

Historical and Social Background of Japanese Environmental Issues

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1. Introduction

The environmental issues of a country have a lot to do with its geographical and climatic conditions. Japan has traditionally benefited from its uniquely favorable position in this respect, which has proved to be advantageous in terms of environmental protection.

Japan's geographical and climatic characteristics 1).2)

- Steep mountainous landform
- Warm and humid climate with 1,815 mm annual precipitation
- Long archipelago spreading from north to south
giving rise to:
 - Rich and diverse natural environment
 - Rich forestry occupying 67% of Japan's overall area
(cf: 32% in the U.S. and 20-30% in European countries)
- Development and establishment of irrigation-based farming system.

In a natural environment with abundant water and forestry, the irrigated rice field is the most suitable agricultural system. Huge amounts of rainfall are first retained in the forest for a certain period of time producing nutritious water which then flows into the rice fields. The rice field is capable of retaining water and preserving soil, thus allowing for semi-permanent repeated cultivation. In other words, rice field irrigation is a sustainable agricultural production system taking maximum advantage of natural advantages. Japan may lack in fossil fuel resources but it is blessed with an abundance of water and forest reserves, natural resources that can be recycled without limit if only we have the wisdom to utilize them in a proper manner.

"Beautiful rice fields and villages in a narrow plain surrounded by woods" was the typical Japanese landscape where people used to live in symbiosis with nature till the end of the Edo period.

After the Meiji Restoration, however, catching up with the western countries became the national priority, and Japan became one of the world's biggest economic powers during the 19th century. The process was not an easy one. After its defeat in World War II, Japan struggled to redevelop its economy. Scarcity in forest resources has been a significant factor greatly influencing policy makers, and people's consciousness and the environment have been greatly influenced by these economic and social activities.

This thesis will discuss the Japanese traditional social climate, the typical Japanese decision-making process, the major environmental events that took place in this country including responses of the Japanese government and the consciousness of private enterprise and the general public regarding this issue. We will also express our opinions regarding the development and background of Japanese environmental issues from a socio-economic point of view.

2. The traditional Japanese social climate and decision-making process

2.1 The forester's way of thinking

As mentioned above, the Japanese have traditionally benefited from rich forest reserves. Prof. H. Suzuki of Tokyo Univ. has an interesting theory based on his geographical, historical and climatic study of various peoples of the world. 3)

According to him there are two distinct views of the world, namely

the view assuming the world to be eternal and the view assuming the world to have a beginning and an end. These views, in his theory, originated separately in the forest and the desert. These opposite philosophies indeed create differences, as illustrated below, in religion, culture and lifestyle and all aspects of human existence.

Forest thinking	Desert thinking
<ul style="list-style-type: none"> *Concept of rebirth, regeneration →metempsychosis *Spiral view of the world →world is eternal *Acceptance of fuzziness →Vague consciousness of objective *Polytheistic, nature-worshipping *Point of view from the ground up→an ant's view 	<ul style="list-style-type: none"> *Concept of one-way →eschatology *Linear view of a world that has a definite end *Distinction between good and evil→precise consciousness of objective *Atheistic, nature-conquering *Point of view from the air down →a bird's view

It is assumed that the above forest way of thinking was the basis of the traditional thought and conception of the Japanese. The present Japanese religious attitude is a good example. Funeral services are usually held in the Buddhist manner, while wedding ceremonies are mostly Shintoist (Shinto is original Japanese polytheistic religion) or Christian. People celebrate New Year in shinto shrines and Christmas in churches. This absence of principle which is the way of life for most Japanese cannot be tolerated in western nations.

On the other hand, the forest way of thinking from an environmental point of view, obviously leads to the concept of constant symbiosis with nature. This concept in its turn leads to the

idea that a generation is obligated to leave a favorable natural environment for the next generation. However, a negative side of the forest way of thinking should also be mentioned, namely that the Japanese sometimes cannot fully appreciate the value of a rich natural environment since it was not acquired in this country but simply given, hence the indifference to environmental issues as compared with western nations.

2.2 Legacy of the Edo era

The Tokugawa Shogunate exercised stable and centralized control over Japan for about 260 years from the beginning of the 17th century till the Meiji Restoration. Japan's economic system has changed greatly since the times of Tokugawa, yet the social and spiritual climate fostered during Edo era still exerts considerable influence over the Japanese mentality today.

Characteristics of the governing system in Edo era

- National Isolation
- Strong centralism under the Shogunate
- Strict social hierarchy (Samurai warriors/farmers (or peasants)/craftsmen/merchants)
- Economic system based on the collected rice crop as land tax from each Daimyo's (local lord) domain, which confined farmers to that domain

These factors created the following socio-economic climate

- Economic self-sufficiency depending on paddy-field rice production (Closed economic system)
- Establishment sense of heredity where sustainability is valued

highly, leading to the philosophy of environmental preservation:

"Leave behind good fields for posterity."

-Establishment of sense of government's absolute superiority

(The Government is absolutely right and should never be challenged.)

-Formation of stable permanent Mura (village) society

National Isolation for two and a half centuries was possible since Japan was a geographically isolated archipelago surrounded by waters far from the western powers.

Another important factor was that the Tokugawa Shogunate, from the stabilization of their government in the mid 17th century, started to encourage Confucianism, the spiritual influence of which can never be underestimated. Confucianism values rule and order in society and in all organizations, including the family, encouraging every individual to do his or her best in his or her given position. This philosophy coincides perfectly with the principle of government by the Shogunate. People on the other hand were seeking practical way of life under the highly stabilized political circumstances rather than Buddhist salvation. Confucianism thus permeated as the general social ethic. The present Japanese mentality that pays sometimes excessive attention to human relations from the superior/inferior point of view in organization or community obviously stems from this historical base. In its environmental aspects, the Edo era, as mentioned, developed a economic system of recycling based on the agricultural production system made sustainable by irrigated rice fields. For example, in the early 18th century, Edo (now Tokyo) was the largest capital in the world with a population of over one million. Under the direct control of the shogunate, extensive recycling of resources was carried out. The most burdensome waste for such big city was the

discharge from its one million inhabitants, all of which was traded as valuable manure for agricultural production. Waste difficult to recycle was use for land reclamation or the development of new paddy fields. One example illustrating the clean environment was that whitebait fishing was quite popular, in the Sumida River in Edo. Whitebait is known to inhabit only clear water with less than 3ppm BOD (Biochemical Oxygen Demand). 4).5)

2.3 "Mura" and "Yoriai" as the original Japanese collective decision-making structure 6)

As mentioned in 2.2, a stable Mura society was formed during the Edo era in a spiritual climate that values "Wa" (harmonious human relations) above all else within the Mura. Collective decision making for Mura matters was carried out in Yoriai (meeting), which had the following characteristics:

- ① Each participant represented the interest of the group (family and relatives) to which he belonged
- ② His role was to prevent any decision made in the Yoriai from doing harm to his group (family and relatives) by;
- ③ Begging for understanding of the other participants regarding his position (to protect his group) particularly when his position was relatively weak.

It was taboo to debate logically based on objectives since such debate might make clear distinction among the participants, thereby disrupting human relations in the Mura.

The lack of the sense of objective and resulting ambiguous

attitude based on this kind of historical spiritual climate, has been indicated as a reason for Japanese behavior at the outbreak of World War II. In recent times also, the controversy in the National Diet (parliament) regarding the support for the Gulf War basically lacked debate over the objectives, merely making concessions according to the strength of the "outside pressure" .

In corporate society, business meetings are inclined to bear resemblance to certain aspects of the Yoriai nature, though each participant is aware of the logical necessity of debate. In a meeting with an agenda such as "new products development" , the argument is likely to be "Because our competitor did the same" or "To keep up with our competitor" . Thus how to keep up with other people (corporations) seems to be the main concern rather than corporate or individual objectives. Such an attitude could result in excessive competition or standardization.

Nonetheless, there is at least evidence of change in this mentality, particularly in companies promoting international or global activities, when contact and negotiation with westerners are common. In these circumstances, the ability to debate logically is becoming increasingly important. On the whole, it may be assumed that either the Yoriai method or the logical argument method will be applied on a case by case basis. It may be noted at the same time, however, that once an objective is set, the Japanese are quite effective as a group in attaining that objective by organizing and implementing action plans, as we can see in the success of QC activities in Japanese corporations.

3. Major environmental events and corresponding administrative attitudes

3.1 Transition of major environmental events

In Japan, as mentioned above, environmental issues virtually did not exist in the period up to the end of Edo era. Industrial modernization and economic development from the Meiji Restoration started to generate certain problems of an environmental nature, the outline of which is as follows:

I. The earlier Meiji era (around 1880)

- Japan saw its first industrial pollution (Ashio Copper Mines, etc).

II. The late Meiji era (around 1910)

- Smoke from factory chimneys started to pollute urban areas.

III. Post World War II period (1950's onward)

- Through the post-war restoration and subsequent high economic growth, economic expansion became the uppermost social priority, with main emphasis on rapid industrialization in the heavy and chemical industrial sectors.
- Such rapid industrialization generated serious environmental problems through industrial pollution such as Minamata-Disease, Minamata-Disease in Agano River Basin, Yokkaichi asthma,

Itai-Itai Disease, etc.

One major cause of earlier industrial pollution was the inability to foresee any pollution through a lack of knowledge. Also notable as is one of the characteristics of environmental pollution in Japan is the fact that geographical constraint necessitates the location of factories in areas close to residential sectors.

The history of environmental problems thereafter is summarized chronologically below:

History of Environmental Problems

	Late 1950's to early 1970's	Late 1970's to early 1980's	Late 1980's onward
Socio-economic background	<ul style="list-style-type: none"> -High economic growth period -Priority given to Scale Merit -Heavy & chemical-oriented material industries developed -Plants relocated outside urban areas nationwide under the "National Comprehensive Development Plan", etc. to develop manufacturing centers in the provinces 	<ul style="list-style-type: none"> - "New Price System" after the oil crises and subsequent decelerated economic growth -Development of original technologies -Industrial enhancement through the development of high value-added industries 	<ul style="list-style-type: none"> -Emergence from depression to stable economic growth -Globalized and deregulated economy -Concentration of socio-economic activities in metropolitan areas -Regional development through resort development projects -Continuing growth of mass-production/mass-consumption
Environmental aspects	<ul style="list-style-type: none"> -Industrial pollution from plants and factories -Destruction of natural environment by various kinds of development 	<ul style="list-style-type: none"> -Nitrogen oxide pollution in metropolitan areas -Non-industrial/urban pollution such as civilian waste water -Pollution by chemical substances 	<ul style="list-style-type: none"> -Aggravation of urban/civilian pollution -Deterioration of global environment
Countermeasures taken	<ul style="list-style-type: none"> Stricter regulation to individual pollution sources Individual regulation to protect designated areas from destruction -Development of counteractive technologies -Governmental aid/subsidy as incentive to prevent pollution 	<ul style="list-style-type: none"> -Aggregate contaminant restriction -Systematic promotion of pollution-preventing industries -Environmental assessment for preventive protection -Emphasis on environmental amenity 	<ul style="list-style-type: none"> -Environmental protection programs/ considerations incorporated into socio-economic activities -Initiation of international cooperation

3.2 Transition of administrative attitudes on environmental issues in the post-war period 1)

In Japan environmental problems gained in significant after World War II. The government has been coping with these problems at each stage of development on step by step basis.

Major milestones have been:

Regulation in the late 1950's and early 1960's

This was during the post-war period of economic restration, when economic development was so overly valued and emphasized and harmony with the environment was not necessarily a major aim. Also new environmental problems occurred one after another, causing the government to be always one step behind in its counter-measures.

Fundamental Law for Environmental Pollution Control (1967)

This law defined the range of pollution to be prevented or remedied as well as the responsibilities and obligations of the national government, local government and private enterprises in regard to environmental problems. The law created a framework for the countermeasures to be implemented more systematically and effectively.

The 64th Session of the National Diet in 1970

(the so-called "Pollution Session")

Articles emphasizing that the priority countermeasures of economic development were deleted, removing public suspicion that the government might still be prioritizing economic success. The primary government stance was defined in favor of prevention of environmental pollution. All laws concerning environmental pollution were

reinforced.

Inauguration of the Environment Agency in 1971

This provided a framework for the implementation of environmental administration, not only for pollution prevention but also for the protection of the natural environment.

Consent obtained for the concept of Environmental Assessment in 1972

The concept of environmental assessment was agreed upon by the cabinet, after which legislative actions and administrative guidance by each ministry reinforced the system to implement environmental assessment.

"Environmental Impact Evaluation" approved in 1984

The cabinet enacted "Implementation of Environmental Assessment" in August 1984 and defined the "Implementation Scheme for Environmental Impact Assessment", which is a uniform rule applicable to large-scale projects undertaken with the participation of the State.

Also various appropriate agreements were made between national government and local government and between local government and private enterprise, all of which contributed considerably to the rapid improvement of the environment.

They were:

Between national and local government

Under the guidance of the national government, each municipality established ordinances regarding prevention of pollution and preservation of the natural environment that allowed consideration of local characteristics.

Between local government and private enterprise

Local government and private enterprise reached voluntary agreements on pollution control which specified even more stringent regulations than laws and ordinances. Such agreements gradually became supplementary laws and by-laws in each region. It should be emphasized again that these agreements were reached on a voluntary basis. (The latest trends are shown in 5.)

3.3 Japan's institutional and administrative characteristics in environmental policy

It would be helpful to have an overview of Japan's institutional and administrative characteristics, for better understanding of the issue.

- ① Despite the Constitutional separation of the three powers, the administration has comparatively stronger power in Japan, whose administrative guidance (Gyosei Shido) plays a significant role in implementing laws and ordinances. (In the U.S. the Legislature and the Judiciary seem to be stronger than the administration.) Such circumstances enable Japanese governmental policies to be implemented in comparatively flexible and efficient ways.

The Environment Agency is responsible for the general coordination of policy among the concerned ministries and agencies, while each ministry or agency is responsible for implementation of environmental policy in their fields. Wherever potential problems are likely to occur, the respective ministry or agency provides administrative guidance to the industry concerned, prior to legislative regulation, thus preventing in most cases serious

violation of the law.

- ② Comparative authority of national and local government in environmental matters is generally as follows:

Authority of	Environmental matters	General matters
National government	minor	major
Local government	major	minor

In dealing with matters relating to the environment and pollution, it is important to consider local characteristics, which can not be achieved only by central government setting regulations. Therefore, this balance of authority seems to have been effective thus far.

4. Activities of private enterprise and the general public

Besides the efforts of national and local government, efforts by private enterprise and the role of citizens and neighborhood groups should not be undervalued.

4.1 Corporate effort

1) Two aspect of corporate efforts 1),7)

Corporate efforts to prevent pollution and to protect the environment can be separated into the following two areas:

① Direct action

Positive investment was made to prevent pollution and develop related technologies. The background to this action was regulation, administrative guidance, public opinion, change in management attitudes, although another major factor was the formation of environment-related industry market which encouraged investment.

② Consequent contribution (with oil crises as a turning point)

The structure of industry was changed from energy-consuming to energy-conserving and from heavy industry to light industry. Meanwhile the conservation of energy and resources was pursued actively, leading to a decrease in the discharge of hazardous substances.

2) Efforts by electric power companies 8)

The efforts made by electric power companies are representative of the progressive step taken by Japanese industry as a whole. As mentioned earlier, pollution became a social issue to be faced by both public and private sectors in late 1950's to early 1970's. The electric power industry in particular, made use of most advanced technology available at that time, mainly from the USA, to prevent environmental problems. Soaring electricity demand in those high-growth days necessitated construction of large capacity thermal power plants. Conscious of the gravity of environmental issues, particularly air pollution mainly by sulfur oxides, electric power companies were determined that new power plants should not be constructed without the installation of desulfurization equipment and the use of quality fuels (low sulfur petroleum or LNG). Steps were also taken to reduce nitrogen oxides (cause of photochemical smog), soot, water pollution, etc.

Action to prevent pollution during plant operation was also taken. Flue gas from thermal plants began to be monitored in the central control room while automatically recorded continuous data from many power plants were sent by telemeter to local government bodies. All of these measures are incorporated on a voluntary basis into the agreements between local government and private enterprise mentioned earlier.

Since the 1970's, through environmental assessment the electric power companies have conducted environmental surveys, estimation and evaluation of the effects of power plants construction, and this information is open to the public. Environmental protection measures that were introduced reflected the opinions of both national government and local communities in order to develop public trust of thermal power plants. At the same time, efforts were also made to conserve energy and improve thermal efficiency (Larger capacity, higher temperature / pressure, combined cycle). In the late 1980's, the highly efficient combined cycle gas turbine generating method was developed to the practical application stage.

Expansion of LNG thermal power generation and the active introduction of nuclear power generation continued to be carried out. Nowadays increasingly more attention is being paid to social trend, towards public amenity, with full consideration given to landscaping and greenery of premise, facilities in order to harmonize power plants with the local landscape and the community.

3) Characteristics of management policy in Japan

As explained above, environment-related investment (by Japanese

private enterprise) was considerably active in particularly by large companies. Japanese management methods may to some degree account for such active investments. Japanese corporations invest for long-term expansion of their sales and market shares rather than for short-term profit. Unlike their U.S. counterparts, Japanese corporations are not under the strong influence of the shareholders, rather considerable respect is paid to the steady and long-term interests of all concerned parties including employees, friendly banks, business connections, etc. Management style with emphasis on the capital side at the expense of the employees, such as in laying off, is usually avoided. Permanent employment is one prerequisite of Japanese corporate management. Decisions are generally made by group consensus, not by strong individuals. This kind of management style may have contributed to the decision to make active investment in the environment.

4.2 Activities of citizens and neighborhood groups

In the earlier post-war period when government regulation was inadequate, local residents had to organize movements to protect their own interests against environmental pollution. Particularly during the period after the late 1950's that saw many cases of industrial pollution, local residents suffering health problems due to the atmospheric pollution, water pollution by heavy metals, etc, began to organize demonstration against responsible corporations, filing lawsuits and appealing to the government and the National Diet in an attempt to recover their health and rights. In 1970 when the "Pollution Session" of the National Diet was in session, these movements reached a peak at 292 active groups in 182 municipalities. These citizen campaigns helped the whole nation to appreciate the

gravity of the issue and prompted regulatory legislation.

However, unlike its U.S. counterpart that originated in a movement to protect the natural environment, the Japanese citizen movement was started to help the victims of pollution. The range of its activities, therefore, were apt to be narrow, unable to win broad public support. Thus we have not seen any NGOs influential enough to take the initiative in the environmental policy-making. In the earlier stages, the resident groups did not know how to conduct an effective campaign, so they sought support from anti-Establishment activists who eventually came to have rather strong voice to jeopardize impartial dialogue with governments and corporations. Nowadays, however, amidst increasingly favorable relations between the government and private enterprise, we see many grass roots NGO's growing not only to support victims of pollution but also to protect the natural environment and wildlife, and to promote recycling and international cooperation.

5. New approaches to environmental issues

It may safely be said that preventive countermeasures for conventional industrial pollution have been basically established through efforts by the government, private enterprise and the general public. We now see, however, the emergence of other problem areas that need to be dealt with. Global warming, acid rain, etc. Another is the problem of waste or rubbish which requires a completely radical solution since it is closely related with each and every member of society. New environmental policy is being studied to take into account the change in the nature of the issue, namely that it is no longer a question of wrongdoer vs victim, but of everybody being

wrongdoer.

Approaches for these problems are summarized as follows:

1) Global problems

Recent positive action in this area are:

Government Policy:-in October, 1990, "Action Plans for Global Warming Prevention" was decided upon in the "Meeting of Ministers Concerned about Global Environment Protection"

-In 1988 legislative action was taken for positive stratospheric ozonlayer protection which was later reinforced in 1990 by strict regulation of CFCs to take the lead among nations.

Corporate Action -In April, 1991, "Keidanren Global Environment Charter" (English translation attached) was issued

-In May, 1991, "Japan Committee for Global Environment" was inaugurated inviting representatives from the various civilian sectors.

-In July, 1991, "Japan Fund of Global Environment Trust" was established by the private sector.

-In September, 1992, "Keidanren Natural Environment Fund" is to be established.

It should be noted that domestic environmental problems are dealt with on the spot mainly by the concerned parties, while global environmental problems are tackled mainly at high-levels of

government and public enterprise.

2) Dealing with the waste problem

Waste is a serious issue, particularly in Japan that generates so much of it. In every major Japanese city the problem of waste disposal is increasing day by day as the quantity of waste grows (136,912 tonnes per day as of 1988). The causes of the problem, so different from the society based upon recycling in the Edo period, run deep, as illustrated below. 1), 10)

- Economic system where mass production/mass consumption leads to mass waste (frequent model changes of goods, excessive wrapping, excessive distribution of food/goods, increase of construction material waste generated by re-development)
- Moral paralysis under the above circumstances (throwing away cans, cigarette butts, or leftover food, abandoning still usable goods to purchase new ones, etc.)

Waste disposal has almost reached its limits in metropolitan areas; some are already transporting waste to more remote areas at considerable cost. Besides further construction of disposal sites, great effort and ingenuity at all levels of Japanese society are needed to realize a recycling-oriented economic system that generates less waste.

6. Conclusion

In Japan, as stated above, once national consensus on environmental protection was reached in the 1970 Pollution Session of the National Diet, positive action was made by national and local government, private enterprise and the general public achieving remarkable results. This can be called "another miracle" beside Japan's miraculous post-war economic recovery.

Possible reasons for this "miracle" are as follows:

- ① The Japanese national character works efficiently and systematically to achieve objectives with effective cooperation between government and the public once objectives are decided.
- ② Symbiosis with nature is a concept that existed throughout traditional Japanese society. Also environmental policy was able to attain general social acceptance/consensus after minimum levels of economic recovery and basic living standards had been achieved.
- ③ Energy crisis was a catalyst leading private enterprise to tackle environmental problems. Since then, energy conservation has coincide with corporate economy and has been vital to the Japanese industry operated with scarce energy resources.

It may be said, therefore, that the problem of conventional industrial pollution in Japan has been largely solved, while, as mentioned in 5., global problems and problems of a new nature such as waste disposal remain outstanding.

History has shown us that in Japan problems rapidly come to settlement under government-people coalition once the problem has been identified and recognized across the board. Most of all, we need to become aware of the seriousness of everyday environmental problems. We need to return from our present mass-production/mass-consumption paralysis to our original recyclable society. Learning from lifestyles in the Edo era could help us in this purpose. In those days, Japan was operated as a closed, recyclable economy under the National Isolation. We must now realize this planet is also a closed system. Substances consumed and wasted daily by the Japanese, are limited resources in the closed system called the Earth. The following words should be engraved in the minds of all.

THINK GLOBALLY, ACT LOCALLY!

People, government and private enterprise, all need to think about daily problems from the earth's point of view in order to appreciate their seriousness. At the same time we must do something in our daily lives to solve the global problems too.

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ATTACHMENT B
FINAL PAPERS FROM SEATTLE WORKSHOP

List of Papers

First Session: Underlying Historical and Cultural Factors Influencing Energy and Environmental Policymaking in the U.S. and Japan

Historical and Social Background of Japanese Environmental Issues

Katsumi Saruta (presented by Hiromasa Amano)

U.S. and Japan: Decision Making in Energy and the Environment -- A Comparative Study

Chester L. Cooper

Second Session: Current Policymaking Processes for Environmental Decisionmaking

Current Environmental and Energy Policy Making Processes in Japan

Hiroaki Fukami

U.S. Environmental Policymaking: Institutions and Processes Which Prevent Consensus

Robert L. Paarlberg

Third Session: Past Experiences with Energy and Environmental Cooperation Between U.S. and Japan

What Lessons Have Japan and the U.S. Learned from Previous Bilateral Efforts on Energy and Environment?

Ken'ichi Odawara and Kaname Saruya

Past Experiences with Energy and Environment Cooperation Between the U.S. and Japan

Roger LeGassie, Warren Donnelly and Lawrence Scheinman

Fourth Session: Private Sector Policymaking Processes

The Private Sector in Environmental Policymaking in Japan

Mikoto Usui

The Failure of the U.S. Environmental Decision-making Process: Will a Better Way Emerge?

Roger W. Gale

Fifth Session: Priority Areas and Opportunities for Cooperation

Opportunities and Priority Areas of U.S.-Japan Cooperation

Shuzaburo Takeda

Priority Areas and Opportunities for Cooperation: Innovation for Environment, Energy and the Economy

Robert W. Rycroft