

# Promoting Public Participation and Environmental Education in the Republic of Korea\*

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## I. Introduction

The industrialization in the Republic of Korea began only in early 1960's. The economic development has been based mainly on the export-oriented heavy-chemical industries. The development has been quite successful. But at the same time it brought severe environmental

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pollution problems, especially in industrial areas. There have been continual disputes between industrial firms and inhabitants over damages on agricultural and fishery products and on human health. In some areas it was hard to find solution so that the disputes ended up as removing the whole population from the problem areas such as in Ulsan, Onsan, and Yeochon. Tens of thousand natives had to give up their hometown and occupation, which caused a serious social problem. The Government began to realize the seriousness of the environmental problems, and the Office of Environment was established in 1980 which was raised to the Ministry of Environment in 1990.

However, the quality of the environment has not been improved much in spite of the Governmental intervention. It is probably because the Governmental policies have not been strong enough to keep up with the rapid industrialization while the public were not allowed to protest against or participate in governmental policies until democratization in 1987. Before that time there were no institutional arrangements for public participation in the decision making of environmental policies. Public demonstrations were not allowed and usually were barred by police forces. The pollution victims tried to convey their voices mainly through appeals. This resulted in many absurdities. After democratization in 1987, many environmental policies previously enacted without public participation are facing protests from inhabitants and some of those have been suspended or cancelled because of the protests. Projects for municipal solid waste disposal, industrial waste treatment, resort development such as golf courses, and siting of pollution-intensive industries are frequently troubled. The Ministry of Environment, realizing the seriousness of the problem, revised the law regarding the environmental impact assessment so that the public could participate in the decision making through public hearing.

The public participation used to be mainly protest after pollution damages were visualized. Since the environmental informations were not open to the public and citizens were not well educated on environment, the public could not respond beforehand. The old generations were not taught the environmental pollution in schools. The environmental education was introduced in schools only in 1981. However, the environmental subjects are only minor portions integrated into existing subjects such as nature, biology, and earth science and the scopes are limited. A recent poll showed that the majority of students learned the importance of environment not through formal education but through mass media. And the mass media used to be censored on environmental issues until 1987. Therefore, the public had very little chance to get educated on the environment. Thus,

the public were not able to participate in environmental issues even if they were allowed because of the lack of knowledge.

Since democratization in 1987, numerous non-governmental organizations (NGOs) have been sprouting up. These NGOs usually receive favorable responses from mass media and the public, and thus indirectly influence the Government's policies by forming public opinions. These NGOs include consumers organizations, women's organizations, and religious groups in addition to pure environmental groups. The NGOs are the major pressure group for urging the Government for better environmental policies. They are launching various environmental programs such as environmental education, environmental monitoring, resource recycling, public campaigns for earth saving, and others.

The Government seemed to respond to the public opinions, and enacted stricter environmental regulations, improved some environmental facilities, showed efforts to release more environmental informations to the public, guaranteed public participation in environmental impact assessment, and so on. This eventually will help improving the environment.

It is evident that the public participation plays a very important role in improving environment. And the public participation is motivated by proper knowledge on environment. Thus the environmental education is very important for inducing public participation.

In this paper, the current state of the public participation and environmental education in the Republic of Korea is reviewed and evaluated to seek solutions for improvement. For the study, a questionnaire survey was done for the environmental NGOs regarding their activities. Some of the NGOs, relevant governmental offices, and institutes were visited for informations on public participation and environmental education. And some current environmental issues were analyzed to illustrate how the public participation developed and worked for solving the problems.

## **II. Evaluation of Current Public Participation**

### **1. Current State of Public Participation**

The industrialization in the Republic of Korea was initiated in the early 1960's by the late president Park, Chung Hee, who earned power by military coup. Throughout his reign until 1979, environmental activities were considered as treachery, and the public

could not voice their opinions freely. Environmentalists used to be harshly treated: if they had publicized pollution issues, they used to be interrogated or sometimes pressed to resign their posts [1]. Pollution victims had to negotiate with industrial firms over compensation quietly since demonstrations were not allowed. The Government used to mediate the negotiations but it usually was generous to industrial firms.

When former president Chun, Doo Hwan took power by coup in 1980, his environmental policy did not change much. Even though the Environmental Preservation Law was promulgated in December 1979 and the Office of Environment was established in January 1980 due to the pressing need, there were no institutional arrangements for public participation. Public participation, if we are allowed to call it so, mainly was limited to claims for compensations for pollution damages in industrial areas. However, even such activities were not very noticeable when the Government tightly controlled the press. It is generally thought that the environmental movement is initiated by citizens and is successful when the public support it. However, in the Republic of Korea, the Government's press policy turned out to play the key role in forming public participation. Whenever the Government's control on the press was loose, the citizens environmental movement began to creep in, and if it got tight afterwards, the movement subsided [2]. Throughout the reigns of Mr. Park and Mr. Chun, free environmental movements were not possible and the pollution victims felt deeply frustrated.

Since democratization in 1987, numerous environmental groups sprang up and they have been leading the public participation in environmental issues. And besides, many existing NGOs such as religious groups, consumers organizations, and women's organizations expanded their activities to environmental movements. At first their main activities were assisting pollution victims and investigating pollution damages in industrial areas. The activities later were diversified into environmental monitoring in problem areas, environmental education for citizens, anti-pollution campaign against environmentally-destructive development such as construction of pollutive industries and golf courses, public campaign for resource recycling and earth saving, and others. The mass media plays a very important role in building public opinions and thus influence the governmental policies. They usually report the NGOs activities favorably and transmit their voices to the public.

The NGOs continually accuse the Government of neglect or wrong policies on environment. The Government usually denies the NGOs' charges, however, it seems to respond to them eventually: the Government is upgrading environmental regulations and facilities,

is releasing more environmental informations to the public, and so on as the NGOs requested.

## 2. Environmental Groups

At present, there are about ninety NGOs engaged in environmental activities. The environmental NGOs in Korea are categorized into two groups: one is government-registered NGOs (registered in the Ministry of Environment) and the other one independent NGOs.

The government-registered NGOs usually were organized by the Government and are supported by the Government. The Government calls these groups NGOs and other independent groups arbitrary organizations, not NGOs. At the moment there are about forty-five each of government-registered NGOs and independent NGOs. The major roles of the government-registered organizations include environmental education, public campaign such as to clean up litters in parks and streets, research work usually sponsored by government or industries, support of academic societies, coordination between industries in dealing with environmental problems, promoting friendship between environmental experts, and others. They rarely engage in anti-pollution activities or oppose governmental policies. They rather frequently support governmental policies. These NGOs usually are financially strong. However, they do not seem to play an efficient role in building public awareness or promoting public participation.

Among forty-five independent environmental NGOs, twenty-five are pure environmental groups, four religious groups, five consumers groups, six women's groups, and five professional groups. The members of these groups are mostly environmental activists. They assist pollution victims with technical knowledge, investigate pollution damages, monitor environmental qualities in disputed areas, put on rallies to oppose certain development projects, launch campaigns for environmental protection and resource recycling, educate citizens, and press the Government and industries for better environmental policies, etc. Among them thirty-three organizations were established after 1987. The organizations existed before that time are mostly religious groups, women's groups, consumers groups, or professional groups, which later extended their activities into environmental movement. These NGOs are usually small and financially weak. However, they have a strong influence on the press, and thus contributed a great deal in encouraging public participation in environmental issues. Sometimes their activities are political. These groups are not supported by the Government. When the Government supports them, it asks for the right to

supervise their activities.

### **3. Case Studies of Public Participation**

#### **3.1 Industrial Waste Disposal Site in Bansong-dong, Pusan City**

A certain company licenced to handle industrial waste was constructing an industrial waste disposal site in Bansong-dong, Pusan City in July 1990 after acquring all the necessary approvals from government but without residents' approval. The residents were organized to protest the construction. They blocked the road to the site and put on a violent demonstration for several days. They quit the demonstration after hearing the promise to cancel the project from the City Government. Later the leaders of the violence were arrested and the project was cancelled.

#### **3.2 Nuclear Waste Disposal Site in Anmyundo**

The Government announced a plan to establish a nuclear research complex in Anmyundo, which is a remote island in the West Coast. In November 1990, the islanders launched a violent campaign to cancel the project claiming that it was but a nuclear waste disposal site. Parents refused to send their children to schools and citizens attacked the county police station and government offices. It ended up as a violent riot: some government buildings and properties were set fire, and many people were injured. The Government never admitted that it was a nuclear waste disposal site. However, the Minister of Science and Technology was dismissed from the post and the project was cancelled. Fifteen environmental groups joined this protest in coalition.

#### **3.3 Movement against Golf Course Development**

Since January 1988, there have been numerous rallies and appeals to stop the construction of a golf course in Sunsang County, Kyungbuk Province. In August 1988, an appeal asking for cancellation of the golf course signed by about seventy percent of the residents (almost the whole adult population) in this area was submitted to the President Roh, Governor of the Province, Magistrate of the County, other relevant authorities, newspapers, and political parties. However, the appeal was not successful. When the construction equipment appeared on the site on 21 November 1990, the residents refused to send their children to school and made tents on the site and put on a sit-in rally in the tents for four months during the winter. Five-hundred residents joined the rally. There were clashes between inhabitants and a group of unidentified people leaving many inhabitants injured. In February 1991, citizens from eight other counties in the Province joined the rally and formed a coalition committee to oppose golf courses in the Province. Similar movements

are going on in about thirty golf course sites in the nation.

#### 3.4 TDI Plant in Gunsan City

Dongyang Chemicals, Inc. received approval to build a TDI (toluene diisocyanate) plant in Gunsan City from authorities and was allowed to operate it since September 1990. The company invested 100 billion won for the plant. The citizens had been appealing to City Government and Central Government throughout the time to stop the plant on the ground that the plant was dangerous because of the possibility of leak or explosion of toxic materials, such as phosgene, chlorine, and TDI. The Ministry of Environment asked for a public hearing before operating the plant. In the public hearing the company failed to prove its safety and the public opinion was totally against the company. However, the appeals and the public hearing were ignored and the plant began operating. Forty-one NGOs in the area formed 'Citizens Coalition Congress to Stop TDI Plant'. The Congress submitted an appeal with signatures of 63,488 citizens to authorities, and later submitted second appeal with signatures of 94,778 citizens, which is more than 90% of the adult population in the City.

On 7 September 1991, after about six months of operation, a toxic material called TDA (toluene diamine) was leaked from the plant seriously damaging neighbor towns within 1.5km to 2km distances. After the accident, citizens put on a sit-in rally demanding the removal of the plant.

In this case, local environmental NGOs were formed to solve this specific issue, and most existing NGOs such as religious groups and women's associations joined the campaign. Citizens have been very active in this movement. An environmental impact assessment report prepared by the company [3] and a safety and risk assessment report prepared by the Ministry of Environment [4] were very favorable to the company. The reports omitted the impacts of accidents or grossly underestimated the possibilities and impacts of accidents. In this dispute, independent NGOs rendered technical assistance to the citizens and some experts in the government-registered NGOs helped the company. Several persons against the plant were reported to be terrorized.

#### 3.5 Phenol Spill Incident in Nakdong River

It was reported that Doosan Electronics secretly discharged 325 tons of phenol from November 1990 to March 1991. Especially in March 1991, there was a big phenol spill accident, which caused unbearable odor and taste in tap water. Many could not use the water for drinking, cooking, bathing, or for anything. And some claimed health damages

after use such as diarrhea, sore throat, skin irritation, miscarriage and others. This incident jeopardized health and lives of more than ten million people who use the Nakdong River as a drinking water source. The responsible persons in the firm and in the Government were arrested. Thirty-four environmental groups formed a special committee and put on anti-Doosan rallies and launched a campaign to boycott Doosan products. This campaign earned national responses and the Doosan Conglomerate received a hard damage from the campaign. Doosan Electronics promised to donate twenty billion wons asking forgiveness.

Doosan Electronics produced about 80 percent of the printed circuit board (PCB) consumed in Korea, which is an important part in electronic products. The Government allowed the company to operate again after ten days of the order to stop operation fearing that the closing of the factory would paralyze the whole electronics industry. However, Doosan Electronics had another spill accident within a week after the reopening of the factory. Citizens' anger grew anew and the Minister and Vice Minister of Environment and other responsible officials had to be dismissed. Citizens became very much aware of the importance of the environmental affairs after this incident and began to search for environmental violations and indicted many industrial firms thereafter.

#### 4. Evaluation of Public Participation

The NGOs evaluated the Government's efforts on environment very poorly. Twenty NGOs, 5 government-registered NGOs and 15 independent NGOs, responded to the questionnaire survey. Only one answered the Government's efforts was satisfactory, two answered average, five answered unsatisfactory, and twelve answered very unsatisfactory (see Table 1). The main reasons of bad evaluation were bureaucratism, small investment, lack of consciousness, etc. (see Table 2). The budget allocated to the Ministry of Environment used to be 0.2% of the total government budget until early 1980's. It was raised to the level of 0.42% in 1987 and 1988 during Seoul Olympic period, but it dropped to 0.34% in 1989 again, which is considerably low compared to those in other industrialized countries(see Table 3) [5]. The NGOs, probably most citizens also, think the Government is not very active in environmental policies: it is not moved until pressed by citizens, which necessitate the citizens' participation.

**Table 1.** Evaluation on the Government's Efforts on Environment

Very Satisfactory	Satisfactory	Average	Unsatisfactory	Very Unsatisfactory	Total
0(0%)	1(5%)	2(10%)	5(25%)	12(60%)	20(100%)

**Table 2.** Reasons for Unsatisfactory Government's Efforts

Small Investment	Lack of Consiousness	Bureaucratism	Lack of Knowledge	Others	Total
5(27.8%)	3(16.7%)	6(33.3%)	2(11.1%)	2(11.1%)	18(100%)

**Table 3.** Budget on Environment

(unit : billion won)

Year	Total Government Budget(A)	Budget on Environment(B)	Ratio(% , B/A)
1980	6,479	12.1	0.186
1981	8,040	15.2	0.189
1982	9,596	20.8	0.216
1983	10,417	20.7	0.199
1984	10,387	34.3	0.330
1985	12,532	42.1	0.336
1986	13,801	43.3	0.310
1987	16,060	67.1	0.420
1988	18,429	77.3	0.420
1989	19,228	64.2	0.335

According to the questionnaire survey on citizens participation, none answered it was active, six answered average, and fourteen answered not active(see Table 4). The main reasons for not being active listed were lack of institutional arrangements, lack of information to citizens, and national character(see Table 5). There had been no institutional arrangements for public participation until August 1991. The citizens' protests against nuclear waste disposal in Anmyundo, industrial waste disposal in Bansong-dong Pusan City, and TDI plant in Gunsan City previously mentioned resulted from not hearing citizens' opinions beforehand.

The public participation started only after 1988, which is the year the country was democratized. As soon as informations began to be released to the public, citizens became concerned about the consequences of development projects around them. Their immediate response was to oppose those development projects which might cause pollution problems. Most of the problem projects were planned without knowledge or approval of residents before democratization. And the cost thereafter turned out to be very expensive: many projects had to be cancelled or suspended. The developers and some of the government officials used to insist that the protesters were violent and unreasonable. And sometimes they insisted that they were instigated by outside anti-governmentalists. But the protesters used to deny the charges. And sometimes they claimed that they had been terrorized or they had been cheated by developers or the Government. This behavior might

**Table 4.** Evaluation on the Public Participation

Active	Average	Not Active	Total
0(0%)	6(30%)	14(70%)	20(100%)

**Table 5.** Reasons of Inactive Public Participation

No Institutional Arrangements	Lack of Information	Busy to Earn Living	National Character	Others	No Answer	Total
7(31.8%)	5(22.7%)	3(13.6%)	5(22.7%)	1(4.5%)	1(4.5%)	22*(100%)

\* There were two dual answers.

be affected by the long frustration the pollution victims suffered during the dictatorial periods.

The public concern gradually extended to general environmental problems from opposing specific development projects. Therefore environmental movements needed environmental experts also in addition to activists. Since the public participation is usually initiated by NGOs, the NGOs needed to be armed with technical knowledge. To satisfy the need, there have been numerous environmental education program for NGO members and devoted citizens. Then the citizens participation extended to monitoring of environmental qualities and violations, examination of environmental laws and policies, diagnosis of environmental problems, and others. The government-registered NGOs have not been active at all in this participation. Only independent NGOs have been engaged in such activities. Independent NGOs have been efficient in arousing public consciousness and participation. However, most of them are financially very weak so that their activities are limited accordingly. And the cooperation system between NGOs is not well established.

The public participation did not succeed all the time: sometimes failed and sometimes succeeded. However, in the long run, it is affecting the governmental policies and the attitude of industrial firms. The Government revised the Basic Law of Environmental Policy to allow public participation in the process of environmental impact assessment, tightened environmental regulations, and reinforced monitoring, etc.

### III. Evaluation of Current Environmental Education

#### 1. Current State of Environmental Education

The importance of environmental education began to be discussed through seminars,

symposiums, and workshops in the early 1970's [6]. And the environmental education was introduced in schools in 1981 with the enactment of the Fourth Education Curriculum Guideline. The present environmental education system was established in 1987 with Fifth Education Curriculum Guideline [7]. The environmental subjects are only minor portions integrated into existing subjects such as biology, chemistry, earth science, geography, ethics, etc. At present, one thousand students at 18 professional schools, 1,500 undergraduate students at 29 colleges and universities, 870 graduate students at 17 colleges and universities are trained annually in the field of environment [8]. The Ministry of Environment supports the environmental education in elementary schools and middle schools by designating several model schools and providing financial assistance to those schools.

In addition to the formal education, the Government offers short education programs to civilians, government officials, and soldiers. However, the courses usually are one to two hours video or slide programs without lecturer; the effect of the programs was evaluated to be poor [9]. The Government also provides short courses to train environmental experts, but these are only technical training.

The NGOs are providing environmental education programs for citizens also. Among 15 independent NGOs responded to the questionnaire survey, eleven had education programs. The program usually consists of eight to sixteen lectures and the lecturers are mostly professors or experts. Most of the trainees are environmental activists or activists to be. Other trainees include reporters, teachers, college students, housewives, and others. The responses from the trainees were surveyed to be good to excellent. Often the number of students has to be limited due to limited space and abundant applicants.

The environmental education is becoming very popular in churches. The NGOs are frequently invited for the lectures. Christians began to aware of the importance of saving environment, and churches are beginning to organize programs such as resource recycling and sales of environmental products for church members to participate.

## **2. Evaluation of Environmental Education**

A recent questionnaire survey for middle school students showed that 90% of the students are concerned about saving environment and that 80% of the students realized the importance of saving environment through mass media, 11% through formal education, and 9% through others [10]. This shows that the formal education is not effective enough.

The environmental sections are usually attached to the end of textbook of other subjects

and examination is not required. So that the environmental portions are often not taught. The scope of the government-controlled environmental education must be limited because governments tend to justify their policies. Thus, the real examples of environmental destruction and pollution damage in Korea, which might prove the governmental policies were inadequate, rarely appear in the textbooks. Rather, the textbooks usually stress the responsibility of individual citizen in cleaning up litters, saving energies and resources, and the likes. This makes the formal environmental education unrealistic and unappealing to students.

In this regard, the NGOs' education program is much more vivid and appealing: They use real examples of current environmental issues for education. The students show higher level of environmental consciousness than in textbooks. This probably is because they are influenced by mass media. Mass media are the main source of environmental information for ordinary citizens also. TVs, radios, newspapers, magazines, and other publications are full of environmental articles. The reporters usually consult with independent NGOs for the programs, which inevitably reflect the views of NGOs. Therefore, the NGOs and mass media play a very important role in environmental education.

Before democratization, citizens were not educated about environment; thus they could not participate in environmental policies but suffered from environmental pollution. And the suffering continues even after democratization to fight against those development projects planned previously without their knowledge. The costs of pollution damages and disputes turned out to be very expensive. The disputes sometimes resulted in cancellations or suspensions of projects.

#### **IV. Policy Measures to Promote Public Participation and Environmental Education**

##### **1. Measures to Promote Public Participation**

It is widely admitted that the public participation is essential for clean environment. And the public participation is not initiated without active NGOs. The phenol spill accident may be a good example to show the importance of NGO. Taegu City is the third largest city in the Republic of Korea. However, strangely enough, there had been no environmental group in the city until the accident, and there had been no significant citizens' movement in environment or in any other social affairs whatsoever. The Taegu citizens are said to

be very conservative. In other cities, the environmental groups must have raised questions on the appropriateness of locating pollutive industries to the upstream of river which is the source of municipal water supply. And they must have protested long before the water became that poisonous. However the Taegu citizens just murmured and endured the water for several days even though most of the citizens could not use the water because of strong odor. They could not focus their complaints because they did not have an organized force.

Before democratization, the Government used to call environmental movement as anti-governmental or anti-establishmental activity, and the environmental groups were considered as dangerous. Still, some high government officials keep the same view and take environmentalists as anti-governmentalists and dangerous dissidents. Anti-governmentalists, anti-establishmentalists, or dissidents frequently are tacitly perceived as leftists, which are not acceptable at all in the conservative South Korean society. Under such circumstances, conservative people are reluctant to join the environmental groups even though they really care for environment. The Government should stop seeing environmental movement as dangerous, and rather should encourage NGOs. Without such forces to check and balance the governmental actions, disasterous accidents like phenol spill in Taegu might happen anytime.

The Government differentiates between government-registered NGOs and independent NGOs, and supports registered NGOs only while calling independent NGOs arbitrary organizations. But it is obvious that the independent NGOs are much more effective in building citizens' awareness and encouraging the public participation. However, those independent NGOs are very weak financially. These NGOs do not require big budget: usually the budget to keep one or two full-time secretaries is enough. Therefore, if the Government allocated a small sum of budget to these groups unconditionally, the effect would be great. The Government always should mind that without criticism it easily goes astray.

The citizens' environmental movement up to present time have been mainly protests afterwards. This arised because of the lack of information beforehand. This is very costly, painful, and unproductive. The environmental movement should better be focused on preventive measures. For that, it is essential for the public to have unlimited accessibility to environmental informations, and the Government should keep transparency in its environmental policies. There cannot be any excuses for holding environmental informations in secret.

The environmental groups up to present time have been busy investigating existing environmental problems and exposing them to the public. However, after this stage, they should be able to seek solutions for problems and to present alternative strategies to policies proposed by the Government. In order to do that, they need to involve environmental experts to their activities. Often it becomes very powerful and efficient if many environmental groups join together for certain purposes. At present each environmental groups are busy to solve their own issues. But soon they need to help and change informations each other so that each activities put together achieve a certain goal. And international cooperation is also necessary because the international trade has a great impact on environment and the environmental problems are globalized nowadays.

## **2. Measures to Promote Environmental Education**

The public participation is not possible without educating the public. Since the present formal environmental education is not so effective, it needs to be improved. Independant environmental subjects need to be developed for schools. And at the same time the environmental subjects should permeate all of the subjects in curriculum. The environmental education should not be confined to just the knowledge 'About the Environment'. This education should require action. Therefore, 'In the Environment' and 'For the Environment' education should follow. The Government should interfere less in preparing text materials because it will limit the scopes of the texts.

While the formal environmental education and the Government's programs for civilians were evaluated to be poor, the NGOs' education programs were highly popular. If the Government supports those NGOs' program financially, the education effect will be greatly enhanced.

And the social system is very important for the environmental education. A recent phenol spill incident in Nakdong River is a good example. The spill jeopardized health and lives of more than ten million citizens in the basin. But the penalty imposed on the polluter was very light on the ground that the spill was only accidental, not intentional. From this example people only will learn that environmental crimes are acceptable. Due rewards for good deeds for environment and proper penalties for environmental crimes are essential for environmental education.

## V. Conclusions

The public participation is essential for achieving clean environment. Many absurdities resulted from not allowing the public to participate in the environmental policies. These absurdities should be straightened; however, the cost is very expensive. Therefore, the public participation should better be focused on preventive measures than on protests afterwards. The role of NGOs is very important to initiate the public participation. The NGOs are very effective in awakening citizens' consciousness on environment, and their criticism to government's policies is very important also for governments not to go wrong. Therefore the activities of NGOs should be encouraged. The NGOs have been busy investigating existing environmental problems. However, they should be able to present solutions for problems and better alternative policies in the future.

The public participation is not possible without public education. The present formal environmental education system needs to be improved. Independent environmental subjects need to be developed and at the same time the environmental subjects should permeate all of the subjects in curriculum. The environmental education should be intended for action not just for knowledge. The Government should ensure that the scope of the education be not limited by national egoism. The NGOs' education programs were evaluated to be much better than the government's programs. The Government can enhance the effect of public education by supporting the NGOs' education programs. And the social system is very important for the environmental education. Due rewards for good deeds for environment and appropriate penalties for environmental crimes are essential for environmental education.

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