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The "Disadvantages of Backwardness" in Environmental Problems in Asia:

Implications for Policy and Social Research*

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PREFACE

In recent years, serious environmental problems have emerged in the Asian region, accompanying rapid economic growth. Countries in the region, together with the developed countries, are being asked to respond to worldwide environmental problems such as global warming, which affect the entire world. Shigeaki Fujisaki, who conducted an overall research on environmental issues in Asia, including China and Thailand, used the concept of "advantages of backwardness" to indicate the advantageous position held by developing countries in dealing with environmental problems.[1] The concept was originally used by Gerschenkron to demonstrate the advantages that backward countries held in terms of economic growth rather than environmental issues. It explains that developing countries have an advantage in dealing with environmental problems since they can adapt environmental legal systems and technologies which were originally formulated in the advanced countries. It also includes the idea that the spread of TV and other forms of mass media has brought with it an awareness among people in developing countries of environmental problems and of the importance of resolving those problems. A comparative research study by Harashima and Morita[2] has shown that environmental policies which took decades to implement in Japan were adapted much more quickly in Korea and China. Similarly, studies on environmental attitudes in China and Thailand conducted by the Institute of Developing Economies (IDE)[3] confirm that people in those countries have a much greater perception of environmental problems than did their Japanese counterparts during the period of rapid economic growth.

These facts reflect a difference in the industrialization phase of developing and developed countries within the international historical context. Because developing countries experienced the take-off to industrialization later, they were able to learn from the experiences of their predecessors, and incorporate technology which fostered a much more rapid industrialization.

According to the theory of "advantages of backwardness," it should be easier for these countries to deal with the problems associated with industrialization. Of course, a country's his-

torical context must be taken into consideration when analyzing its industrialization processes and associated problems. This leads to the assumption that environmental problems in developing and developed countries may not necessarily be identical. If so, the difficulties in coping with environmental problems in developing countries are not same as those experienced by the developed countries.

In fact, we are not convinced that environmental regulations are functioning well in present-day Asian countries, in spite of established environmental legal systems and a high degree of environmental awareness among the people. As a result of the "advantages of backwardness" (in the original sense), industrialization in developing countries happened so rapidly that they were not able to create the conditions for taking advantage of environmental problem-solving. In this article, I will refer to factors which complicate responses to environmental problems, and which thus constitute the flip side of "advantages of backwardness," as the "disadvantages of backwardness."

What are these factors, and what sorts of policies do we need to resolve these disadvantages? Unless we can answer these questions, we will not be able to make full use the "advantages of backwardness" as we try to help developing countries cope with environmental problems and to improve environmental policies throughout the Asian region.
In this article, which is based on my own research in the Philippines, Korea, and China, I will attempt to prove the existence of these "disadvantages of backwardness," and will propose ideas for resolving them.

1. The Need for a Simultaneous Response to Environmental Problems

At present, the nations of Southeast Asia and East Asia face many of the environmental problems that Japan experienced during the last few decades. This is true not only in areas with steady economic growth, but also in those, like the Philippines, which appear to have been left behind. (In fact, one book featuring an introduction to environmental issues in the Philippines[4] mentions a variety of problems, such as industrial pollution, garbage, rainforest deforestation, and the illegal export of wildlife). These countries confront a wide range of issues, ranging from sanitation, which became a public issue in Japan as early as the Meiji Era (1868-1912), to very contemporary ones, and they are facing them simultaneously. To add to this, at the 1992 United Nations Conference on Environment and Development (the Rio Earth Summit) developing countries were called upon to work alongside their developed neighbors in solving global environmental problems, although they were asked to carry a lighter burden. In another words, the developing countries face the difficult task of simultaneously dealing with domestic and global environmental issues, and this requirement is one of the major "disadvantages of backwardness" as they try to achieve rapid economic growth.[5]

Given this situation, and given the problem of budgetary constraints, for instance, it is inevitable that we will witness inconsistent responses to different issues. In both China and Korea, we observed that the governments were able to achieve quick improvements on garbage problems, but were slow in responding to industrial pollution. In Korea, for instance, the government has not yet admitted the existence of industrial pollution, specifically of air pollution, in an industrial area in Ulsan and Onsan, where the breakout of "Onsan Disease" became an issue in the 1980s. However, in 1995 the same government started the systematic collection of garbage at the national level.[6]

One reason for this phenomenon is that damage from industrial pollution is typically confined to a specific region. Also, as a result of the growth-oriented policies of the government, the administrative bodies in charge of environmental regulation tend to avoid conflicts with growth-leading industrial enterprises.[7] Garbage policies, on the other hand, are more easily enforced, possibly because official development assistance (ODA) puts an emphasis on assisting such policies. In turn, this tendency regarding ODA appears to be driven by the interests of the corporations in the developed countries, who hope to sell plants and other facilities for processing garbage.

2. The Lack of Human Resources with Professional Expertise

The factors mentioned above are not the only impediments to government response toward industrial pollution. As stated earlier, environmental legal systems have been well established in East and Southeast Asia,[8] but these systems do not function effectively. The reason for this is a lack of human resources with practical work experience and with the capacity to enforce regulations in an actual setting.

2.1 Procrastination on Professional Expertise Development

Why does this shortage exist? First, the formation of practical work ability requires experience in, for instance, enforcing regulations. As indicated by Inoki,[9] there is a crucial need for knowledge and techniques which cannot easily be made into a manual, and which, because they reflect differences in workplaces, have specific characteristics rather than a universal pattern. There may be globally universal aspects of such knowledge and techniques, but they only become meaningful within the specific situation of a given region. And of course, it takes time to develop such capacities.

Given this, the immaturity of regional autonomy emerges as a critical issue. It is often claimed that Japanese environmental policies were not implemented at the national level until local governments first struggled with them and began to put pressure on the government and ruling party.[10] But in East and Southeast Asia, the development of local autonomy itself has been delayed because of the centralized nature of the political regimes, and local governments suffer from severe limitations in both authority and budgets.

However, it must also be noted that environmental problems vary greatly from region to region, and linear regulations at the central government level can do little to regulate functions in different regions. This can be a rationale for putting more value on unique regulation systems at the local government level. In order to accomplish such regulations, though, it is necessary to develop human resources capable of formulating and carrying out such regulations.

Unfortunately, given the present undeveloped state of local administration, it is difficult to find personnel with such abilities. For this reason, local governments lack the competence to execute environmental regulations that require professional expertise.

2.2 The Draining of Human Resources

Thus, the issue of human resources, i.e., retaining capable workers, becomes critical for government agencies and local government bodies as they try to implement environmental regu-

lations. In East and Southeast Asia, it is uncommon for capable people to stay on at such bodies. One reason for this, which is often mentioned, is the existence of clientelism,[11] i.e. the tendency for people to be hired and promoted on the basis of factors outside of their personal merits. When job placement is based on connections with influential people rather than ability, it is only natural for talented people who lack connections to work in the more competitive private sector, and especially in foreign joint ventures. Even after employment, if talented people discover that their chances for promotion are low, they will naturally switch jobs in the hopes of improving their chances. In addition, the income of workers in China and Southeast Asia is generally higher in the private sector, and especially in foreign ventures, than in the public sector. This aggravates the tendency for superior human resources to be drained from the public to the private sector.

This type of job transfer, which is known as "job-hopping," is a major impediment to attempts at environmental regulation. As I discussed earlier, regulations cannot function effectively without the presence of people with the ability to carry them out, and this inevitably requires a certain stock of experience. There are few chances for promotion in the public sector, however, so there is a tendency for people who have acquired expertise to shift to the private sector. This can lead to chronic shortages of the human resources needed for enforcing regulations.

"Job-hopping" creates another headache for educational institutions which develop human resources. It is not uncommon for teachers who have acquired a certain skill level to leave their workplace for the private sector, sometimes even moving overseas. This results in a degradation of educational standards. Moreover, many developing countries have obvious budgetary restrictions, which apply to the educational budget as well: their education facilities and equipment are humble. This is a particularly serious problem in the field of natural sciences, which is vital for developing people capable of measuring pollution. Under such circumstance, the mass production of the human resources needed for environmental regulation control is a major challenge. Other vicious circles, coupled with "job-hopping" by teachers, may make the upgrading of educational standards even more difficult. Thus, there are serious problems in retaining the executors of regulations.

2.3 The Unequal Development of Social Awareness

Questions remain, on the other hand, on whether the people and industries affected by the regulations have sufficient awareness to cope with environmental problems. As Fujisaki indicated, the development of mass media and public information activities by governmental institutions may have contributed to a greater awareness of the importance of environmental problems, but the problem is that even when people and industries become aware of the problems, they tend to firmly resist restrictions on their individual lives and corporate activities. In fact, the IDE's research in China and Thailand and my research in China[12] show that only a small percentage of citizens said they would agree to regulations that might lead to restrictions on their lives, such as limits on the use of electricity.

Why is this? One obvious reason is the growing desire for consumption, caused by the development of TV and other forms of mass media. That desire is admiration of the lifestyle of American mass society, which is based on the purchase of consumer durables, and this necessarily leads to a desire for increasing cash incomes. The problem here is the speed at which these goods are adopted. Even in Japan, the spread of material goods, and especially consumer durables, came piece by piece. In contemporary Asia markets, however, one can find, in addition to the TVs, refrigerators and washing machines which existed at the time of

Japan's rapid economic growth, VCRs, microwave ovens, pagers and cellular phones. Needless to say, people prefer color to black and white TV sets. There is a much wider variety of goods to attract consumers' attention than there was during Japan's rapid economic growth period. Therefore, consumption needs, and the accompanying demand for greater income, are extremely strong.

In all fairness, we must note that it is problematic for developed countries to attempt to impose controls on consumer demands in the developing countries. There is no doubt that the rapid growth of consumption causes drastic increases in energy use, which aggravates their environmental problems, but the decision of whether or not to suppress these needs has to be taken by the people of the area themselves.

Still, it is clear that the desire for increases in consumption and income is so strong that it spawns a short-sightedness in individuals and companies, who demand increases in current incomes and profits, and this is linked to an egoistic attitude which encourages one to pursue one's own profit, even at the cost of the good of others and of society. It must be noted also that this attitude adds fuel to the tendency of "job-hopping," and also leads to attempts to evade regulations. When regulations do not function well, the possibility of being caught for violations becomes small. Thus the egoistic decision to ignore regulations becomes a rational choice.

One of the factors contributing to this attitude is the destruction, which occurred simultaneously with the process of rapid economic growth, of the practices of communal regulation.[13] Regulations based on communal practices were deeply rooted in traditions, and community members were strongly bound by a system of mutual regulation. In contrast, legal systems rely on people's faith in an ambiguous existence that we call the nation. Therefore, though communal practices and laws are both called systems, they occupy very different positions in people's inner consciousness. Moreover, the development of the "law-abiding spirit" or "awareness of order" comes with a maturing of trust in the nation. It is assumed that people in developing countries have little such awareness.

Incidentally, a similar tendency was observed during the take-off period in Japan and European countries. In Japan, for example, it took a long time to establish the system of compulsory education. It is believed that this type of problem is even larger in Asian countries, where economic growth is more rapid. The traffic congestion that is encountered in China and many Southeast Asian countries may be a reflection of this lack of consciousness of order. If this is true, and if regulation controls do not function well, the establishment of an environmental legal system will not be sufficient to forestalling such behavior.

Two points need to be raised in relation to this analysis. First, businesses from the NIEs do not have much experience in operating under environmental regulations in their own countries, but they are now rapidly expanding into ASEAN nations and China. It is likely that, during this expansion, they will concentrate on maximizing short-term profits, and will ignore environmental regulations. In fact, I have been informed by a Korean environmental sociologist that such cases are facing criticism, even inside Korea. Another environmental sociologist who investigates Indonesian society told me that Korean companies have become a problem in that country.

Second, the behavior of these expanding industries creates a learning effect. If NIEs-based companies commit themselves to illegal behavior on the basis of this short-term perspective, there is a danger that local industries with similar perspectives will find this behavior rational and pragmatic. If this unbalanced social awareness aggravates environmental problems, efforts to preserve the environment through legal regulations are bound to be ineffective.

A gap between consumer desires and awareness on environmental preservation can also be observed in the developed countries, and especially in Japan. While it is difficult to suppress individual desires for consumption, a consciousness according to which people regulate their own lives in order to preserve the environment is emerging. For instance, recycling movements have spread widely among housewives. This consciousness is supporting the government's environmental policies.

The fact is, however, that it took decades for this consciousness to take root among the people. China and the Southeast Asian countries face the danger that environmental problems will worsen rapidly, and it is doubtful that they will be able to achieve similar transformations in people's attitudes within a limited time. If attitudes toward environmental preservation do not mature quickly, the inevitable increase in consumption will make it difficult to prevent the emergence of serious environmental problems.

In this section I stated that, while East and Southeast Asian countries are achieving rapid economic growth, they are also facing a host of environmental problems. In response to these problems, they have hurriedly adopted new environmental technologies and established environmental legal systems, making use of the "advantages of backwardness," and as a result, they have been faster than Japan in processing new technologies and legal systems. In some aspects, however, these "advantages of backwardness" are not functioning effectively. There are scarcities of talented human resources and a lack of maturity of professional expertise, both of which can be attributed to the speed of economic growth. These developments have also prevented the maturing of the attitudes of the people and industries who face regulations. This is a "disadvantage of backwardness" in dealing with environmental problems. How to overcome this disadvantage will be a key to finding solutions to environmental problems in the aforementioned Asian countries.

3. Implications to Environmental Policy and Social Research

What kind of policy responses are needed to eliminate the "disadvantages of backwardness"? And what kind of sociological research will be required to create appropriate policy responses? In the following section, I will discuss the development of policies which can contribute to the development and rooting of human resources with professional expertise, and sociological research methods which can support the effective execution of environmental policies.

As I have stated repeatedly, the development of human resources with the practical ability to implement environmental policies requires time. It is crucial to convince people with skills in analytical chemistry or a knowledge of legal systems to remain in the public sector instead of going out into private business.

In the past, some environmental economists focused on designing environmental protection systems to draw out optimal consequences, and failed to consider the kinds of perspectives which are the focus of this article. No matter how good a system for optimizing effects looks on paper, it will be ineffective if the human resources to operate it are lacking. In economic terms, there is a need today for labor market analysis of the middle class, which may have some professional expertise. However, it seems that past labor market analysis in developing countries has focused on the relationship between the formal and informal sectors, and on the related issue of labor transfers between them. Of course this kind of

research is important. Nevertheless, labor market analysis focusing on the middle class is needed in relation to environmental policies.

The following three pivotal points need to be remembered in conducting this research. First, the aforementioned practice of clientelism must be taken into consideration. To put it simply, the current trend of labor transfers must be studied, especially within the dual market situation, with a non-competitive public sector and a competitive private sector, and in the presence of clientelism. In addition, there is a need to study the conditions which will allow for a dissolution of the factors which maintain clientelism.

Second, we must remember that labor market disclosure will not necessarily lead to the maximization of welfare for society as a whole. As discussed earlier, it is desirable for individuals to transfer to more profitable sectors as the labor market becomes more open. However, this does not always bring desirable results to society in terms of the appropriate placement of human resources. Of course, applying restrictions on transfers is not appropriate. What is needed is to design effective incentive systems to make people stay in the public sector.

Third, the subject of research should not be limited to domestic labor markets, but must be extended globally. This is particularly true for the Philippines. It is well known that English-speaking Filipinos with a certain level of ability can go overseas to work. In terms of the optimization of profit, this is rational behavior. The question is whether any incentives, other than money, will be effective in holding off the draining of human resources.

At the policy level, this issue underlines the importance of labor policy, since maintaining human resources for policy enforcement is a precondition for effective environmental policy. In other words, the crucial policy agenda is how to provide incentives to retain human resources and to develop expertise in the area of implementation. We must develop an incentive system through which the improvement of abilities and achievements are linked to one's own profit.

The technology-oriented character of official development assistance (ODA) from the developed countries on environmental issues should be changed, and it should be made sensitive to the above points. This does not indicate the need to contribute directly to filling the gap in salaries between the public and private sectors. One idea would be to establish a joint research institution for gauging environmental problems and to gather capable people from local governments, with the donor countries paying their salaries. If clientelism persists, however, there is a possibility that the human resources at such an institution will be tied to influential persons and that they may not necessarily be capable.

Also, as mentioned above, it is often difficult to manualize administrative ability. In addition, the experiences of the developed countries cannot be simply applied. Therefore it is more effective to dispatch from developed countries the people with good practical work ability to institutions in the developing countries, and to make them co-engage in environmental regulation work and develop human resources there, instead of inviting people from the developing countries to the developed countries for training.

In cases where such personnel is dispatched, it is critical that they have practical work experience at the local government rather than state level. Environmental regulation cannot be uniformly managed throughout a country, as the regional differences are too obvious. Thus, to achieve the effective execution of environmental regulations, it is necessary to develop practical work ability at the local level.

In addition, there is a need to study the attitudes and behavior of the people and industries who will be the targets of the regulations. In environmental economics, some argue that penalties for environmental regulation are functionally equivalent to government subsidies.[14]

But if individuals and industries have a tendency to believe it is acceptable to commit illegal activities in order to optimize their profit in the short term, this argument itself becomes a moot point. If economic agents judge that law enforcement is not effective, it is natural for them to find it rational to attempt to evade regulations. Therefore, subsidy policies may be more effective than penalties.

It is thus clear that different policies may be appropriate in different situations, depending on the attitudes of the industries and people concerned. In this sense, attitude research is very much needed as a precondition to policy implementation. We must remind ourselves that attitude studies on environmental regulations should include more than the items directly related to environmental issues. If we take into consideration the kind of attitudes mentioned above, we conclude that the research should include various questions, such as desire for different material goods, desire for income optimization, degree of interest in job transfer, strength of egoistic values, and degree of law-abiding attitudes. And it is necessary to analyze the correlations among these attitude and other factors for clarifying a structure of people's consciousness.

From the survey research done in China,[15] I found the following two points about the workers in the state-owned enterprise. First, their attitudes toward environmental policies were not so much related to their recognition of the seriousness of environmental problems, as it was to dissatisfaction over the fact that they were not receiving the fruits of the rapid economic growth because of the delay in the reform of the state-owned enterprise where they worked. Second, some workers did lay a stress on the relationship between consumer life and environmental issues, but they were not clustered in a uniform group. I did not find the existence of a certain cluster of society who reflected on their own lifestyles. If this is so, we can only assume that people will opt to resist policies which restrict their living. Under these circumstances, it may be more effective to adopt policies which provide incentives to lead people in a desired direction. One idea is to provide subsidies for the production and purchase of energy-saving products. Providing aid for the implementation of such policies will be another important issue.

In Japan, it is said that it was the middle class who developed the most advanced awareness on environmental problems. They had a certain level of education, engaged in relatively professional work, and it may be that they were the ones who took charge of enforcing environmental policies at the practical level. Targeting these people in research can be a good idea, and conducting surveys periodically can be a help in grasping shifts in their attitudes. This can be useful in searching for policy direction.

In summary, in this article I have attempted to prove that the Asian countries have entered into industrialization in different historical phases than those of the developed countries. Because of this, they face different situations in terms of environmental problems. Thus there is a possibility that the environmental legal systems and technologies which were first established in the developed countries may not be fully appropriate unless they are modified. Environmental planning which combines more flexible legal and technology systems is needed. Concerning technology, Shumacher and others have carried out observations using the concept of "appropriate technology."[16] However, this sort of social flexibility is not only needed in technology. Indeed, flexibility is important in social policy. In this sense, societies need the most flexible environmental policy systems possible. These systems should include a labor policy to cultivate and retain personnel who are capable of implementing policy. These efforts will be necessary if we are to reduce the "disadvantages of backwardness" and resolve environmental problems. Assistance from the developed countries must take these points into consideration.

Notes

1. Shigeaki Fujisaki, 1995, "Development and the Environment: Experiences of Japan and Industrializing Asia," in Reeitsu Kojima et al., eds., *Development and the Environment: Experiences of Japan and Industrializing Asia,* Institute of Developing Economies, pp. 13-14.
2. Cf. Yohei Harashima, Tsuneyuki Morita, 1995, "Higashi-Ajia shokoku no kankyo seisaku no hatten katei no hikaku bunseki" (A comparative analysis of environmental policy development in East Asian countries), in *Keikaku gyosei* (Planning administration), 18-3.
3. Cf. Kenji Otsuka, 1996, "Chugoku toshi no jumin ishiki ni miru kankyo mondai" ('Environmental problems' in people's consciousness in urban China), *World Trend,* No.13; Tsuruyo Funatsu, 1996, "Tai ni okeru kankyo ishiki: kankyo mondai no taisei-naika to boom no yukue" (Environmental awareness in Thailand: system internalization of environmental problems and the direction of the booming), *World Trend,* No.13.
4. Cf. Eric Gamalinda and Shiela Coronel, 1993, *Saving the Earth—The Philippine Experience,* 3rd ed., Philippine Center for Investigative Journalism.
5. I used to regard one aspect of "disadvantages of backwardness" as a simultaneous synchronic occurrence of domestic environmental problems. In response to Fujisaki's comments to my presentation at the Societies for Environmental Economics and Policy Studies, this perception was changed. The revised definition of that aspect of "disadvantages of backwardness" is a necessity of simultaneously coping with various environmental problems, including global environmental problems imposed by the developed countries.
6. Duksoo Chung, 1995, "Urusan-onsan kogai higai-jumin iju taisaku jigyo" (Residents relocation projects in the environmental disputed areas of Ulsan and Onsan), in *Kankyo to kogai* (Research on environmental disruption), 25-1, p.54.
7. Cf. Moon Taehoon, 1993, "Evolution of Environmental Preservation Policy in Korea," in Kwang-Woong, Kim and Young duck Jung eds., *Korean Public Administration and Policy in Translation Vol. 2,* The Korean Association for Public Administration and Jangwon Publishing Co., pp. 219-244.
8. Naoyuki Sakumoto, 1995, "New Developments in Environmental Law in East Asia," Kojima et al., eds., *op. cit.,* pp.58-59.
9. Takenori Inoki, 1993, "Keizai to anmokuchi: chishiki to gijutsu ni kansuru ichi-kosatsu" (Economy and Tacit Knowledge: A consideration on knowledge and skills) in Keinosuke Itami et al., *Jinteki shigen: readings nihon no kigyo shisutemu* (Human resources, readings on the Japanese industrial system), vol. 3, Yuhhikaku Publishing Co.
10. Kazuhiro Ueta, 1995, "Environment and Economy: Lessons of Japan's Environmental Problems and Policies," Kojima et al., eds., *op. cit.,* pp. 58-59.
11. Cf. James C. Scott, 1972, "The Erosion of Patron-Client Bond and Social Change in Rural Southeast Asia," *Journal of Asian Studies,* 32-1.
12. Otsuka, *op. cit.*; Funatsu, *op. cit.*; Yoshikazu Hiraoka, "Chugoku kokuyu-kigyo jugyoin no kankyo ishiki no kozo" (Structure of attitudes toward environmental problems of Chinese state-owned enterprise workers), in *Sogo-kenkyusho shoho* (Bulletin of research institute), Research Institute of Nara University, Vol. 5, forthcoming.
13. Yoshikazu Hiraoka, 1996, "Sangyoka-ron no sai kentou: kankyou mondai no shakai riron no tame no yobiteki kosatsu" (The industrialization theories re-considered: a preliminary study for the social theory of environmental problems) in *Nara daigaku kiyou* (Nara University Bulletin), No. 24, pp. 226-229.

14. Kazuhiro Ueta, 1991, "Kankyo seisaku no mokuhyo to shudan: PPP no keizaigaku" (Objectives and methods of environmental policies; PPP economics), in Ueta et al., *Kankyo keizaigaku* (Environmental economics), Yuhikaku, pp.176-182.
15. Hiraoka, Bulletin of Research Institute.
16. Cf. E. F. Schumacher, 1973, *Small is Beautiful: A Study of Economics as if People Mattered*, Blond & Briggs, Ltd.

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