

Citizens and City government' s Cooperation towards Zero-emission City

- The case study of Bucheon City, Korea-

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Bucheon is a city of citizens' initiative in making some new environmental policies. Leadership and responsiveness of city government are also vital factors that make successful the local partnership. Recycling of resourceful waste, leftover food waste, and used water in Bucheon can be a world model in terms of resource conservation. Cooperative experience between citizens and Bucheon government resulted in institutionalization of local agenda movement that can be another world-model exemplar.

1. Profile of Bucheon City

Bucheon is located between Seoul and Incheon, with its small size of 52 Km². Its population increased to 820,000 as of the end of 2002. The city of Bucheon is so densely and rapidly populated that the city government had difficulties in coping with rising demands of basic livelihood needs.

Bucheon celebrated its 30th municipal government this year, and its municipal government started with a population of 70,000 in 1973. Its population grew to 220,000 in 1980, and it jumped to 660,000 in 1990, Bucheon is still growing. This rapid growth of population resulted in various municipal problems. Municipal governments' efforts could not meet rising demands of supplying piped water, disposing garbage, and providing schools, and transportation facilities.

Bucheon functioned as a solution for the intensive urban problems of Seoul and metropolitan area. Labor-intensive and polluting industries in Seoul were relocated into Bucheon when they were faced with severe opposition of citizens in Seoul. When Seoul's living and housing costs rose, citizens of Seoul moved to Bucheon to acquire housing at lower prices.

In 1980s, Bucheon was transformed into an industrial city from peaceful farmland and green mountains. As many manufacturing companies moved to Bucheon, blue-collar workers increased. Labor disputes were intensified. In the

1990s, the number of blue-collar workers decreased as many industrial plants have been relocated to other remote areas. Bucheon is now moving into post-industrial, service and information-based economy.

Bucheon city pursues to develop itself as a culture city. In fact, Bucheon's full-scale philharmonic orchestra is a first-class musical team in Korea. Bucheon's annual international fantastic film festival added another cultural asset to Bucheon city. There are also other cultural events such as national manga(cartoon) festival and Pear Flower Art Festival.

One of the most remarkable characteristics of Bucheon City is active social movement since 1980s. Democratization movements in 1980s were followed by labor movements and social and cultural movements in 1990s. There are many activists working for labor, women, consumer, education, social welfare, religion, and environment. These new social movements have been organized to address various social problems that Bucheon City had to face.

2. Citizens' Initiatives in Environmental Policy Making

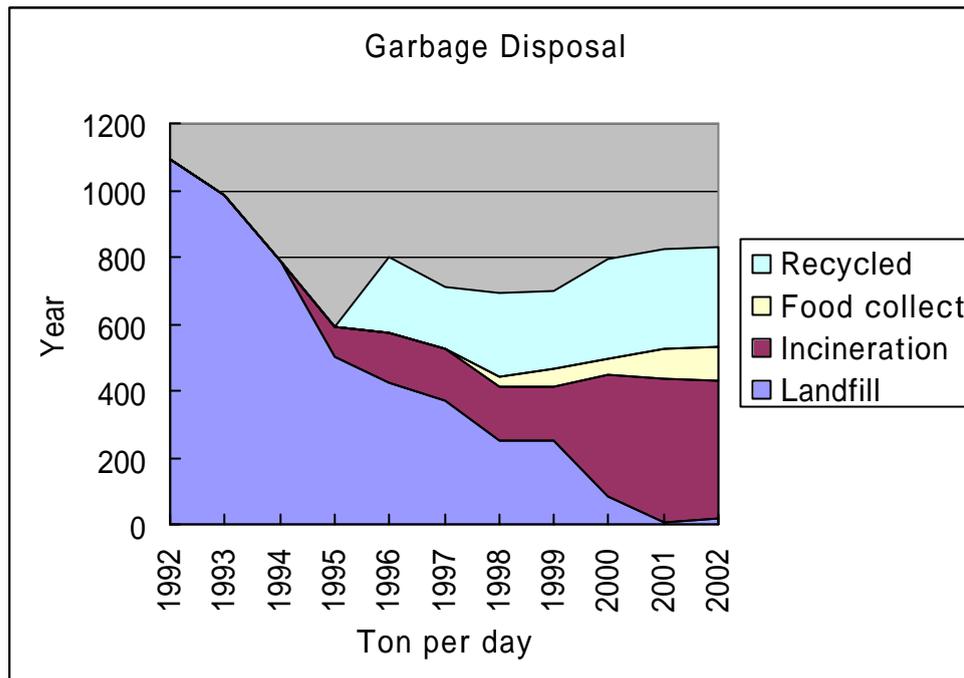
Recycling

In 1992, a retired gentleman, Mr. Kim Sungki, living in a large complex of apartment in Bucheon began to collect recyclable garbage in his apartment and classified them into 24 different kinds, and sent them to factories for recycling. The apartment resident association adopted his practice and the whole residents participated in recycling activities. Mr. Kim's motive was to save resources first and get some income for residents. This practice was known to mass media and researched by professors. Bucheon city provided these activities with vehicles to collect recyclables and send them to factories. This movement spread to other apartments, and then to other cities. Bucheon city government adopted this policy to systematically collect recyclables. City government employed workers to collect recyclables. Bucheon became a focus of mass media, and other cities in Korea sent officials to emulate from Bucheon. Bucheon won awards from the Minister of Environment and the Minister of Home Affairs. Korean government introduced the volume-based garbage collection system to support the recycling practices of citizens in 1995. This collection of recyclable garbage was a driving force to cut the emission of garbage itself. Bucheon city officially sent 1090 tons a day to the landfill site in 1992, but in 2002 city government disposed 534 tons either by

incinerating them or by collecting food waste for feeding livestock. This dramatic decrease of garbage came about due to the rapid increase of the recycling practice. Per capita daily discharge of garbage also drastically dropped from 1.58 kg in 1992 to 0.65 kg in 2002. Since Korean government implemented a volume-based collection system in which every household had to pay for the designated plastic garbage bags to cut the garbage discharge. This new system also functioned to reduce the garbage. However, the new system was effective for only 20% reduction of garbage discharge.

Table 1 Garbage Disposal of Bucheon City(ton per day)

Year	Populati on	Landfill	Inciner -ation	Food collecti on	subtotal	Per capita(Kg)	Recycled	Total
1992	688,349	1090			1090	1.58	N.A.	1090
1993	724,380	985			985	1.36	N.A.	985
1994	757,381	786			786	1.04	N.A.	786
1995	779,009	504	90		594	0.76	N.A.	594
1996	792,895	421.0	151.0		572	0.72	230.0	802
1997	791,397	369.0	155.0		524	0.66	184.0	780
1998	781,641	247.9	162.0	29.8	439.7	0.56	250.5	690.2
1999	779,978	248.0	161.8	54.0	463.8	0.60	233.3	697.1
2000	780,003	85.2	361.3	50.9	496.5	0.64	298.4	794.9
2001	785,754	7.6	427.2	89.3	524.1	0.67	298.4	822.5
2002	821,081	17.1	413.5	103.4	534	0.65	298.0	832.0



- Statistics of landfill, incineration, and food collection are correct because they are counted up by the city government. However, statistics of other recycling are all estimated numbers, because there are many various, unreported recycling activities.

Recycling activities now are extended to collect leftover food waste for processing into feeds or organic fertilizer from 1998. A citizen group started to collect leftover food waste and sent to pig raisers or farmlands. Many collection groups for leftover food waste came into being. The city government was impressed by these voluntary activities and began to support this citizen's organization. Moreover, city government implemented a collecting system by which all collective flat houses should collect leftover food waste separately. Food waste collection amounted to 103 tons a day now. It will increase further when the city government implemented this policy in the area of detached housing villages.

These two movements functioned to drastically reduce the amount of the garbage production in Bucheon. Without these citizens' initiatives and city government's implementation of new garbage policy, Bucheon city could not succeed in reducing garbage drastically.

In addition, Bucheon city incinerates most of the solid wastes in its own incinerator, and sends only ashes to landfill site. In this way, city government has a

target at making Bucheon a zero-emission city. Citizen' participation in these movements have crucial functions for Bucheon to achieve this target.

Bucheon has an ambitious plan to reuse the filtrated waste water as much as possible. Bucheon plans to reuse 60,000 tons of phosphate-free, and nitrogen-free recycled water for filling river that has been recently restituted, and supplying for industrial complexes. Citizens' River, named after citizens' initiative, came into being to add Bucheon's new attraction. Bucheon, whose name ironically means 'rich river', does not have substantial rivers or streams. Many tiny streams were covered with the concrete to make roads. Citizens wanted to have a river, and demanded the developer of new housing complex and the local government to make a river in city, using the filtrated waste water. The river opened in October 2003 with its length of 5.5 km. This is a starting project by which Bucheon city mayor determined to extensively use the recycled water.

Local Agenda 21

Citizens' groups in Bucheon demanded in 1999 to launch the local agenda 21 for Bucheon city. They were from various advocacy groups such Citizens' Coalition for Economic Justice, YMCA, women's group, parents' group for educational reform, welfare movement group, citizens' group for children's human rights, various environmental groups. After one-year negotiation process with city authority, Bucheon city could finally start an organization called Council for Green Bucheon 21 (hereafter referred to Green Bucheon 21) that is composed of citizens' representatives, Mayor, a university professor, general secretary of YMCA, president of Chamber of Commerce, and spokesman of city council were elected co-presidents of Green Bucheon 21.

Green Bucheon 21 wrote local agenda in 2000, with full participation of citizens and government officials and business representatives. From 2001, three parties began to put them into practice. To assemble various groups and draft agendas to improve local environment are just usual matters of business in any local agenda movement.

Green Bucheon 21 went far beyond the usual local agenda activities. The major characteristics of Green Bucheon 21 can be listed as below.

(1) Annual Evaluation

Each section of city government is required to carry self-evaluation every year on what they achieved as designated in the Green Bucheon Agenda 21. After self-evaluation, the council takes over the evaluation and examines them for re-evaluation. The evaluation and re-evaluation processes make the local agenda as a working program for city government. Each section leader is aware of how to improve their evaluation. Sections with high evaluation scores are awarded at public evaluation session. It is important to note that local agenda will be meaningless without annual evaluation.

(2) Policy Consultation Committee

Secondly, Bucheon's Council for Green Bucheon 21 formed a Policy Consultation Committee with top-level city officials to examine pending environmental issues that were not included in the local agenda. This is a new process of institutionalization whereby citizens can participate in policy-making processes.

(3) From Citizens' Pilot Project into City Policies

Citizens' initiatives in some pilot projects are accepted by the city government, and city government put them into environmental policies. For instance, greening programs of schools launched by citizens' group in the framework of Green Bucheon 21 have been expanded after the city government took the program for its environmental policy. There are some other projects such as neighborhood-making movements, local library movements, and welfare projects. Committee for children's human rights pursues to make a bylaw to protect children's rights in Bucheon.

3. Advocacy Coalition for Environment

Bucheon's successful cooperation of local partnership cannot simply be attributed to the citizens' initiatives. City government, particularly after a local autonomy has been realized in 1995, began to be responsive to the citizens' demands. City council members as well as the mayor had to be elected by citizens.

However, not all mayors and city council members were responsive to the environmental demands. In Korea, there are many local governments that take initiative in destroying environment, because citizens are generally in favor of fast

economic development. Mayors in some local governments get supports from construction companies or surrounded by land developers.

In Bucheon, a new coalition emerged in 1990s, composed of environmentally active citizens, mayor, and experts. There are also some city council members who participated in the coalition. I would like to call this an advocacy coalition for environment. Mayor's attitude is a very important factor for success or failure of this advocacy coalition. He can mobilize city government officials, and persuade city council to make bylaws.

There is no denying that mayor had to respond to citizens' aspiration for more land development. There is a loose coalition for development that is composed of land developers, some city officials, and city council member. There are some cases that this development coalition could win the mayor's support.

Green Bucheon 21 is an institutional framework by which this advocacy coalition for environment is promoted. Those in this coalition meet and solve environmental problems. Bucheon city has experienced such partnership when it succeeded to launch the campaigns for recycling. Mayor and city government have been responsive to citizens' demands for recycling.

Then, how does local partnership come into being? There is a loose coalition for citizens' movement. The city mayor used to be a businessman who set up an eco-friendly enterprise that supplies low-chemical or organic foods. He participated in various social movements since 1980s. Since he took the office of Bucheon city, he campaigned to extensively plant trees after removing concrete as much as possible. These are all positive factors for advocacy coalition for environment.

Catholic University in Bucheon is also an important part of environmental advocacy coalition. The Institute of Social Sciences of the University has researched Bucheon city for more than 15 years, and accumulated massive data on Bucheon. The director of the ISS takes the function of the Green Bucheon 21.

Citizens' movements in Bucheon are of course active participants in the policy making and Green Bucheon 21. These environmental and social NGO are sometimes collaborating with city government, and but other times they are opposed to the city government policies.

There are some environmentally friendly city council members who also participate in Green Bucheon 21. In addition, there are some business partners who are active members in the Green Bucheon 21. Moreover, The city government officials, through interactive collaboration with the civilian partners, began to understand the importance of the local agenda activities.

4. Concluding Remark

Bucheon's success in the local partnership has been emulated in Korea. Many Korean local agenda movement leaders visited Bucheon to learn from our practice.. However, we have some problems and shortcomings. We need more citizens participate in the movements, and we have to ask more business people for this movement. We have to ask the city government to make bylaws to consolidate institutionalization of the local partnership. Our next target for local partnership is to build a local committee for sustainable development that directly commits itself in city policy making for environmental protection. In addition, our target should be more upgraded from local environmental issues to a global one.

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