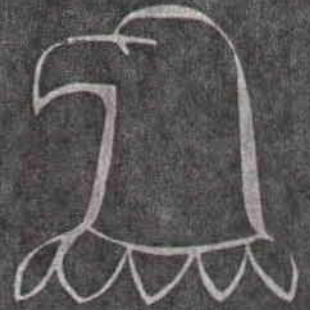


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CASE STUDY

ENVIRONMENTAL PROTECTION
THE JAPANESE EXPERIENCE

REVIEWED BY

Harvey F. Nelson, Jr.

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FOURTEENTH SESSION

SENIOR SEMINAR IN FOREIGN POLICY

Washington, D. C.

1971 - 1972



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THE SENIOR SEMINAR IN FOREIGN POLICY

FOURTEENTH SESSION
August 16, 1971 - June 9, 1972

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A CASE STUDY

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Harvey F. Nelson, Jr.

May 1972

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PREFACE

Environmental protection, as a major human preoccupation, is quite a new enterprise and an extraordinarily complex one of continually deepening social, economic and political implications. Using the Japanese experience this study attempts primarily to demonstrate this point and the consequent significance of thoughtful and intensive efforts to gain control over pollution.

Despite temptations to do otherwise, the paper does not delve into the imaginative work and thought of those who are devising the technology of pollution control and speculating on the shape of the future. Many of these individuals are probably destined to be unsung heroes of environmental protection. 1/

Appreciation is clearly due the Japanese and Americans interviewed in the course of preparation of this study and particular gratitude is owed those at the American Embassy, Tokyo, who made arrangements for productive and fruitful interviews during a particularly busy time for the Embassy and a week of national holidays for the Japanese.

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SUMMARY

Although for many years more critically afflicted than most -- if not all -- other countries by environmental devastation, Japan has only just begun to deal with this problem in a comprehensive manner. There is confusion, hesitancy and resistance to pollution control measures, but the country seems clearly to have passed a significant turning point. The "quality of life" is beginning to supplant quantitative expansion as a primary guide to national endeavor.

The Japanese are active in many of the broad and expanding international attempts to counter advancing environmental degradation and the accompanying threats to human welfare. An important part of these international activities is the network of official and private collaboration developed between the United States and Japan over the past decade. Imposing difficulties stand in the way of making this cooperation effective, but the effort is most worthwhile -- if not imperative -- for Japan and the US as well as others. The fullest possible sharing of experience and talent to deal with pollution is required by the vastness of ignorance about environmental hazards, the complexities and the potential cost of their control.

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Introduction: Complex Problem of Expanding Dimensions

Last year the scientific correspondent for The Times wrote: "Man's activities are bound to change the world in which he lives, for he is an integral member of the biological community of animals, plants and micro-organisms and these are dependent on each other in a complicated set of relationships. Of course the other factor of survival rests on the nature of physical environment in which these organisms exist... Danger lies not just in an ability to change the environment but in the rate at which this can be done. Excluding the prospect of almost instant nuclear annihilation, it is possible for man to cause as much devastation in 10 minutes as it took to wreak in 10,000 years of pre-industrialized society." 2/

Borrowing from Lewis Carroll, The Times' writer had introduced his article on the environment with this dialogue between the king and Alice: " 'What do you know about this business?' the king said to Alice. 'Nothing', said Alice. 'Nothing whatever?' persisted the king. 'Nothing whatever', said Alice. 'That is very important', said the king, turning to the jury." 3/

In the more industrialized world, at least, it is generally recognized that there are serious and worsening environmental problems and few would argue with the formulation above regarding the basic source of danger. Alice, however, would not have been far off the mark if she had been talking to the king about our knowledge of the dimensions and implications of the problem. Though advances are certainly being made, the gaps in what we know of pollution and its control remain immense and it is doubtful that their full extent and significance are yet realized. We understand that there is peril in exceeding the limits of nature's regenerative powers, but extremely little is known about when, where, how and to what extent those limits have been or will be exceeded. Such phenomena as soil erosion are familiar and we know something about the direct hazards in concentrations of auto emissions, heavy metals in industrial effluent, and the effect of many pesticides. Significantly, however, some of this knowledge has been acquired quite accidentally, as in the case of DDT, whose threat was signaled by the death of certain species of wildlife. Whether or not substances are identified as harmful, we comprehend little if anything about how they are dispersed, how they accumulate, or how they might react in time with the thousands of other substances produced in recent years. Unseen as well are possible longer term genetic effects. 4/ These handicaps become more critical when looking to the future and the need for an ever-increasing capacity to anticipate trouble and head it off.

Uncovering the dangers, their nature, extent, source and cause is a complicated and costly process and that is only a beginning. There are still the equally complex and expensive tasks of discovering remedies and applying them. This involves, among other things, establishment of priorities for research and action; determination of quality standards; invention of scientific and technological means to replace hazardous substances or to render them harmless. More specifically, the tasks are to: devise economic recycling processes; develop effective techniques and institutions to administer controls, assess costs equitably, determine responsibility, and provide just compensation to those suffering loss or injury due to the controls or pollution itself; find ways to minimize adverse consequences for investment and international trade; pursue more effectively the key problem of population growth and concentration; stimulate those countries which are not cooperating to do so.

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The problems and implications of effective pollution control are seemingly without end. There are undoubtedly more than have been identified or can be anticipated now.

Difficult choices will have to be made nationally and internationally. It seems inescapable that substantial shifts of resources from private consumption to public purposes will ultimately be required. 5/ Consideration may very well have to be given to adoption of major and painful alterations in economic and social structures. In Japan, where environmental protection perhaps requires the most urgent attention at this time, large-scale dispersal of factories is anticipated along with conversions to less polluting industry. 6/ Some Japanese go much further and foresee a significant slow-down in economic activity, the closing entirely of certain sources of pollution and the application of rigid and extensive controls on land use and population concentrations. 7/ Similar possibilities are contemplated by Americans as well. 8/

Japanese Experience

For quite some time the Japanese have experienced environmental degradation and devastation on an increasingly serious scale. In a very real sense the country has become a laboratory of advanced pollution in an industrial state. The extraordinary post-World War II expansion which made Japan the world's second most industrialized power brought with it even heavier concentrations of factories and people. In 1950 a quarter of the population lived in cities of over 100,000; ten years later the figure was above 40% and in 1970 it approached 52%. 9/ The high economic growth rate, exceeding 10% in recent years, 10/ has reflected itself in rising affluence and consumption while social investment has lagged badly. Burgeoning industry, multiplying fossil-fuel energy plants, modernizing agricultural methods, and rapidly growing numbers of automobiles have combined to contaminate Japan's earth, water and air with mounting accumulations of noxious and harmful substances. The "quality of life" has been further degraded with noise, vibration, congestion and destruction of the natural environment. Inevitably the impact has been especially acute in an already crowded and only partially habitable country smaller than California and accommodating over five times as many people. 11/

It is only in the last two or three years that Japan has really begun to come to grips with environmental protection in a concerted and comprehensive way. Periodic and piecemeal efforts with limited local objectives go back to the early days of industrialization and urbanization at the time of World War I. It was largely up to municipalities to cope with particular difficulties as they arose. Accelerating multiplications of those difficulties ultimately forced recognition of the existence of a broad national problem in enactment of the 1967 Basic Law for Environmental Pollution Control. That legislation and inadequate enforcement, however, proved quite unequal to the increasingly complex task. 12/

Markedly more energetic and sweeping measures became a political imperative in 1970. During the summer of that year, a particularly severe Tokyo photochemical smog caused the death of some asthmatics, the hospitalization of numerous school children and extreme discomfort to the population in general. Dissatisfaction with metropolitan social conditions in Japan had been building for some time 13/ and this event set off a public outcry accompanied by an intensive news media campaign which made pollution control a major popular issue and a costly one for the ruling party. The government responded first with the creation of a special pollution control coordinating staff 14/ in the Prime Minister's office. Enforcement authority, however, remained widely dispersed among various ministries and agencies not yet prepared for effective action. There followed an extraordinary session of the Diet -- the "Pollution Diet" --

which amended or replaced the old laws with more comprehensive and rigorous environmental protection legislation. 15/

Pollution retained its political potency in 1971 due to particularly egregious cases of methyl mercury and cadmium poisoning emanating from industrial waste and causing severe suffering and a number of deaths. At that point the Diet moved to create Japan's Environmental Agency, an independent entity patterned to some extent on the American model. The Agency was designated as the overall planner and promoter of basic policy and the coordinator of pollution control measures. Some enforcement authority was vested in the Agency but in a number of quite important respects enforcement was still left with various ministries. 16/

A council of citizens, representing a wide spectrum of interest groups and including some experts, was also established to advise the government on environmental protection policy. This group, like the Agency, has just begun to function and its significance remains to be seen. 17/

The courts have added their weight to the pressure on polluters. Recent landmark decisions dropped the earlier requirement for scientific proof and accepted instead circumstantial evidence as sufficient to demonstrate cause and effect in damage suits. 18/ In connection with pending legislation on pollution liability, however, there have been moves in the Diet which seem aimed at nullifying these judicial precedents. 19/

A Beginning

It can scarcely be said that Japan has now become a nation dedicated to environmental protection. It is a long stride from acknowledging that there is a critical problem to the full acceptance of the implications of wholly effective action. As in the case of others who have long lived with environmental desolation and survived so far without especially severe penalty, it has only just begun to dawn on the Japanese that they now produce, consume, pollute and waste on a scale far exceeding the capacities of natural restorative forces. They are only at the beginnings of understanding that the commonweal is threatened and that ruin and impoverishment could conceivably be the ultimate outcome.

Inertia, indifference and resistance remain quite in evidence. Public clamor in Japan, aroused only now and again by particularly striking "episodes", has subsided and "ordinary" pollution is more or less silently endured. 20/ Workers, concerned about the impact of pollution control on their jobs, share the hesitancy of their employers, worried about the effects of costs on their competitive position and profits. There are apparently quite a number of well-placed Japanese whose basic approach continues to be that "a little pollution" is necessary if "progress" is to be realized. Control legislation has met with determined opposition and been consistently watered down. Japanese involved with environmental protection assert that a great deal of the anti-pollution activity to date is largely sham, that at best it is grossly insufficient, that industry is effectively evading its responsibilities and at any rate exerts restraining influence over environmental policies and enforcement authority. 21/ Clearly, much of what has been done so far has been the fruit of political pressure rather than real comprehension and concern on the part of those industrialists and public authorities with the power and responsibility to act.

Still, the steps taken over the past two years do represent a departure from the past. At least in principle and after "some profound soul searching," both the government and leading representatives of industry have agreed that "single-minded pursuit of growth" is no longer acceptable, that henceforth the emphasis will be on qualitative improvement rather than on quantitative expansion. 22/ That goal is perhaps yet to be reached, but there is movement in that direction.

Whether or not there are to be extensive and expensive anti-pollution measures is no longer an issue. The foremost preoccupations now tend to be determination of the controls and standards needed, penetrating the complexities of developing the required technology, and allocation of the costs.

Central government expenditures for "environmental improvement" in 1972, while only 2% of the total budget, as compared to 5% of the non-military budget in the United States, represent an increase of 56% over the preceding year. Though there may be some padding in the figures, an official survey shows that the ratio of pollution control investment by industry to total investment has risen from 6% in 1970 to 12% in 1972. ^{23/} Moreover, as indicated earlier, alterations in the industrial structure -- notably in the form of diversification and relocation -- are beginning to take place in response to environmental needs. In particular, relocation is the object of extensive study and promotion. For this purpose the government is conducting research on the "maximum permissible environmental capacity" of lesser developed regions of the country. The concept appears to enjoy rather wide approval as a means not only to deal with pollution but to cut down on social overhead in urban centers, redistribute income, develop rural areas and slow the pace of population migration to the cities. ^{24/} There is, however, concern about the expense of relocation and the problems of securing skilled labor for relocated industry as well as about the implications of simply transferring pollution to formerly untouched regions. Concern has also arisen about the effect of industry on traditional rural community life. ^{25/} Existing or anticipated anti-pollution requirements and difficulties are said to have been an important factor in the decisions of some companies to escape altogether by erecting plants abroad. ^{26/}

Despite hesitancy, confusion and procrastination, the Japanese are engaged in devoting increasing amounts of energy and resources to protection of the environment. No one ventures that there is an alternative to continuing on this course.

International Cooperation

Deterioration of the environment is global in scope and the international community is responding in many forms. This response is not entirely new, of course, but for the first time it is expanding beyond the rather specialized problems to take on an all-encompassing shape highlighted by this year's UN Conference on the Human Environment. The significance of this international activity rests on more than the elementary fact that what one country does to the environment often has pronounced effects on others. Even in the absence of consequences across frontiers, such are the complexities, implications and costs of effective environmental protection that national purpose alone calls for the widest possible sharing of experience, research and technology.

Japan is a participant in the environmental work of the UN and associated agencies like WHO, and FAO as well as the OECD and other organizations. In addition, bilateral exchanges have been developed with France, the UK and the United States. ^{27/} This activity, as noted more fully below, is not restricted to the national government level but includes initiatives taken by local authorities and at the private level.

The Japanese appear to place more faith in bilateral exchanges and those engaging a relatively few countries than in large multilateral approaches like the UN Conference on the Human Environment. The latter, while fully supported by Japan, are viewed as cumbersome and too inhibited by political difficulties and material differences among the participants. ^{28/}

Problem of Coordination

With the compounding of pollution problems and counteracting initiatives coming from many and often quite diverse sources both nationally and internationally, there is evident need for some form of coordination among the wide variety of organizations, institutions and channels of action that have been developed to deal with the environment. Most of the Japanese interviewed in the preparation of this study seemed to have only limited knowledge of anti-pollution activities beyond those with which they were directly associated. This was particularly true with respect to international efforts. There appears to be quite a potential for confusion and wastage of time, talent and funds, wastage which could ultimately have serious implications given the continuing accumulation of environmental threats.

One approach, of course, would be to try to tamper directly with the network of public and private mechanisms dealing in pollution problems in order to achieve greater efficiency. There is natural resistance to such tampering since vested interests in the array of environmental protection endeavors are already established or well on the way to formation. Moreover, direct intervention in this way could cause some loss of the momentum gained by environmental protection.

Japanese concerned about this aspect of the environmental problems are seeking a solution in the development of information collection centers at both the local and national levels. 29/ It is important to Japan as well as others that there be optimum accumulation and dissemination of information internationally as well. This has led to Japanese support for the creation of a UN data bank into which all data on environmental hazards and the methods of dealing with them would be funnelled and made readily available through sub-stations strategically placed about the world. 30/ Fully utilized such a device could go a long way toward compensating for haphazardness and lack of cohesion in other respects.

US-Japanese Cooperation

In the bilateral context Japan's collaboration with the United States has perhaps been the most extensive. By the time environmental protection had become a major endeavor for each country, they had already been jointly working on pollution. The two governments inaugurated cooperative programs in science, natural resources, and medical science in the early 1960's. These programs stimulated exchanges of information, equipment and specialized personnel as well as common research relating to the effects and control of various threats to the environment. 31/ These efforts grew in scope and in 1970 the two countries initiated bilateral conferences on the environment at the ministerial level. The two conferences held so far have served to bring top policy-makers directly into the process of developing still further exchanges and joint studies which now cover a broad range of questions from the development of compatible data-gathering methods and resolution of specific pollution problems to policy formulation and administration of controls. 32/

A good deal of bilateral activity has developed at the municipality level as well. When Tokyo encountered photochemical smog, it turned for advice and counsel to the pioneer in this field, Los Angeles. Under the umbrella of a sister city association, New York and Tokyo have carried on exchanges concerning many metropolitan pollution matters. Tokyo was responsible for a 1971 inter-city conference on pollution with Chicago, New York and London. 33/ Environmental protection was a primary concern of last year's meeting of the Japan-American Conference of Mayors and Chamber of Commerce Presidents. 34/

Japanese and American business leaders recently undertook their own bilateral examination of environmental pollution. This initiative came out of the 1971 Eighth Japan-US Businessmen's Conference sponsored by the United States Chamber of Commerce and Japan's Federation of Economic Organizations (Keidanren). While principally concerned at the time with immediate trade and capital movement issues, the conference included pollution control among the three major topics to be considered by joint task forces established for the purpose. 35/ The task force on pollution met early this year and agreed to develop recommendations on the distribution of pollution abatement costs, the transfer of control technology and the harmonization of standards. The group also agreed to study the social problems associated with environmental protection. 36/

Japan and the US have worked together as well on multilateral pollution control projects in the UN system and the OECD. At another level the Governor of Tokyo is proposing to US cities and others a worldwide meeting later this year to examine a variety of municipal problems, including pollution. 37/ The City of Honolulu is playing a leading part in promotion of the Pacific-Asian Congress of Municipalities, a new organization which has environment as a principal focus and in which active Japanese participation is being sought. 38/

Both within and outside the framework of these various approaches sub-groups and individuals -- scientists, technicians, academicians and others -- are frequently moving back and forth between the two countries to consult, study and conduct research in the field of environmental protection. 39/

Japanese involved in one way or another with pollution generally back all these bilateral efforts, but there are disagreements as to which are the most significant and effective. Those concerned particularly with the development of national policy and administration of controls tend to place considerable stock in the US-Japan ministerial conferences as an essential means of awakening public consciousness and educating and involving the top policy makers who must take the basic decisions and lead the legislative battles. They also consider it important to counter in this way the view sometimes expressed abroad that Japan is an uncaring "pollution dumper." 40/ Some attach greater value to contact among local authorities, technicians, businessmen and others who are in immediate touch with pollution problems and their solution. 41/

United States Interests

Often taking the lead itself, the United States has worked with many countries through official and private channels in a multitude of attempts to come to grips with environmental protection. 42/ Given the mounting pressure of pollution problems, these activities are surely destined to take on increasing breadth and importance.

The experience of such a highly industrialized and largely free enterprise country as Japan with environmental pollution has a particular significance for the United States. The growth of US-Japanese collaboration in this area has been a natural development arising from a spectrum of challenging common problems; the possible impact of pollution control on the very extensive economic interdependence of the two countries reinforces the importance of joint attacks on those problems. There are, however, a great many dissimilarities in the circumstances of the two countries and the US may not in the end profit as much from Japan's experience and cooperation as is hoped and sought. Official US statements, while stressing the US intention to pursue cooperation with Japan and others to preserve the environment, 43/ properly caution that making such cooperation effective is an exceedingly difficult task. 44/

The centers of environmental protection action are, of course, national and local and each country must devise ~~all kinds of~~ policies, techniques and remedies ~~not really applicable elsewhere.~~ Though Japan and the United States have an array of pollution difficulties which are essentially the same in terms of cause and the hazard they pose, many of these difficulties call for unique treatment in accordance with particular national priorities, productive and distributive processes, available resources, and political, social and economic conditions, etc. As an example, the US has emphasized to the Japanese the desirability of minimizing the effect of pollution control costs on trade, harmonizing quality standards, and applying "the pollutor pays principle." The Japanese, while agreeing with these goals, consider them only partially achievable due to fundamental national differences. 45/

There are as well knotty difficulties affecting the interchange of pollution control technology, a key element in effective collaboration to protect the environment. Not only are proprietary interests involved. American manufacturers tend to be hesitant about licensing technology to Japanese because of a belief that such technology will soon find its way to others who have not been licensed to use it. Recent anti-trust actions in the United States have also placed a restraining influence on US industry's collaboration with the Japanese on the development of control technology. 46/

In terms of scientific information, technology and control techniques, the Japanese have perhaps profited the most from the bilateral efforts due to our earlier start with anti-pollution measures and our apparently more comprehensive programs. Still, the US has dividends to draw from the development of basic data and stimulation of thought, study and experimentation. There is quite a bit to absorb from such an "advanced pollutor" as Japan. Some of that country's difficulties are quite intense and provide a kind of early warning and an opportunity for the testing of countermeasures before similar problems in the US become as menacing.

Though hopes and expectations may not be wholly met, it seems quite obvious that the various US-Japanese endeavors are worth vigorous continuation and expansion. The implications extend beyond the two countries. Out of their efforts are likely to come results of value to many others whose success in dealing with environmental protection in turn will benefit the United States and Japan as well.

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Footnotes

Note: Individuals interviewed are referred to in footnotes by last name only. These are identified in the list of persons interviewed on page 11.

1. Technical documents exchanged with the Japanese in connection with the Second Japan-United States Ministerial Level Conference on Environmental Pollution, Washington, D.C., June 1-2, 1971, describe some of this work and make fascinating and encouraging reading.
2. Wright, Pearce, "The Way We Live Now" (a special supplement on environmental pollution), The Times, June 22, 1971.
3. Ibid.
4. For further elaboration see Wright's article noted above.
5. For discussion of some pending choices from an American point of view: Miller, J. Irwin, "Changing Priorities: Hard Choices, New Price Tags," Saturday Review, January 23, 1971, pp. 36-7, 78.
6. Industry relocation is discussed more fully later in the paper.
7. Harada; Nukuzawa.
8. See Miller, J. Irwin, op. cit. It is worth noting that the Secretary of State ventured on to this ground as well in his report on "United States Foreign Policy 1971," Department of State Publication 8634, March, 1972, p. 341.
9. Environment Agency, "The Human Environment in Japan," February 1972, p. 66.
10. Ministry of Foreign Affairs, "Problems of the Human Environment in Japan: Report to the United Nations," March 31, 1971, p. 3.
11. Discussion of the development of pollution in Japan may be found in numerous publications. Among them: Environment Agency, op. cit.; Ministry of Foreign Affairs, op. cit.; Tokyo Metropolitan Government, "Tokyo Fights Pollution: An Urgent Appeal for Reform," March 1971, pp. 13-31.
12. For analyses and commentary regarding this and associated legislation: Ministry of Foreign Affairs, op. cit., pp. 6-39; Tokyo Metropolitan Government, op. cit., pp. 35-36, 245-267; American Embassy, Tokyo, A-395, May 24, 1971 and A-662, August 23, 1971; Headquarters of Countermeasures for Environmental Pollution, "Minutes of US-Japan Conference on Environmental Pollution, October 1970," pp. 11-17.
13. Discussion of this discontent may be found in Brzezinski, Zbigniew, The Fragile Blossom: Crisis and Change in Japan, Harper and Row, New York, 1972.
14. This staff was named Headquarters of Countermeasures for Environmental Pollution.
15. Ministry of Foreign Affairs, op. cit., pp. 6-20; American Embassy, Tokyo, A-398, May 27, 1971.
16. American Embassy, Tokyo, A-395, May 24, 1971 and A-398, May 27, 1971; Environment Agency, "The Environment Agency," Japan, July 1971; Moriguchi; Harada; Sirap.

17. Harada. This advisory council is called the Public Hazard Counter-measures Council.
18. American Embassy, Tokyo, A-60, January 27, 1972.
19. "Bill on Pollution Liability Hit by Major Setback," The Japan Times, March 17, 1972, p. 2.
20. Quite a number of Japanese voice these criticisms, though they tend to be made more by members of the political opposition.
21. Examples of hesitation, inertia and resistance are provided in Embassy Tokyo's reporting (e.g., A-395, May 24, 1971, and A-398, May 27, 1971) and in the comments of nearly all of those persons interviewed, both Japanese and Americans familiar with the Japanese scene.
22. Brzezinski, op. cit., p. 11; Uemura, Kogoro (President of Keidanren) in "Japan and the US -- A Call for Harmony," Nation's Business, August 1971, p. 30; Kosaka, Tokusaburo (President of Shinetsu Chemicals) in a round table discussion of Japanese and American businessmen on June 17, 1971 on which Nihon Keizai published a report June 19, 1971; Tabuchi.
23. "Pollution Control Outlay Rises in Plant-Equipment Investments", The Japan Economic Journal, March 21, 1972, p. 10; American Embassy, Tokyo, A-204, March 9, 1972 and A-419, April 21, 1972.
24. Fujinami; Moriguchi; Nukuzawa; Tabuchi.
25. Kodaira; Nukuzawa; Unno.
26. Nukuzawa; Blowers.
27. Ministry of Foreign Affairs, op. cit., pp. 20-23.
28. Harada; Nukuzawa.
29. Headquarters of Countermeasures for Environmental Pollution, op. cit., p. 17; Matsushima.
30. Matsushima; Harada.
31. See particularly: US Department of Interior, "Five-Year Report on the US-Japan Cooperation Program in Natural Resources 1964-1969," US Government Printing Office, Washington, D.C., 1970.
32. Ibid, p. 21; For details see the minutes and briefing, position and technical papers for the Japan-US Conferences on Environmental Pollution October 1970 and June 1971. These are available from the Council on Environmental Quality, 722 Jackson Place, Washington, D.C. 20506.
33. Matsushima.
34. Givan.
35. "Joint Communique Issued at Eighth Japanese-US Businessmen's Conference," Washington, D.C., June 16-18, 1971; "Summary of Discussion, Government-Business Debriefing Session, Eighth Japan-US Businessmen's Conference," Chamber of Commerce of the US, Washington, D.C. June 18, 1971, p. 6.
36. "Summary of Joint Task Force on Environment, Japan-US Executive Committee Meetings," San Francisco, March 17, 1972.
37. Matsushima.
38. Givan.

39. Blowers.
40. Fujinami; Moriguchi; Unno; Tabuchi.
41. Kodaira; Matsushima; Hirao; Nukuzawa.
42. "United States Foreign Policy 1971," op. cit., pp. 340-344; Environmental Quality: The Second Annual Report of the Council on Environmental Quality," US Government Printing Office, Washington, D.C., August, 1971, pp. 28-34; "US Foreign Policy for the 1970's: The Emerging Structure of Peace. A Report to the Congress by Richard Nixon, President of the United States," US Government Printing Office, Washington, D.C., February, 9, 1972, pp. 202-203.
43. Ibid.
44. "United States Foreign Policy 1971, op. cit., p. 341.
45. Headquarters of Countermeasures for Environmental Pollution, op. cit., pp. 24-26; American Embassy, Tokyo, A-419, April 21, 1972; "Environmental Quality: The Second Annual Report of the Council on Environmental Quality," op. cit., pp. 131-133; Environment Agency, op. cit., pp. 1-4; Hirao; Nukuzawa. "Summary of Joint Task Force on Environment," op. cit.
46. "EPA Remarks on Exchange of Technical Information Concerning Automobile Emission Standards." (A memorandum prepared for presentation to the Second US-Japan Ministerial Level Conference, Washington, D.C., June 1971.); Nukuzawa.

Persons Interviewed

Japanese

- Fujinami, Takao. LDP member of Lower House of Diet; member of Special House Committee for Public Hazard Countermeasures and Environmental Preservation.
- Harada, Akira. Commentator for government radio and TV (HNC); member of the Public Hazard Countermeasures Council.
- Hirao, Teruo. Counselor, Environmental Agency.
- Kato, Seiji. Member of opposition party, JSP.
- Kodaira, Yoshihei. Komei member of Upper House of Diet; member of Special House Committee for Public Hazard Countermeasures and Environmental Preservation.
- Matsumura, Katsuyuki. Director, Pollution Prevention Guidance Division, Ministry of International Trade and Industry.
- Matsushima, Ryoza. Deputy Counselor, Planning Department, Environmental Bureau, Tokyo Metropolitan Government.
- Moriguchi, Hachiro. Counselor, Pollution and Safety Bureau, Ministry of International Trade and Industry.
- Nukuzawa, Kazuo. Assistant Director, International Affairs Department, Keidanren.
- Sikaya, fnu. Planning Section, Environmental Bureau, Tokyo Metropolitan Government.
- Tabuchi, Tetsuya. DSP member of Upper House of Diet.
- Takada, Yuri (Mrs.). Vice President of Housewives Federation of Japan; member of Public Hazard Countermeasures Council.
- Uchida, Kozo. Assistant Director, Industrial Affairs Department, Keidanren.
- Unno, Akenobu. Deputy Secretary General of JSP.

Americans

- Baker, James. Economic/Commercial Officer, American Embassy, Tokyo.
- Blowers, Jay. SCI/EN, Department of State.
- Coerr, Stanley. Environmental Protection Agency.
- Givan, Victor K. Acting Executive Director, Pacific-Asian Congress of Municipalities; Administrative Assistant to Mayor of Honolulu.
- Hayashida, Robert. EA, Department of State.
- Hayne, William. Council on Environmental Quality.
- Hiatt, Dr. Robert. Science Counselor, American Embassy, Tokyo.
- Noonan, Albert. EA, Department of State.

Salmon, William. SCIENCE, Department of State.

Wolfe, Ira. Assistant to Science Counselor, American Embassy, Tokyo.

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BIBLIOGRAPHY

Official US Publications

Airgrams of American Embassy, Tokyo:

A-370, May 21, 1971
A-395, May 24, 1971
A-398, May 27, 1971
A-662, August 23, 1971

A-735, September 9, 1971
A-1004, November 24, 1971
A-60, January 27, 1972
A-204, March 9, 1972
A-419, April 21, 1972

"Five-Year Report on the US-Japan Cooperation Program in Natural Resources 1964-1969." US Department of Interior, US Government Printing Office, Washington, D.C., 1970.

"Environmental Quality: The Second Annual Report of the Council on Environmental Quality, August 1971." US Government Printing Office, Washington, D.C.

"United States Foreign Policy 1969-1970: A Report of the Secretary of State." Department of State Publication 8575, US Government Printing Office, Washington, D.C., March 1971.

"US Foreign Policy for the 1970's: The Emerging Structure of Peace. A Report to the Congress by Richard Nixon, President of the United States, February 9, 1972." US Government Printing Office, Washington, D.C.

"United States Foreign Policy 1971: A Report of the Secretary of State." Department of State Publication 8634, US Government Printing Office, Washington, D.C., March 1972.

Official Japanese Publications

Environment Agency, "The Environment Agency." Japan, July 1971.

Environment Agency, "The Human Environment in Japan." Japan, February 1972.

Headquarters of Countermeasures for Environmental Pollution, "The Minutes of US-Japan Conference on Environmental Pollution." Japan, October, 1970.

Ministry of Foreign Affairs, "Problems of the Human Environment in Japan: Report to the United Nations, March 31, 1971."

Memoranda

Briefing, position and technical papers prepared for the first and second US-Japan Ministerial Level Conferences on Environmental Pollution, October, 1970 and June 1971. Available from the Council on Environmental Quality, 722 Jackson Place, Washington, D.C. 20506.

"Summary of Discussion: Government-Business Debriefing Session, Eighth Japan-US Businessmen's Conference, June 18, 1971." Prepared by John L. Caldwell, Secretary, Japan-US Businessmen's Conference.

Books and Periodicals

Brzezinski, Zbigniew, The Fragile Blossom: Crisis and Change in Japan. Harper and Row, New York, 1972.

U.S. GOVERNMENT PRINTING OFFICE

Books and Periodicals (continued)

"Bill on Pollution Liability Hit by Major Setback." The Japan Times,
March 19, 1972, p. 2.

Miller, J. Irwin, "Changing Priorities: Hard Choices, New Price Tags,"
Saturday Review, January 23, 1971, pp. 36-7, 78.

"Pollution Control Outlay Rises in Plant-Equipment Investments." The
Japan Economic Journal, February 1972, p. 10.

Uemura, Kogoro, "Japan and the US -- A Call for Harmony." Nation's
Business, August 1971, pp. 28-31.

Wright, Pearce. Contribution to "The Way We Live Today," a special
supplement on environmental pollution. The Times, June 22, 1971.

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