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Let's Pollute: A Tribute to Japan's Disregard for the Environment

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"They were having a festival of litter when I arrived. Citizens had taken time off from their busy activities to add crisp packets, empty cigarette boxes, and carrier-bags to the otherwise bland and neglected landscape", wrote Bill Bryson about Liverpool [1]. Such decadence can also be found in Japan. Indeed, it appears that efforts to create an environmentally sustainable society in Japan are having difficulty emerging. And it is very likely that it will take a long time before citizens and industries adopt a more respectful behavior towards the environment.

The 1998 white paper for the environment summarizing reports on national environmental issues in fiscal 1997 and measures recommended for fiscal 1998 was adopted at a Cabinet meeting 1 June 1998. The paper urges the Japanese to depart from a lifestyle based on mass production, consumption and disposal. "Space for waste sites has shrunk nation-wide, and hazardous chemicals produced through waste incineration are posing a serious threat to public health", the paper says [2]. It also emphasizes the lack of concern of the government toward protection of the environment and urges additional studies on dioxin as well as the development of more accurate monitoring methods [2].

Pollution prevention, however, is not the sole problem faced by Japan. Limited use of recycled materials, increasing waste, industrial pollution, lack of citizen concern, and insufficient governmental intervention are aggravating the situation. Protests from environmentalists are denigrated, and most Japanese are convinced that there is nothing wrong in disregarding the environment as long as large sums of cash can be acquired.

Even if it reveals some aspects, often concealed, of an egoistic behavior towards the environment, this article is not a tract against Japan or its lifestyle. Instead, it is an attempt to increase concern and awareness of environmental pollution in Japan by identifying some causes of pollution and condemning the shortcomings of Japanese governmental policies in tackling this issue. It is an attempt to determine some of the reasons for this neglect. Remedies to abate pollution levels are also proposed. It is hoped that this article will act as an incentive to protect the environment and restore

'human nature' harmony that according to the Japanese concept of nature (*shizenkan*), recognizes humans to be neither superior nor opposed to nature.

One of the most polluted countries in the world?

Environmental pollution in Japan has accompanied industrialization since the Meiji period. The Ashio copper mine in Tochigi prefecture has been recognized as responsible for the earliest industrial pollution by copper poisoning caused by drainage in 1878. Widespread air pollution was caused by the use of coal, while the textile, paper and pulp industries contributed to water pollution. "In the period of rapid growth following World War II, however, the isolated cases coalesced into a national crisis, with Japan becoming one of the most polluted countries in the world" [3].

The Japanese economy is heavily dependent on industry, and economic growth has always been of greater concern than environmental preservation. The number of pollution related problems caused by industries are increasing dangerously. Several striking examples have been reported. One of the most controversial was the Minamata Bay case, which was officially recognized 41 years after the outbreak of the Minamata disease. Joji Sakurai defined it as "the worst case of industrial pollution Japan has ever known" [4]. For decades, Chisso Corporation dumped mercury at sea, contaminating fish and causing cancer, deformities and death of hundreds of local fishermen. The whole community was devastated because of a lack of pollution control measures and administrative dereliction. "Minamata Bay has become synonymous with environmental disaster," wrote Kelly Olsen for the Associated Press [5]. By 1956 the cause of disease had been determined but companies denied they were to blame, and the dumping continued until the government intervened in 1968 [5-6]. It is only in 1995 that victims were allocated financial compensation. Long before complaints were made, Kumamoto Prefecture Government was aware of the environmental risk caused by the factory, but failed to identify any damage. Bribery is suspected, and the investigation is still in progress [4-7]. The 26-year ban on fishing in the bay has been lifted in 1998, but the stigma and pain created by this notorious pollution case still remain.

Another example of blind industrial development was in Dokai Bay (Kitakyushu area) where Nippon Steel dredged 350,000 cubic meters of contaminated silt during ten years. The effects were devastating. "In the 1960s, sparrows in Yahata (Kitakyushu area) looked like miniature crows, blackened by Nippon Steel' smokestacks [8]. Dokai Bay, filled with industrial waste, was called the Sea of Death because very little managed to survive in its water. In fact, the propellers of ships using the bay didn't rust away, they

melted" [8]. Now Kitakyushu has rid itself of some of the pollutants, and car pollution and noise are the most important problems the mayor has to deal with.

On a higher level, the Power Reactor and Nuclear Fuel Development Corp. (PNC) knew that rainwater was leaking into nuclear waste storage pits in Tokai, Ibaraki Prefecture as early as 1982 but as recently as 1997 has failed to take effective action. In June 1998, Japanese researchers detected high concentrations of organic chlorine and tin, both highly toxic chemicals, from fish whose habitat is in deep waters of Japan. Researchers from Ehime University and the University of Tokyo reported that these findings show that harmful chemicals are polluting the deep sea. The researchers caught 6 kinds of lantern fish from water about 500 meters to 600 meters deep off Iwate Prefecture. All the fish were contaminated by organic tin, BHC and DDT [9].

Later the same month, an abnormally high level of cancer-causing dioxin was detected in the blood of residents living in the vicinity of a controversial garbage incineration plant in Ibaraki Prefecture. A team headed by Professor Hideaki Miyata of Setsunan University's pharmaceutical department noted that the body fat of residents near the plant in Shin Tone had maximum 463 pictograms of dioxin per gram. That level is extremely high when compared with the norm, the team said. One pictogram is one-trillionth of a gram. The level of dioxin ranges from several pictograms to about 30 pictograms in residents living near an incineration facility in Saitama Prefecture and in Vietnamese residing in areas contaminated with Agent Orange, a defoliant used by the USA [10].

More recently, in July 1998 "Matsushita Electric Industrial Corporation announced June 25th that a high level of organic chlorine compounds about 5200 times higher than the safety standard has been detected in underground water at its plant in Chitose, Hokkaido. The Hokkaido prefectures and Chitose municipal governments have launched a joint investigation into the report from the electronics giant. The chemical in question is tetrachloroethylene, known to be a carcinogen. The organic chlorine compound is used in factories to wash semiconductors. Matsushita tested water in 21 locations at its plant last August and detected a maximum concentration of 52 mg per liter far greater than the safety standard of no more than 0.01 mg per liter, according to the company" [11].

Japanese industrial pollution also has an environmental impact on countries outside its own. For example, Mitsubishi Corporation, a trading company of Mitsubishi Group, owns logging operations throughout the world. It is one of the largest corporate destroyers of forests with no policy of practicing

environmentally conscious alternative [12]. The spread of pollution and pollution related diseases went unchecked until the late 1960s when abysmal air quality in Tokyo and multiple fatalities from mercury and cadmium poisoning prompted more stringent pollution control laws. But still these measures are insufficient to halt the damage currently caused by factories all over Japan. "The back of Japan is partly dumping ground for the cities (toxic waste sites proliferate), and mountains have been leveled to make way for golf courses" [7]. In 1994, the European Court of Human Rights recognized that the environmental degradation caused by the stench of waste materials was a violation of the right to live. Could similar stringent regulations help the Japanese government get rid of its apathy concerning environmental protection?

The automobile and urban sprawl

One of the most influential causes of environmental destruction is the automobile. Concrete highways are everywhere; flying over historical monuments, encircling residential areas and crossing parks and forests. Pedestrian streets remain scarce and are only provisional. The Hokoten pedestrian area in Tokyo stretches eastwards from JR Harajuku station for only one kilometer. This opened in July 1997 as a vehicle-free area for strollers and shoppers on Sunday afternoons and national holidays. Police decided to close Hokoten one year later, in an attempt to alleviate traffic jams along nearby roads and reduces the number of parking violation [11]. Would limiting the number of cars in Tokyo not be a more efficient improvement?

The Wajiro tidal-flat in Hakata Bay near Fukuoka on the island of Kyushu is a wetland of internationally recognized importance. It is located at a fork in major bird flyway, and many visitors enjoy claiming and bird watching. The shallows are considered an essential nursery for fish and shellbeds and are critical to the process of natural purification of the Bay's waters. However, "this site is menaced by the construction of a 401 hectare artificial island, which may impact over 1000 hectares of bay shallows" [13]. Environmental quality measurements reveal that the construction, which started in 1995, has increased pollution in the Bay. In Autumn 1995, laver a by-product of eutrophication (which later decomposed and smelled foul) covered the Wajiro tidal-flat. Surveys carried out by Fukuoka City showed that the number of waterfowl and benthos has decreased and the number of dead shellfish is on the rise. There are multiple causes, including red tides and asphyxiation from decomposed laver and dredging from the construction site. However, the monitoring committee of the entrepreneur claims the construction site has had no impact on the environment. Despite the 1971 Ramsar Convention on wetlands of international importance especially water

flow habitat and, despite the launch of the East Asia-Australasian Shorebird Reserve Network, there is no system to review government public works in Japan. The construction of this artificial island may be the cause of a 84% reduction in the number of Great Scaup returning to Wajiro tidal-flat according, to a survey from the Wild Bird Society of Japan [13].

A similar problem occurs at Fujimae tideland near Nagoya, where "4000 hectares tidal flats have been lost to post-war port development projects, depriving migratory shorebirds of stopover points" says A. Tsuji, an advocate of the conservation of a local tideland [14]. The government decided to build a 46.5 hectare artificial island which will be used as a garbage dump site, thus depriving the 12,223 shorebirds spotted in 1997 of a place to rest and breed.

Hopefully, environmental preservation and pollution control will attract the interest of Europe. Initial efforts are not encouraging, however. In a report entitled "The Japanese technological response to global environment problems", edited by M.D. Rogers [15], the success of Japan in tackling air pollution is claimed with such blatancy that one is given the impression that the Japanese government is working hands-in-hands with industrials to protect the environment. Among the claims are that companies such as Nissan have developed a philosophy on environmental protection and that a harmonious coexistence between people, automobiles and nature, can be achieved through a commercially driven vision. An analysis of everyday pollution problems and a more objective vision is lacking. One can easily understand that it would have been politically incorrect to jeopardize the industrial partnership between Japan and Europe by highlighting pollution problems in Japan.

The Tokyo trash can: an endangered species

Imagine a newly constructed civic hall, a monumental structure for concerts accommodating up to 1000 spectators. Now, try to picture it without a single trashcan. This may not be imaginable, nevertheless such a building exists. How can someone with his right mind design such an edifice? No one at the civic hall was able to provide an answer. The answer is cultural rather than practical. Throwing away odds and ends is a well-accepted Japanese custom. Indeed, it is so common for Japanese to dispose openly of almost any kind of rubbish at sea and on land that one may wonder whether they are unaware of their acts or simply practicing an ancient Asiatic custom that consists in polluting until saturation. In some countries it is a criminal offense to throw away a piece of paper in the street, and if caught, one may be severely fined or face imprisonment. In addition to reducing pollution, the other positive aspect of stricter measures would be the number of jobs that

would be created to process the fines. In 1994, there were over 2000 pollution offense arrests due to improper waste disposal in Japan and 13 due to water pollution (i.e. less than 0.002% of the population) [16]. However, the number of real convictions was not indicated, which makes it difficult to comment on the efficacy of Japan's environmental regulations.

"Japanese have forgotten about nature because they don't live close to it anymore" wrote The Japan Times [17]. Can this justify such lack of environmental awareness? In a country in which eating or blowing one's nose in public is considered uneducated, people are not educated to be concerned about environmental degradation. How can a country, which uses derogatory terms to point out foreigners, allow them to initiate and organize cleaning events on its own land? Could this be due to laziness? Lack of concern? Is it that Japanese perceive such activities degrading? With a few schools starting to teach environmental awareness, it is hoped that such attitudes will vanish.

In order to facilitate disposal and recycling of waste, Tokyo's garbage laws require the segregation of garbage into eight categories. Perhaps this is a bit extreme when one knows how cramped a Japanese apartment is. Moreover, garbage collection day for recycling is often once a month, and one has to keep refusing inside the apartment for several weeks. A less than hygienic way to live, sharing an apartment with malodorous decomposing trash. Tokyo alone generates 10% of the 50 million tons of garbage produced in Japan (excluding the 367 million tons of industrial waste produced in 1996) [18]. Tokyo's biggest trash dump (a floating island created in 1972) is full up. A new island was built which will be used for 15 years. Despite the problem of increasing garbage in Tokyo area, promoting recycling will not be sufficient. The consumption of glass, plastic and aluminum containers remains high. Even the most remote place in Japan is equipped with can dispensers. These are omnipresent and usually breed at very high speed.

To strengthen Japanese economy, governmental policies encourage consumption. Japanese manufacturers of TV sets do not store parts of older models, forcing consumers to buy newer ones instead of having the old set repaired. Packaging habits are the worst. Cookies are packed individually in cellophane, then put in a plastic box, put into a cardboard decorated box, wrapped once or twice, and then put in a carrier bag. Containers and packages account for 60% of garbage volume. Citizens of this country should by no mean carry all the responsibilities for their lack of environmental consciousness. How can a city like Tokyo, the 'window' of Japan, have so few trashcans? They are so scarce that it will not take long before they get added to the list of endangered species. The official reason is that Japanese are supposed to take back home any refuse they may

generate in the city (e.g. candy wrappings, bus tickets, etc.). This, of course, does not happen.

Apathy for environmental protection

Daily pollution through citizens' lack of awareness and disregard of environmental concerns is usually justified for the sake of progress. Traditional events such as o-hanami, during which Japanese are supposed to enjoy cherry-blossom viewing, have been changed to the consumption of alcohol and food consumed, generating in a week more garbage than an average family may produce in a year.

It is rare for the engine of a parked vehicle to have been switched off. If it were so, its driver could not benefit of the comfort that its air conditioner or heater provides, and pedestrians and cyclists could not enjoy a deep breath of invigorating exhaust fumes. Due to total ignorance from the public, this well accepted routine raises no complaint. Despite the fact that "some societies have been entirely wiped out because they were ignorant of the unsustainable impact that their local traditions and customs had on the environment" [19], the Japanese government directs its efforts to limit information and public awareness that their extravagant lifestyle causes to the environment. At a time when information and education on the causes of environmental damage would be desirable, this concept is ignored with disdain. The real root of the pollution problem in Japan is a cultural problem of corruption and cozy deals between politicians and businessmen operating without accountability or oversight.

It is also difficult for Japanese to accept that the solution resides in their own will to restrain themselves from obscuring sand beach with a layer of litter. In his book entitled *Science, politics and the global climate*, Markham K.R. quoted Gelbspan; "I think there is a natural tendency, because both the threat and the solution are so overwhelming, that people just don't want to hear about it [20]." Such behavior can also be explained by a cultural aspect that characterizes Japanese; "they are so preoccupied with trying to avoid getting involved in anything that they have no time to discuss things together" as P. Smith put it [7].

Is there hope?

Despite several research programs aimed at creating a symbiosis between industry and the environment (e.g. RITE, New Sunshine Project, ICETT) such work remains theoretical and so far no applications have resulted. Nevertheless, it is sufficient to fool some 'experts' who believe that "Japan can be praised for its success in controlling air pollution" [21]. Instead

research is devoted in building a facade to please environmentalists. For example, a 1 billion yens apartment complex to test environmentally friendly technologies opened on 7th May 1998 in Tokyo's Itabashi Ward. It is equipped with solar batteries, a wind-powered generator and rooftop grass to provide insulation for warmth and reduce the use of electricity for air conditioning. The green features will cut the amount of carbon dioxide generated by the complex by 90 tons a year. The complex also has an underground tank to store rainwater, which will be used for a pond and woods within the compound. It is said that the metropolitan government will regularly collect data from the complex to work out guidelines for construction of environmentally friendly housing [22]. Because of its precarious economy, Japan is in no position to construct similar environmentally friendly housings (in 1998, the GNP dropped by 1.6%). Additionally, it is very unlikely that Japanese will invest such a huge sum when building a new house or even receive financial support from the government.

Following the Kyoto conference held in December 1997 on climate change and attended by 160 countries, Japan signed the international pact to curb global warming on 28th April 1998 at the UN headquarters in New York with the objective to reduce man-made emissions of heat-trapping greenhouse gases by 5-6 % [23]. S. Kakuchi in Inter Press Service [17] defined such target as 'a joke'. Japan is the second largest contributor of greenhouse gas emissions and "Japan is well able to reduce its greenhouse gas emissions by far more than its proposed 5% formula if it has political will" said Y. Ayukawa from the World Wildlife Fund (WWF) in Tokyo [22].

Is there hope? Will Japan learn and start to become environmentally conscious? Or is it simply adopting a fashionable commercially viable attitude? The effects of environment and human rights on the common weal of world society are slowly starting to be recognized and are seen as concerns of international law. "Human-rights and environmental laws are supposed to be enforced domestically" but "from a legal perspective it is difficult to determine specific methods for protecting the rights of non-human subjects" wrote M. Nishii [24]. "The rights to health and a livable environment require states to take positive measures to secure those rights, the victims of global environmental damage are not only the people of developed nations but all humankind, including the generations of the future [24]". Unfortunately, Japanese institutions are characterized by the slowness to take effective actions.

Course of action

To transform regions devastated by pollution, one needs to work for the

future through immediate efforts and concerted actions. Such actions can only benefit the environment if the right problems are targeted. The main course of action should be through discussions and awareness of the danger of pollution. This cannot be achieved by remaining silent. In this case, Japanese passivity will not cause any improvement. Improvements require a shuffle of the Japanese way of thinking, and will call in question too many well-accepted bad habits. In a country afraid of changes, deterrent actions are necessary to reduce pollution (e.g. by charging a fee to access a beach and use this income to clean it). Drastic measures have to be taken to educate the public, to oblige city councils and prefecture governments to establish a better control of environmental pollution, to draw up adequate management plans, and to enforce stronger regulations. To be successful, these actions need to be fully supported by the national government.

Claims for financial compensation once the extent of the damage caused by industrial pollution has been recognized is not a solution. Japanese need to be educated to reduce packaging habits and consume in a wiser manner. Lowering the price of recycled products is another matter to consider.

Public awareness through education is a key element to stop environmental pollution. There exist sufficient scientific data for the public to take seriously the need to preserve the environment. A closer connection between scientists, politicians and industrials is needed to make this data available publicly [3].

Conclusion

Japan is relying on its 'superior' technology and planning capabilities to leave environmental problems to the last minute. But the damage caused to the environment together with the impact of pollution on human life are not reversible, and the cost involved in tackling such problems may be much greater than taking immediate actions.

Japan needs to wake up and concentrate on problems that affect not only their country but the whole World. "As is evident with such global environmental problems as acid rain and global warming, there are instances when nations that are injured parties are at the same time offending parties" [25]. They should be more mature, responsible and respectful.

When most of the population, including highly educated Japanese, genuinely believe that Japan is one of the most pollution-free countries on the Planet, it is hoped that this article will make them face the reality they shamefully ignore.

Japan is facing a dilemma in which they are still convinced that economic development can only occur at the expense of the environment and its inhabitants. Maybe the concept of sustainable development will make Japanese realize the importance to act so that future generations can benefit from a clean living environment.

Finally, industry should use more practical solutions to abate pollution. Again, this cannot be achieved without the support and lead of the Japanese government, without directives and stricter regulations. Strong political wills is necessary for the implementation of a greener industrial policy.

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Figure captions



Photo 1: Tsuyazaki beach, Fukuoka Prefecture, Kyushu, Japan.



Photo 2: The morning after the cherry blossom viewing party in Nishi Park, Fukuoka City, Kyushu, Japan.

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