdly, the demand for a clean environment is lower, because the life expectancy is shorter in developing countries so that pollution-related diseases such as cancers are less likely to inflict people living in these countries [5]. Such an idea is clearly shown in the following example. A plant for producing rayon, a synthetic fabric, infamous for the toxic gas CS_2 used to operate in the USA injuring many employees. When the compensation became expensive, the plant was exported to Japan. The plant was later exported to Korea and finally to China, resulting in serious health damages including mortality to employees and neighbors in each of these countries.

One of the main reasons that Korea's environment was left to undergo a serious degradation is that the public was not aware of the seriousness of the environmental problems. Until South Korea was democratized in 1987, the mass media used to be strictly censored with respect to reporting environmental problems by the military government. In addition, the environmental victims were not allowed to talk to the public. They did not have proper channels to convey their complaints to the government or to the public. There were severe damages in industrial sites such as in Ulsan/Onsan and Yeocheon, but the public did not have any formal information concerning them and people were not allowed contact with the victims. Any such attempted contact was considered as mutinous towards the government.

2 Development of Environmental Conflicts and Activism with Industrialization

The South Korean industrialization policy has been successful and as a result the quality of the environment has continually deteriorated over recent decades. The earliest environmental problems observed since South Korea began industrialization were damages inflicted on farmers and fishermen around industrial areas such as the Ulsan/Onsan and Yeocheon industrial complexes, e.g., several farmers in Samsan Plain in Ulsan committed family suicide when they their crop harvest failed because of industrial air pollution. In addition, there were riots in Onsan near a petrochemical industrial complex, when the villagers could not find safe water to drink. It was reported that some inhabitants had been suffering from 'Onsan Disease', which the government failed to recognize. However, their life-or-death struggle for survival was not publicized because of the strict censorship. In 1985, the government decided to remove about 37,000 inhabitants from the area of the Ulsan/Onsan industrial complexes for fear of health problems as well as damage to agricultural and fishery crops [6]. These incidents helped awaken the environmental awareness of the people. Similar conflicts and activism were also observed in the Yeocheon industrial complex.

There have been numerous environmental conflicts related to industries even after democratization in 1987, but they have been resolved in a much better way through negotiation and mediation, e.g., environmental conflicts from locating a petrochemical complex in Daesan-eup and a TDI plant in Gunsan City have been resolved through mediation, while a titanium dioxide plant in Ulsan City was refused permission by the inhabitants.

The environmental activism, which formerly used to be limited to industrial areas, began to disperse into areas surrounding metropolitan cities and industrial estates and even into rural areas as waste disposal sites or other environmentally-susceptible facilities were built in these areas. Until this time, there had not been any reliable waste treatment facilities, which themselves had been serious pollution sources. In 1990, the residents in Bansong-dong, Busan City, opposing the construction of an industrial waste disposal facility, blocked the road to the site and initiated a violent demonstration, which led to the cancellation of the project as well as the arrest of the leaders of the violence. Residents in other industrial wastes facilities, such as in Hwaseong City and Gyeonggi-do Province, demonstrated violently against them, which contributed much in improving the environmental management of the facilities.

There have also been numerous conflicts with solid waste landfills. The conflict at the Capital Area Landfill Site, one of the world's largest, which covers Seoul City, Incheon City and Gyeonggi-do Province, is noteworthy. The inhabitants around the landfill asked for investigation of the environmental safety and demanded their rights to supervise the management and the processes to insure environmental safety. They screened out industrial wastes and even decided not to accept food wastes at the landfill, which was the main cause of the odor. Due to that decision, food wastes are collected separately for composting or animal feed in South Korea. These conflicts have contributed much in improving the waste policies of the South Korean government.

When the government launched incineration campaigns for solid wastes, the inhabitants around the proposed incinerator sites began anti-incineration movements. The sporadic local movements became nationwide through networking between local groups with the aid of environmental NGOs and environmental experts. The demonstrators had to look for alternative solutions since just opposing the ongoing project would not succeed. Therefore, they launched campaigns to reduce and recycle wastes in order to remove the requirement for incinerators. They studied the available technologies and established markets for processed wastes, e.g., compost and animal feed. Their strenuous demand for improvement is now evaluated as the motive for upgrading the government's solid wastes management policy for many years ahead.

There have been serious conflicts related to the situation of nuclear wastes facilities. In 1990, there was a violent riot in Anmyeon-do Island, a remote island on the West Coast, opposing the government's plan to build a nuclear waste disposal facility. The government buildings and properties were set on fire and there were many casualties among the citizens. The project had to be cancelled. Later, the government looked for other candidate areas such as Guleop-do and Buan-gun, but each time the people around these sites vehemently opposed the plans. Finally, the government decided to offer 300 billion wons and other incentives to the local government that would host the low and medium wastes separated from the spent fuel. Gyeongju City was chosen as the recipient in 2005. However, conflicts still remain with the inhabitants of the repository site and Ulsan City. The inhabitants in the repository site oppose it in spite of the incentives and Ulsan citizens think they are affected but not compensated since part of Ulsan City is closer to the site than the downtown Gyeongju City. In addition, even more serious conflict remains with the matter of the spent fuel, the disposal of which has been postponed.

There has also been environmental activism against golf course developments. Golf courses in South Korea are usually constructed on steep mountainous hills, frequently on forests and crop fields. Golf courses built upstream of farming villages can cause damage to them by reducing irrigation water during the dry season, increasing flood flow during rainfall and polluting waters from the pesticides and fertilizers used. The small population of local country farmers could not stop the construction being undertaken by large companies, so that they formed a coalition and turned the matter into a nationwide movement.

Numerous environmental conflicts have arisen since the government launched large construction projects such as roads, dams and coastal reclamations. The so-called National Policy Projects such as Seoul-Busan high speed train, Incheon international airport, Donggang dam, and Saemangeum reclamation, the world's largest ever reclamation project, have especially turned the conflicts into nationwide ones. After the economic recession in 1997, people began to realize that those projects with environmental problems were also partly responsible for the economic failure. About 70% of the people nationwide opposed the Seoul-Busan high speed train, Dong-gang dam and Saemangeum reclamation [7]. As a result, the government organized re-evaluation committees for the Saemangeum reclamation and the Dong-gang dam, pushed by the public. As a result, the Dong-gang dam was cancelled in 2000. However, the government decided to resume the Saemangeum project after further investigation in 2001. The civic groups brought the case to court, but finally lost at the Supreme Court in 2006. In case of the Dong-gang dam, the upstream inhabitants who would have to evacuate or lose their lands were against the project, while the downstream people who expected benefits from flood control were in favor of it, but the people nationwide were against it. In the Saemangeum case, the fishermen who would lose their livelihood opposed it, while the majority of the neighboring provincial people who expected economic benefits from the development were in favor of it, while the people nationwide were against it. However, the most serious conflicts were between the victims and the government. Since Mr. Myung Bak Lee, former CEO of Hyundai Engineering & Construction Co., was elected as the president of South Korea in December 2007, a new nationwide environmental conflict has been brewing over the ‚Grand Korean Canal Project', which will form canals from the major rivers of the Korean Peninsula. President Lee keeps pledging that he will start the construction within a year and complete it within his term of five years, by enacting the ‚Special Act for the Grand Korean Canal', which will weaken the environmental impact assessment law [8]. It is the largest construction project ever in Korea, and the conflict is also going to be the largest one. Allied civic groups nationwide are preparing for a big battle.

Since South Korea started local autonomy in 1991, conflicts have arisen between communities, e.g., one community wants to develop a certain project that adversely affects the environment in other communities. Daegu City tried to build an industrial complex in Wicheon, which is located upstream of the drinking water source of Busan City, but the attempt was finally in vain. Sangju City tried to build a spa resort discharging the wastewater to Chungcheongbuk-do Province, also in vain. Jeollanam-do Province is planning to build

a solid waste treatment facility near the border with Jeollabuk-do Province, which is bound to cause conflict.

These environmental issues do not just remain as conflicts between government and communities or between developers and communities. They very often result in the breakdown of local communities. The government and developers usually look for support from local communities and succeed in organizing support groups consisting of those who will benefit from the development such as from large compensation and related business, which results in conflicts within the communities bringing irreparable tragedies to such communities.

It is now being realized that the Korea's environmental problem is not just an isolated domestic one but is affected by and affects the Northeast Asian regional and global economies. As one such example, the air quality and the acid deposition in the Korean Peninsula are greatly affected by emissions from China, which is causing an international conflict. In addition, the reclamation of wetlands in the West Coast affects the world's wildlife population. The Saemangeum mudflats are a very important stopover place for migratory birds in the whole Eastern Asian flyway stretching from Eastern Siberia to Australia and New Zealand. Some sandpipers found there come directly from Australia after a week-long nonstop trip. Then they fly further to Siberia after being nourished at the mudflats. It is believed that ca. 80% of the migratory birds found in Japan arrive there by way of the Korean Peninsula. Since more than 50% of all the migratory birds passing Korean Peninsula stopover at the Saemangeum mudflats [9], the reclamation project has an enormous impact on the migratory birds in the whole of Asia and Australia. Therefore, the Korean environmental conflicts are becoming international ones.

By experiencing numerous environmental conflicts, the environmental activism in South Korea gradually set foot in the political arena, e.g., by monitoring the National Assembly members' legislative activities, launching election campaigns, etc., which earned public support and had a big influence on the elections, especially in 2000 where the majority of the target politicians were either not nominated as candidates or not elected at the ballot. Nowadays, the environmental NGOs in South Korea are the strongest among Asian countries.

3 Causes of Environmental Conflicts

Most of the environmental conflicts in South Korea arose from the undemocratic process in decision making. Most of the projects with environmental conflicts were planned and decided by a few politicians or the government officials without hearing or reflecting opinions from other stakeholders and/or the public. No matter how scientific and efficient the projects may turn out to be, it is difficult to have them approved by the stakeholders, unless they are invited to the decision making process and the process is democratic and transparent. Most of these projects used to be decided primarily from political motives other than through open discussions. Following this, the feasibility studies used to be fabricated merely to justify the decision, and the environmental impact assessments were nominally performed. Facts have been distorted in many reports, e.g., budgets have been lowered, economic benefits exaggerated and the environmental costs omitted. Such malpractices have not been punished in South Korea to date. Environmental conflicts follow these projects as a matter of fact. When the projects are based on false data, it is impossible to solve the roots of the conflicts unless they are cancelled, even with the verdicts from the Supreme Court or the final decision of the President of South Korea.

All of the projects with environmental conflicts have inflicted economic losses to the inhabitants from environmental impacts. The conflicts in the industrial areas such as Ulsan/Onsan, Yeocheon and Daesan arose from the damages in agricultural and fishery crops and health. In the case of the construction projects such as dams, roads and reclamations, people lose their land and livelihoods but the compensations continue be much less than the actual damages. One such example is where the average fisherman in Saemangeum earned ca. 20 million wons each year catching clams, aside from other incomes from fishing and seaweeds harvesting, but the compensation for each household for giving up their catching ground forever was only ca. 8 million wons [10]. In the case of wastes dumps and incinerators, the inhabitants suffer from depreciation of their real estates in addition to the inconveniences from the pollution.

Since democratization in 1997, development projects of a certain size are required to go through the public hearing procedure specified in the environmental impact assessment law. However, the environmental conflicts still continue. The reason is that in many cases the developers go through the processes formally and nominally but not fairly. By law, the inhabitants who are allowed to give opinions to a project are very limited. In the case of an incinerator, only the people living within 300 meters from the source have a right to voice their opinions even though the environmental impact is expected to reach much further. In many cases, there are no villages at all within that boundary. In the case of the Saemangeum reclamation project, only the fishermen who were to lose their living ground were allowed to participate in the impact assessment process, while the impact was nationwide. The civic groups brought the case to court, but only one fisherman among hundreds of plaintiffs was judged to have a lawful case.

The best way to notify the development plans in advance for public hearing is to directly send mail to the people who do not in actual fact form a great number. But the developers prefer to use advertisement columns in newspapers, which are rarely read by the inhabitants. In many cases, only those that can speak for the projects are invited individually to the public hearing, while most of the concerned inhabitants are totally unaware of it. The opinions that are usually favorable to the projects are reflected in the planning and those that are unfavorable are neglected. However, these procedures are still regarded as lawful even though unfair. When these cases are brought to the court, the developers backed up by the government officials usually win, since their documents always satisfy the laws. Both plaintiffs and defendants provide their own scientific evidence, real or fabricated, the judges are confused and they usually decide to respect the official documents, which the government can provide much more easily. In such cases, the conflicts are not really resolved even after the final verdicts are given.

The conflicts also arise from pollution damages, e.g., noise, odor, air pollution and water pollution. The compensation has been the main issue in such cases, which could be settled by negotiation, arbitration or legal action, but tends not to be.

4 Efforts to Resolve the Environmental Conflicts

The first attempt to resolve the conflicts has usually involved give-and-take negotiation. However, such negotiations have rarely succeeded in South Korea, since the gaps between the willingness to give and the expectations to take have been irreconcilably wide.

The next step, after such negotiations, has been mediation where the two parties nominate or organize a third body to mediate between them. Very often, the two parties insist that the environmental impacts are very different. Therefore, the joint investigations have usually been performed by experts recommended by both sides. The mediation is achieved based on the results of the investigation. However, different investigators very often produce different results depending on which party recommended them, so that it has not been easy to successfully mediate. This is especially the case when the government was one of the parties involved since the South Korean government is very strong and proud so that it is not easy for experts to contradict the government's stance [11]. A vivid example was the Saemangeum case, in which the central government and the allied civic groups fought each other. The joint-investigation committee consisted of 30 experts where each party recommended half of them. The two sides produced completely different conclusions [12]. However, it is true that via the joint investigation many facts are revealed and misunderstandings about the environmental impacts and mistrust towards each other are somehow alleviated. The only success case of the joint-investigation committee was the Dong-gang dam case. The reason was that the central government decided to quit the project in advance on the advice of the president of South Korea, so that the experts did not have to set their conclusions in advance.

In cases where the victim citizens nominated the investigation experts first and get the other party's approval, the conflicts should be rather easily solved. The methods and processes of the investigation and the logic of the conclusions should be approved by both sides. In this case, conclusions do not contradict each other, so that they just need to negotiate over the compensation and look for measures to reduce the environmental damages.

Arbitration is sometimes introduced when mediation fails, i.e., a neutral third body is nominated to make decisions to resolve the conflicts. In case of complaints about noise, odor and some air pollution, the damage levels of which are measurable, the National Environmental Dispute Resolution Commission, established in 1991, performs the arbitration in South Korea. Most of the citizens who suffer from environmental damages cannot afford to take their cases to court and the Commission does it for free including the investigation. The Commission tries to mediate first, and then announces decision on compensation when it fails. However, the decision is not legally enforceable. When the victims are not satisfied, they can take legal actions. The compensations decided by the Commission are usually considerably less than the court decisions, so that the polluters usually accept the outcome. The victim citizens usually accept it also because of the high cost involved in such legal action. When the government is involved in conflicts, it is hard to find an arbitrator since the government is too authoritative to submit to others. In the Saemangeum case, a conflict between the central government and the civic groups, the prime minister nominated himself as the arbitrator and made a final decision that the project should go on, but the civic groups still ignored it.

When all other efforts fail, the cases are brought to the court. The court nominates investigation experts out of several candidates usually recommended by the environmental victims who are the weakest people involved, and then tries to resolve the conflicts through mediation based on the investigation results. This is especially the case when citizens sue the polluters on issues such as noise, odor, air pollution and water pollution where mediation is tried first and then the order for compensation and environmental improvement follows the verdict. When the Saemangeum case was brought to the Seoul Administration Court, the judges reviewed all the scientific data submitted by both sides, and tried to mediate, but the government refused it and they lost. The case was appealed to the Seoul High Court and finally to the Supreme Court. The government finally won. Immediately after winning, the government changed the land use planning for reclamation from agricultural use to combined use of industrial, urban development, golf courses, etc., which was not lawful since the reclamation was licensed for agricultural use only. Therefore, the conflict still remains and the civic groups are waiting for a chance to fight back again. The legal action requires cost and time that ordinary citizens cannot afford and the conflicts are not actually resolved but are very often intensified instead.

5 Prevention of Environmental Conflicts

The best way to manage the environmental conflicts is to prevent them in advance. Several principles are recommended from South Korea's experiences. Firstly, the decision-making process should be democratic and transparent. When the citizens affected are not invited to the process, this brings conflict as a matter of fact. Most of the environmental conflicts in South Korea resulted from not hearing and/or reflecting the public opinions in the planning stage. This is especially true with all of the governmental projects that resulted in conflicts. Secondly, the minority environmental victims' opinions should be respected. Gyeongju City was decided as the nuclear waste repository site after a poll by the citizens, attracted by incentives that were hard to refuse. However, the voices of the immediate neighbors of the repository site were ignored in the name of democracy. Such decisions bring conflict. The Saemangeum case is similar since the majority of Jeollabuk-do provincial people pushed hard for the decision hoping for economic benefit but ignoring the difficult struggle of the fishermen losing their source of livelihood.

In Korean society, as in many other East Asian cultures, individual citizens are supposed to put up with inconveniences inflicted on them for the good of the whole society. In such an atmosphere, complaints from the minority suffering from environmental disruption in limited areas can be easily overlooked. When it comes to environmental issues, such practice may be very dangerous. When an environmental problem becomes the majority's problem, it may be too late to find a solution. A good example is the case of the pollution of the Nakdong River. It was reported that Doosan Electronics secretly had discharged 325 tons of phenol waste into a tributary of the river from November 1990 to March 1991 and that only a few people suffered as a result. Overlooking such an operation resulted in a big phenol spill in March 1991, which caused tremendous turmoil among over 10 million inhabitants along the river basin following complaints of diarrhea, sore throat, skin irritation, miscarriage and other symptoms. The Nakdong River has been experiencing similar spill episodes ever since. The government has spent over several trillion wons on the problem since, but still has not been able to significantly improve the water quality of the river. As a result, the quality of the environment has been deteriorating continually in South Korea. Most people do not trust public water supply as being safe. According to polls, about 99% of the Korean people do not drink directly from faucets [13].

Thirdly, all development projects should be in conformity with the idea of sustainability, so as to ‚meet the needs of the present

without compromising the ability of future generations to meet their own needs' as defined in the 'Our Common Future' document [14]. Since the concept of sustainability is not just limited to the economic and environmental aspects but extends to social and cultural aspects, development projects should be directed towards the betterment of the lives of individuals and communities in harmony with each other and with the environment. The Presidential Commission on Sustainable Development was established in South Korea in 2000. However, the function has been limited at advising the government on sustainability and it has no power over ministries on policies. It has even tried to resolve some environmental conflicts of national concern in vain since involved ministries would not accept the advice offered. The commission should have power over ministries to direct governmental policies towards sustainability.

Fourthly, the democratic environmental governance should be established by involving both citizens and corporations. The South Korean government has a very strong influence over citizens and corporations since big conglomerates enjoy considerable power, but citizens are helpless with respect to government. The government, citizens and corporations view the environmental problems differently. The government sees them as resulting from the lack of consciousness in citizens, the citizens see them as resulting from the lack of policies in government, and the corporations do not see them at all. Balance and harmony between the three are required for sustainable environmental management. The South Korean government used to take the citizens' environmental activism as a form of national treachery until democratization in 1987. Since then, the Ministry of Environment has been changed much and now has regular conferences with environmental NGOs over important environmental issues. However, other ministries more interested in development such as the Ministry of Construction and Transportation still do not respect the voice of citizens very much. About half of the South Korean population are willing to contribute to a better environment, but most of them cannot find any channels to do so [15]. The citizens' willingness has been clearly shown when more than million citizens volunteered to clean up the oil spill on the West Coast in 2007. All major South Korean conglomerates pledged environmental campaigns in the 1990's not just for companies but also for the local communities they belong to. In one such example, they designated ‚company mountain' or ‚company river' to the clean up [15, 16]. The citizens' willingness and the corporations' efforts can be good assets in environmental management if well managed. Companies in South Korea have their own local environmental associations to cooperate with the government and usually to defend themselves from the local people. The Ministry of Environment has been quite successful in narrowing the gap between the citizens through regular conferences explaining its policies to the environmental NGOs and reflecting their inputs to the policy. The corporations can do likewise. Korean companies are usually secretive about their environmental management, probably protected by the government. Initially, transparency is required in order to have dialogue with the citizens. Establishing environmental governance systems involving both citizens and corporations would help significantly in solving many environmental problems in South Korea. Committees consisting of the three parties that have authority in environmental policy as well as management and conferences to reach consensus among them on various environmental issues would be helpful.

6 Social Capital Building through Environmental Conflicts

Traditionally, Korean people strongly emphasized communal harmony where each community used to have its own communal codes for peaceful harmony with the environment and between members. However, such traditional communities were entirely broken down with industrialization and the centralization by the military government. The history of local autonomy is very short in South Korea, so that people now do not have any consciousness of being a member of a community and do not know what to do for the community effort. However, through experiencing environmental conflicts and organizing activism, people have begun to realize the values of their communities and the need to help each other. This is a positive aspect of the environmental activism. If the conflicts are managed badly, it brings painful aftermaths to the community. However, when well managed, they help significantly in building the social wealth.

The philosophy of the South Korean environmental activism to address the environmental injustices is rooted in traditional environmental ethics. People form communal organizations to exchange information and take actions. They are frequently accused of being ignorant about the environment and selfish by the other parties, and their actions named as being ‚NIMBY (Not In My Back Yard) syndrome'. They take environmental education to show that they are not ignorant and work for society to prove that they are not selfish. As a result, those communities that experienced environmental conflicts manage the environment much better than others and their accomplishment is especially pronounced in reducing solid wastes and separating recyclable wastes. They eventually take interest in the welfare of the community and get involved in various activities to improve their environment and living standards.

The case of Buk-gu in Ulsan City is an example of building good governance. The Buk-gu government secretly designated a certain area as the site for the food waste treatment facility and tried to build it without the consent of the community. The people in the community vehemently protested against it and demanded a fair decision-making process to be open to the citizens. The mayor of Buk-gu had to cancel the plan and organized a citizens' consensus conference inviting representatives from all communities within Buk-gu to start the decision-making process again. They invited academics and experts to the conference to judge whether there was a need for the food waste treatment facility, what kind of facility it should be and where to build it. Through open discussions, the citizens' jury reached a consensus that the formerly designated place was the optimum one. The members of the community accepted the results but with some compensation, and the conflict was resolved peacefully. This helped in building up a good environmental governance system for the community such as the citizens' consensus conference, which turned out to work excellently [17].

The villagers of Sangdong-myeon and Gyeongsangnam-do provinces even proved that citizens could do better than the government in managing the environment. A stream called Daepo-cheon, a tributary of Nakdong River, flows through the farming village located upstream of the drinking water source for Busan City. The government tried to designate the village as the 'Drinking Water Protection Area', restricting activities including land use and imposing stricter regulations. The villagers asked for cancellation of the designation and made a voluntary agreement with the government to clean up the stream. The villagers took environmental education

and organized their own governance system. They raised funds, monitored emission sources, ordered improvements of the treatment facilities, cleaned up polluted sediments, and restored the ecosystem of the stream through networking with institutes and outside experts. The stream used to be very polluted, 3rd grade water according to the environmental standards specified in law, from industrial wastewaters and cattle wastes. The water is now the best quality water, i.e., 1st grade, due to their efforts [18]. The South Korean government has never achieved such a positive performance. The local community has been awarded with prizes and many other benefits. The villagers are firmly united through the campaign and enjoying the harmony among themselves through the communal activities, encouraged by their accomplishment.

The example of the Seongmi-san community is a good case of social capital building. Seoul City government tried to build a water distribution tank on Seongmi-san, a small mountain in Mapo-gu, Seoul City. The villagers who loved the mountain gathered together to stop the plan. They took environmental classes to arm themselves with the knowledge to fight their case. They got to know each other through the campaign and a community was even built in a busy metropolitan city. They succeeded in stopping the project. Encouraged by the success, they began to show their concerns for other members of the community while realizing the many problems involved. Therefore, they established Seongmi-san School for children left alone after school hours, Mapo FM Radio for information exchange and music, Seongmi-san Auto Hospital for honest and reliable car repairs, Eco Coop for the purchase of eco-products, Hope Sharing to help the distressed, a Community Nursery, a Community Kitchen, a Health Association, a Rehabilitation Center for the Disabled and a Youth Community School, etc. [19].

7 Conclusions

Traditionally, Korean people used to emphasize their harmony with the environment. However, with industrialization and little regard being given to the environment, the traditional communities were broken and numerous environmental conflicts have arisen. The inhabitants in industrial complexes struggled for survival, the conflicts related with locating of environmentally-susceptible facilities such as nuclear wastes repository, industrial wastes disposal, solid wastes dumps and incinerators, have often resulted in violent riots. The conflicts relating to large-scale construction projects such as reclamation, dams and road construction have often resulted in the breakdown of communities as well as serious economic loss to the local people and to the country. Most of these conflicts share common causes such as undemocratic decision-making processes, lack of fair impact assessment procedures and severe economic losses to local inhabitants. All the processes to resolve the conflicts such as negotiation, mediation, arbitration and lawsuits have been painful and costly. If the conflicts are managed badly, it results in painful aftermaths for the community. Therefore, transparency and democracy in decision-making processes and the fairness in impact assessment are essential to prevent such conflicts. The voice of the minority victim should not be ignored. To ensure this, sustainable governance building is necessary incorporating the government, corporations and citizens. Sustainable development is the key issue to prevent the formation of environmental conflicts. The environmental activism to address environmental injustices in South Korea has a root in traditional environmental ethics, which used to emphasize the harmony with the environment and between community members. Reviving the traditional ethics, environmental activism in South Korea has been strengthening the communities and building up social richness.

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