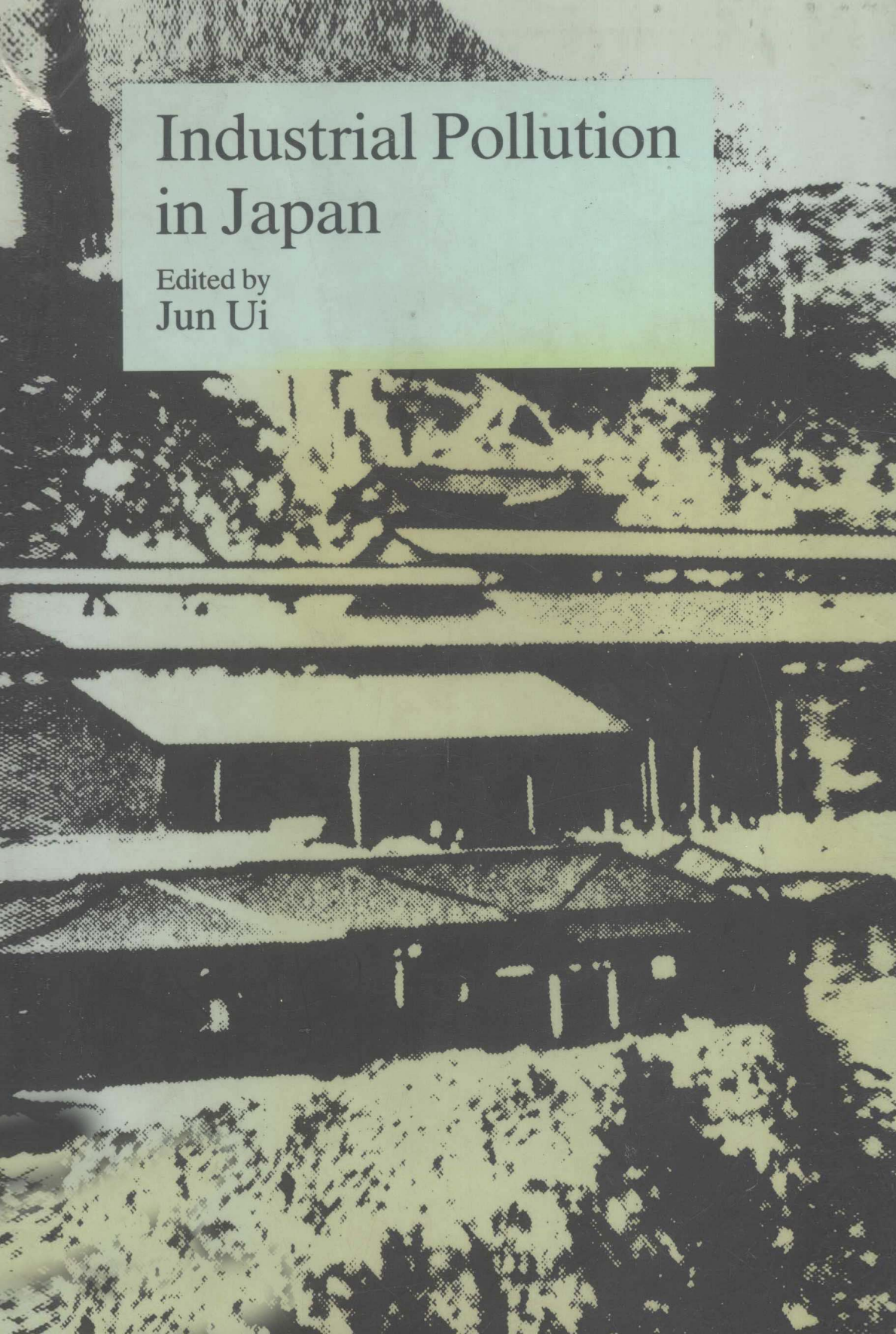


# Industrial Pollution in Japan

Edited by  
Jun Ui



# **Industrial Pollution in Japan**

*Edited by*  
**Jun Ui**

*Published with the support of the University of Okinawa*



**United Nations University Press**

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The United Nations University project on Technology Transfer, Transformation, and Development: The Japanese Experience was carried out from 1978 to 1982. Its objective was to contribute to an understanding of the process of technological development in Japan as a case-study. The project enquired into the infrastructure of technology, human resources development, and social and economic conditions and analysed the problems of technology transfer, transformation, and development from the time of the Meiji Restoration to the present. The research was undertaken by more than 120 Japanese specialists and covered a wide range of subjects, including iron and steel, transportation, textiles, mining, financial institutions, rural and urban society, small industry, the female labour force, education, and technology policy.

This volume presents research results on the negative side-effects of Japan's rapid technological and industrial development since the Meiji period.

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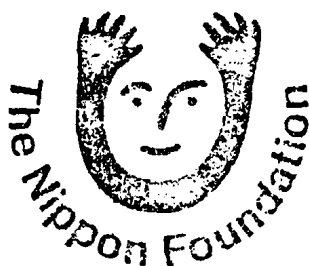
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## Foreword

The research findings contained in these pages relate to a whole corpus of material on technological transition, change, and development, and form part of a project initiated by the United Nations University with the co-operation of the Institute of Developing Economies, Tokyo.

The problems of industrialization-induced environmental pollution are fundamentally life-threatening and as such can and must be avoided. The severe problems brought on by environmental destruction can never be completely rectified because the culpable industrial organizations, the victims of environmental pollution, and the negatively affected society as a whole can never be fully freed from the deleterious results of such intrusions. A single pollutant discharged by a specific industrial complex may not be harmful in and of itself, but it may very well cause unimaginable problems by combining with other materials in the natural environment. Possibly, as with the problems inherent in acid rain, the negative results may be found across international borders, within the boundaries of other countries. Also, in the early stages of industrialization, primary sectors of industry may be the victims of environmental destruction, but as industrialization advances these primary sectors almost always come to depend on heavy industries, as is the case with chemical fertilizers and insecticides, and as such become a new source of environmental problems.

In such cases the pollution problems manifest themselves as ruined health in specific populations or as the overall destruction of specific ecosystems. Just as the driver of an automobile benefits from the motion provided by the combustion of fuel, so also does he become, at the same time, a victim of the exhaust gases thereby generated. The use of chemical fertilizers and insecticides by farmers more often than not also kills fresh-water fish, which are a primary protein source for those same farmers.

It is a generally accepted fact that environmental destruction increases the negative effects of natural disasters by intensifying the resulting problems and widening the areas affected. Within this context, it is almost impossible

to apportion responsibility for the exacerbated environmental destruction. When development becomes a national goal, developers and profiteers alike are little concerned with environmental problems and responsibility is never really considered, or if it is considered the issues are twisted and responsibility shifted. Even if development is the primary goal of a nation-state, when such development becomes the main cause of a seriously damaged natural environment or is deleterious to the health of the citizenry as a whole, then the development policies themselves must be called into question and blame properly allocated. Within this context, the politics of development and human rights considerations are brought into serious confrontation.

It is in these situations that problems of environmental pollution become the basis on which compromise is generated and development rationalized. When citizens no longer have the right of protest and political involvement, there is no freedom of thought and action, and as a result environmental pollution continues unabated. The rapid national development that is taking place in the South is a serious life-and-death matter for nations of the North. This means that citizen freedom and political involvement are matters that have global ramifications and as such concern peoples of all nations.

The problems dealt with in the pages that follow are taken from Japan's experiences with environmental destruction, and as such designate specific responsibility. In these situations, the total lack of an environment-related legal structure and a basic lack of efficiency on the part of governmental administrations made problem-solving very difficult. The government bureaucracy was unable to respond to unfamiliar situations. Rapid industrialization led to the suppression of mediating functions within society. At the same time people who tried to encourage mediation and moderation were mistreated and the problems were thereby further complicated. And although pollution problems in Japan became apparent with explosive suddenness along with the development of heavy chemical industries during the high-economic-growth period, environmental pollution has existed since the beginning of Japan's industrial era. Shozo Tanaka (1841–1913) was an early-industrialization-period politician who died a bitterly disappointed man after the suppression of political freedom by the Meiji government. However, this same Tanaka was resurrected as a symbol of the anti-pollution movement, and all his writings have been compiled and published. The supporters of Tanaka were people related to Yanaka Village, who had great respect for him and lived in accordance with his philosophy of nature. Again this year a memorial service for Tanaka will be held on the site of Yanaka Village.

The reason why Professor Jun Ui came to be chosen as editor of this volume relates to my encounter with him at the UNITAR meetings in New Delhi, India. I was deeply impressed by his efforts there at re-educating the participants about the dogmatic idea that socialist countries are pollution-free. The evaluations and conclusions reached in this compilation of studies rest with the individual authors and it has been my responsibility to ensure that each of the writers was guaranteed unequivocal freedom of scholarship

and expression. These studies are the product of many long hours of writing, co-ordination, discussion, translation, and staff work relative to the issues involved and the surveys made. It is very much regretted that, because of editing problems, not all the works of the various contributors have been included in the present volume.

After reading this material one may come to the conclusion that, as a result of the difficulties related, the struggles against environmental pollution ended in defeat. It must be remembered that while anti-pollution movements usually ended without bearing much fruit, the experience of such struggles subsequently enabled potential problems to be nipped in the bud before they became too serious. It cannot be said that attempts to solve problems were completely lacking nor that industrial organizations and government administration were completely inactive in this regard. It can be said, on the other hand, that, within the context of the present socio-economic situation, a company that causes a severe pollution problem will in the end lose its competitive edge. Citizens' movements will no longer tolerate this kind of governmental and administrative negligence. However, before this present stage in the anti-pollution campaign was reached, many serious ecological and environmental problems were encountered, a few of which are described in the present volume. These pollution-related experiences have had a profound impact on the personal histories of the pollution victims. The contributors to this work are the people who initially uncovered the problems encountered by the pollution victims, made records of them, carried out research, and finally brought the problems to public attention.

It took many many hours of dedicated work to bring about the publication of this volume. I would like to express my sincere appreciation to all those who worked so hard behind the scenes to bring the project to completion.

Takeshi Hayashi  
Project Co-ordinator



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## Overview

*Jun Ui*

### I. Environmental Pollution: Basic Precepts

Environmental pollution problems represented by Minamata disease, Itai-itai disease, and Yokkaichi asthma have all become well-known phenomena that are a serious threat to life and health. These problems were so serious that they engendered a new word, *kogai* (destruction of the public domain), which is now in common parlance. In this regard, there is no doubting the fact that Japan has come to be known worldwide as the nation with the most serious environmental pollution. However, it must be kept in mind that Japan's environmental destruction is not a recent phenomenon, but was also a very prominent feature of the social landscape from the very beginning of the country's modernization and industrialization period.

During the feudal Tokugawa era, Japan became acutely aware of Western imperialism and its effects on surrounding countries, as manifested in such international confrontations as the Opium Wars. After three centuries of Tokugawa-dominated isolation, Japan was forced, through internal pressures and external circumstances, to make the Meiji Restoration transition that required an opening of its doors to foreign trade. With this transition, government policy focused almost solely on a primary thrust in the direction of radical industrialization, the main purpose of which was to maintain the security of the state against the colonizing pressures from the West. This policy required that industrial technology be imported from Western nations. From this time onward, rapid economic growth and industrialization was promoted to the exclusion of all else and, with this, environmental pollution became a rapidly expanding feature of the structures of economic and military power. Through the pre- and post-Second World War eras, environmental destruction became a permanent feature of Japan's industrialization process, one inherent in Japanese forms of modernization.

## 1. Reasons for Intensified Environmental Destruction

The Japanese archipelago is surrounded by ocean and its shores are constantly washed by the ebb and flow of the ocean tides. Because of the abundant rainfall, water pollution should not be a major problem for Japan. Similarly, because of strong seasonal winds in the winter, there should be no serious air pollution. How is it, then, that Japan, in spite of these pollution-restraining natural conditions, came to experience some of the most intense environmental destruction the world has ever seen? In order to answer this question, it is necessary to look into the historical background.

In the first place, the attitudes of commercial enterprises must be singled out as the cause of these serious environmental problems. Industrial capital in Japan was nurtured by state power, and as such did not find it necessary in the course of its development to come to any ethical understanding with the established power structure, as had been the case in Western nations. Within this context it was easy for economic organizations to plunge headlong into economic growth and profiteering based on a complete disregard for social responsibility. If there were any discussions of social responsibility they were always in relation to profit and employment enhancement, without any reference to external diseconomies. A special concept of community, which will be dealt with more fully later, nurtured the idea that the value of the unitary organization was of a higher order than that of individuals or, for that matter, of society as a whole. Thus there was a strong tendency to disregard ethical considerations in relation to the individual and society. With the state-defined national goals of rapid industrialization for the sake of increased military power and national wealth, there were no ethical considerations that could restrain expanding corporate entities. Throughout Japan's experience with environmental pollution, these entities ignored or rejected the consideration of pollution issues, and when the problems became so intense that they could no longer be ignored, it was usual for them to bribe the victims of their pollution or to disrupt victims' campaigns by hiring scholars to provide the learned rational that would decrease the intensified social pressure. Through a combination of low wages, import and export controls, and unrestrained waste discharge, a high rate of economic growth was attained by Japanese industry. From the pre-Second World War era until the 1960s Japan's main industries—iron and steel, cement, and pulp and paper—succeeded in primary capital accumulation by forgetting the diseconomies of environmental pollution and spending the larger portion of profits on new production equipment. The dual structure, a unique characteristic of the Japanese economy, with its layers of subcontractors, helped channel the social costs for pollution or work hazards downstream to be borne by these small and medium-sized industries. The disregard of large corporations for pollution problems, therefore, played no small part in their accumulation of large amounts of capital.

In the second place, the political attitudes of, and the misguided supervision provided by, national and local governments functioning in collusion

with business organizations greatly exacerbated environmental problems. In order to provide a countervailing force to the imperialism of Western nations, Japan attempted, as a late-comer in Asia, to join in the competitive race for colonization. Thus, up to the end of the Second World War, another national goal was to increase national wealth and strengthen military power. For this purpose, the emperor system, allied with the state religion of Shinto, provided the rationale for building a quasi-family nation-state where people were persecuted if they did not subscribe to the national goals. Pollution-victim-based citizens' movements were suppressed on the basis of national security. In the post-Second World War period, the national government did not change these basic structures, and government policy has consistently been one of providing protection for business organizations. Is there any other country in the world that makes the protection of business and industry the basis upon which environmental pollution regulations and legal codes are built? In pollution-related disputes, it was common that the legislature stood proxy for corporations, and even anti-pollution agreements concluded between municipalities and enterprises (often shortly prior to the installation of new equipment or facilities) were used as a shield to protect both the enterprises and the municipal authorities from victims' actions. The symbiotic relationships between Japanese politics and business are now so solidified on an organizational level that they represent true state monopoly capitalism. Under the aegis of the conservative party that has long ruled Japan, officials in the highly organized government bureaucracies take management positions in large corporations upon their retirement from government service, or become conservative politicians. A comparison could be drawn with the behaviour of high-ranking officers in countries with military regimes, but this phenomenon is rarely observed in industrialized countries other than Japan. This symbiosis between business and government is to be found in all industrial sectors. In the construction sector, where projects are often financed with public funds, functioning has become impossible without this government-business interaction. The issue of *dango* (a practice whereby bidding prices are fixed in advance by the bidders), which has become a social issue since the early 1980s, represents only the tip of the iceberg. As an example of this, sewage construction, which is related to pollution prevention and control, employs this method in bidding for publicly funded projects. The allocation of public investments is an important means through which the ruling conservative party has maintained its long-established rule, and a triangular system of structural corruption composed of industry, bureaucrats, and politicians controls Japan's national and local politics.

In the third place, policies designed to introduce scientific technologies believed to be most effective in the thrust toward modernization have consequently resulted in intensified environmental destruction. Historical findings in relation to pollution problems, starting with the Ashio copper mine, indicate that Japan has characteristically introduced production technologies without the benefit of pollution-prevention technologies. Examples of this fact are to be found in such industrial sections as iron, chemicals, and pulp, where

production results from the application of technology to basic raw materials. In the case of the oil refining industry, which uses a lower level of technology, certain kinds of oil and water separation techniques that also functioned to prevent environmental pollution were introduced, but the purpose of these features was not understood at the time. Another factor which confirms this tendency is to be found in the fact that the academic disciplines of chemical engineering and sanitary engineering were found by a 1948 US Education Commission survey to be absent from Japanese education. As time went on, chemical engineering, which is important to industrial production, came to be taught in all national universities, but sanitary engineering, which is not directly concerned with production, is to be found only in two universities in Japan.

As far as the introduction of the natural and social sciences is concerned, this must be understood within the context of the basic conceptualization that determined the relative importance of these disciplines. Science, which was introduced from the West, was selected in terms of its ability to serve the ruling classes. The scientists were accorded positions of power in society and their studies were limited to very narrow fields of applied inquiry. They lacked the ability to see that it is also essential to inquire into basic realities. Genuine science has to be allowed to develop in its own unique direction, but Japanese universities tended to function only as monopoly retainers of imported theories. Theories generated by foreign scholars gathered a following of disciples among Japanese scholars, who were also far removed from the daily lives of the people. Science and technology were thus used as a means of retaining and strengthening the power of the ruling classes. Therefore, scientific inquiry into environmental pollution and its related subjects were and are dealt with only within the context of the social sciences, the natural sciences, and medicine, and each of these departments is further divided in terms of research into basic and applied orientations. Because of this, scientific and technological training did not provide a wholistic understanding, and the problems associated with technological development assumed positions of secondary importance.

In the fourth place, since Japan's modernization processes took place without the benefit of a mass revolutionary movement, concepts pertaining to the dignity and worth of the individual and to the protection of basic human rights are still lacking from basic national thought structures. In a historical perspective, from the period of development of wetland rice farming in the seventeenth century, the single chronic condition facing society was a basic lack of water for this mode of production. In order to provide for their own protection and to maintain control over water resources, people enclosed themselves within tightly knit and convoluted community structures. This resulting village mentality was skilfully manipulated and used as a means of social control from the Tokugawa period up to and including the period of modernization. The Meiji government made use of this mentality for social control and, by combining this with an increasing fear of invasion from the West, was able to establish a quasi-family nation-state using state Shinto and

the emperor systems to provide the necessary social cohesion. The resulting concept of the unity and solidarity of the Japanese as a definable race was brought to final fruition in the imperialistic idea of the "Eight Corners of the World under One Roof." The same Japanese rationalism which first flowered among the early farming villages as a means of survival remains alive and well in most business organizations, whether created in the pre- or post-Second World War eras. Company labour unions which have existed in the same industries from before the war are built upon the same concepts and models. A strong group orientation, loyalty to the organization, decision-making inability relative to primary concepts, submission to authority, attitudes of discrimination, and an excessive concern for social status are all national characteristics of the Japanese which have been nurtured throughout the length and breadth of the educational system. Confucianism, which has often been seen in the West as central to Japanese understanding, is only an ideological overlay used to strengthen the social structures and modes of production already in place, and as such does not occupy a central locus in Japanese self-understanding.

The predatory expansionist policies of Japanese imperialism resulted in the invasion of neighbouring countries for colonization purposes. In this context, a radical negation of the human rights of others was a phenomenon common to both the military invasions and the invasion of the sanctuary of life as seen in the thousands of pollution victims that Japan has produced. The negation of the human rights of working people, exploited in the context of modernization, is rooted in the same crass disregard for human life. In the post-Second World War period workers' rights were guaranteed through the intervention of an external authority which created new legal structures, but these structures were only good on paper. Concepts relating to human rights applied only to union members. At the present time labour unions are seen only as political pressure groups, since they have failed to address, in any significant way, the basic issues of human rights. Therefore, labour unions supplement big business by undergirding corporate ideology. Organizations which were supposed originally to promote the human rights of workers have been manipulated skilfully so as to promote the orientations of big business. The same social perceptions that willingly trampled human rights produced also, in the 1950s and 1960s, many pollution victims among farmers and fishermen as well as illness in a number of labouring groups. The existence of this reality is a partial expression of the failure of policy of the left-wing political parties supporting the labour movement. In spite of the so-called political freedom existing in Japanese society, basic human rights were still ignored, for the changes in the social system, brought about on paper through external authoritarian pressure and through the persistent efforts of large numbers of oppressed people, took a very long time to become woven into the social fabric of society as a whole.

The contents of this book are not oriented toward an examination of the historical realities and characteristics of Japanese society, but the above four points have been outlined to give the reader some understanding of the

reasons for the heavy destruction of the human environment that the Japanese people have suffered within the context of modernization. Within this overview, there may be some room for debate relative to the issues outlined.

## 2. The Illegality of Environmental Destruction

In the consumer society that permeates all that we know and in which the consumption of material goods is forced upon us day in and day out, it is difficult to state with any certainty that the problems of environmental destruction stem from a violation of human rights, but, in the final analysis, the destruction of an environment upon which human life depends is in reality a denial of the human rights of the weak by those who retain power within society. This very clear and important fact is often ignored within the context of the natural and environmental sciences as well as in the social sciences. The methods and perceptions inherent in today's social sciences are clearly inadequate in this regard. If situations are described on the basis of these limited perceptions, some very important problems and issues will be overlooked. In other words, those in society who polluted environments for the sake of profit conveniently overlooked some very significant problems, and in the final analysis it was up to the victims of this destruction to grasp the total picture. Although this total picture can be understood intuitively, it is not easy to understand the problem on an objective level. This is similar to the problems inherent in discrimination among human groups and perpetrated against minorities, in which the oppressors and the oppressed have widely divergent views of the situation.

In relation to issues of discrimination, there is no such thing as a neutral or objective third-party position. Over the ages it has come to be a well-accepted principle that in any dispute there are only two positions, the oppressed and the oppressor. As to environmental pollution, there are only the polluters, whose orientation is to ignore the problem, and the victims, whose concern is to understand all the factors surrounding it. There is no such thing as a neutral position. If the goals of the environmental sciences are to reflect a genuine concern about the solution of pollution problems, then what will be needed is a basic re-evaluation of the very narrow and limited methodologies of those disciplines. Moreover, it is essential that those who employ the methods of environmental science co-operate with and learn from the victims of environmental destruction. This is the same relationship that is essential to an adequate practice of medicine, in that there must be co-operation between the medical practitioner and the patient to bring about a cure. The environmental sciences, which derive their establishment from a concern for the excessive degree to which the natural human life-support systems have been compromised, and from a concern for the illegality of environmental destruction, can do no better than to espouse the position of those whose lives have been completely uprooted by the effects of poisons on the natural cycle.

In relation to these same problems, the roles of politics and government administration should be the same as that of the environmental sciences. Problems of environmental destruction are recognized on the basis of the damage done to natural life-support systems, but if such damage is not understood with sufficient thoroughness, measures instituted to counteract such intrusions will not be sufficient. Within the context of the Japanese experience with pollution problems, governmental administration attempted to take on the role of mediator in seeking solutions. However, the methods derived from the pervasive village-based community concepts prevailing in Japan are in no way sufficient to deal with the issues of environmental pollution. Many pollution problems have in fact derived directly from the practice of politics and from the actions of governmental administration. Along with this is to be found a long history of pollution-victim suppression based on so-called national security. Thus, instead of bringing about a solution to the problems at hand, the actions of government serve only to exacerbate these problems by making them chronic—and this is because mediators are simply not concerned enough to gain an adequate appreciation of the complexity and gravity of the situation.

The problems of environmental pollution also reflect basic aspects of inter-group discrimination, in which the imbalance of power between polluters and victims, if rectified to some extent, results in an alleviation of the pollution problem itself. In this regard, then, the activities of science, politics, and governmental agencies should not attempt to maintain a so-called third-party neutral position, but should rather champion the cause of the pollution victims. During certain periods in which pollution problems were deeply exacerbated, the victims invented their own methods of monitoring the degrees of contamination and identifying the sources of problems. Examples of these endeavours are the use of coins and various grasses and flowers to measure air pollution, and observation of the stamens of the spiderwort plant to monitor radiation leakage from nearby atomic power plants. In these situations, appropriate scientific technology was discovered and employed to provide leverage in rectifying the power imbalance between the oppressor and the oppressed, and in reducing the amount of environmental damage. Political and administrative effectiveness in relation to pollution problems can be enhanced only if problems are recognized for what they are and if the pollution victims are invited to participate in seeking solutions.

## II. Japan's Extensive Experience with Environmental Pollution in Historical Perspective

Since environmental destruction has been an integral part of Japan's developmental economic system, the problem is deeply woven into the fabric of her emerging capitalism. At the beginning of the modernization period, when the power of industry was still quite limited, there were instances in



which pollution problems were “solved” by changing the locations of offending factories or production units. But in other early period examples, such as with mining where site relocation is impossible, in every case the damage to the natural environment became extensive, pervasive, and a deeply rooted aspect of the social milieu. The most representative case in this regard is the Ashio copper mine, which began its destructive operations at the end of the nineteenth century and continues to this day to be a pervasively insoluble problem. The poisoning of the natural environment caused by the Ashio copper mine was the most well-known problem of the period prior to the Second World War and as such it is universally known in Japan. This case is an archetypal example of a pre-modern industry serving the needs of military power. In this light the Ashio copper-mine problem is representative of Japanese industrial development in the pre-war period. The government in power at that time (Meiji era) was deeply intertwined with the nation’s business interests through personnel exchanges and family relationships. The victims of the Ashio copper-mine destruction were oppressed on the basis of so-called national security restrictions and, although the protesting farmers’ movement was powerfully organized and led by the great statesman and naturalist Shozo Tanaka, in the end it was no match for the government’s political power. In spite of this defeat, the movement did provide a warning for other anti-mining and manufacturing struggles going on at the time. This can be seen in the fact that the Besshi and Hitachi mines, developed at somewhat later dates than the Ashio copper mine, accepted to some degree the demands made on them by their respective pollution-victim groups. In comparison with the Ashio copper-mine situation, these other mine-operating capitalists made more concessions to their poisoning victims. Such successful negotiations between the victims of environmental destruction and pollution-source managers was to be seen in the era after the First World War, in the atmosphere of the so-called “Taisho Democracy,” when pollution-control technology was used with a certain degree of success in Gifu Prefecture in relation to the “Aradakawa” pollution case.

However, with the advance of Japan’s imperial armies into China, followed by general mobilization for Second World War production, military-related industries continued to discharge pollutants into natural environments and all the efforts at pollution control that were seen in the 1920s were forgotten. All anti-pollution citizens’ movements were totally suppressed, with the exception of the Osarusawa Mining and Ishikari River Kokusaku Pulp situations, where industrial discharge and environmental pollution problems were intense. After Japan’s defeat in the war, industries were closed down and this gave nature a little breathing space to recuperate from the pollutional ravages of the war years. Then, as Japan began to rebuild its industrial structure, environmental destruction began once again to rear its ugly head, and local movements against this destruction began to appear, though the majority of the population had little or no time for such issues.

In this context, the Kochi Pulp Company pollution case was one example