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Chapter 7

Regional Revival through Environmental Restoration

Preface

In Chapter 1 we introduced the term 'environmental damage', which signifies the destruction of an environment's historical, ecological and local individuality that inevitably follows upon the deterioration and demolition of its natural and man-made inheritance; the definition also finds a place for proper consideration of the harm done to the capabilities of the people living in the damaged environments.

A genuine solution to the many environmental problems that we now face and a re-gaining of the capability lost by the victims can only be accomplished by a reformation of the social system and by the complete regeneration of the polluted areas. This concept is known as "environmental restoration", and in recent years it has been closely considered as an important area of policy.

We thus define 'environmental restoration' as the restoration to health not only of the natural environment that has been damaged, lost or destroyed, but also of the people who have suffered as a consequence. Such restoration entails not only the most strenuous efforts to remove the various "environmentally damaging stocks of dangerous materials (heavy metal, radioactive falls, for example)" that have accumulated during a period of continuing environmental destruction, but also to reclaim and regenerate the land, while striving to re-create a civil society that has the capacity to enjoy "environmental richness", in which farms, villages, towns, the regional economy, the traffic, the citizens and residents can exist together in a harmonious relationship. That is to say, 'environmental restoration' has to be a many sided effort to "restore the region by restoring the environment" (Teranishi and Yokemoto, 2006a: 291).

While environmental damage may take many different forms, we shall concentrate in this chapter on the contamination that led to the localized outbreaks of what have become widely known as the Minamata disease and the Itai-itai disease (the Japanese expression 'itai-itai' means 'it hurts, it hurts', but the disease is in fact osteomalacia, see below).

1 The environmental restoration of polluted areas

During the 1960s and '70s, Japan experienced serious problems as a result of industrial pollution, and it was in those years therefore that the country began to take action to restore the polluted areas to environmental health. At least three issues needed to be solved before this goal could be contemplated,

let alone achieved. (Isono and Yokemoto, 2006: 7-8).

In the first place, a full-scale solution had to be found to eliminate the damage caused by environmental pollution, the victims had to be relieved and they had to be compensated for the injuries that they had suffered. Such a commitment must be the starting point for any kind of environmental restoration. The victims must be helped to recover their functions and they must receive compensation for their lost capability, quite apart from pecuniary compensation for the income that they lost as a result of damage to their health and the costs of medical care. At the same time, steps must be taken to revive the region itself so that it will be able to provide the victims with improved "quality of life".

The second issue is to reduce levels of pollution to a threshold below which contaminated matter can no longer damage the environment, while simultaneously purifying the areas where the contaminated matter has accumulated. Such areas include not only the natural environment but also such historical and man-made environments as, let us say, a row of houses along a city street. Specifically, the problems that require clarification here are not only those that have to do with cleaning the polluted soil but also with the restoration of defiled nature and the spoiled cityscape.

The third issue concerns the restoration of damaged social relationships when the problems that were caused by pollution have led to conflict between the local inhabitants and those enterprises that have been the source of the pollution: the opposing parties must be reconciled and a collaborative relationship must be forged whose aim must be regional revival. The whole community must collaborate in mending the fractured social structure that was broken by the pollution.

We thus see that the three keywords of this book — "sustainability", "capability" and "governance" — relate to each of these three issues. As we noted in Chapter 3, the issue of the reduction of pollution is closely linked to the restoration of a sustainable environment, while we need a theory of sustainability and a theory of governance to cope with the abatement of any current pollution and with the purification of the previously polluted areas, with a view to establishing a system that will provide for and support a sustainable environment.

At the same time, the reconstruction of social relations needs both the capabilities approach and the theory of governance, with a view to establishing a system built upon the participation of the citizens in forging renewed and healthy social relationships.

When we consider Japan's experience of environmental pollution, we may

say that the nation's response to the Itai-itai disease (caused by heavy metal pollution of the soil) accomplished a great deal, thanks to concerted efforts by many people to reduce the pollution dramatically and recover its nature, while in the case of the Yokkaichi atmospheric pollution long-lasting results were achieved by proper analysis of the damage and through compensation for the victims.

While, on the other hand, major problems of compensation and a thorough analysis of the damage that followed the outbreak of the Minamata disease (caused by the mercury contamination generated by a chemical factory) still remain unresolved, notable results have already been accomplished in the restructuring of social relations.

2 The Minamata disease: an examination of the damage done and of the inadequate steps taken to relieve the victims

We must thus question why it is that in the case of the Minamata disease several ten thousand people are still asking for recognition of their victim status. The reason that they still need to ask is that throughout the long history of the recognition of environmental damage caused by pollution the Japanese system has confined compensation relief to the top of the pyramidal social structure and many of the victims are at the bottom of the social hierarchy. If we judge the issue from the standpoint of the victims, it may therefore be said that the legal movement that has been asking for compensation and restitution for damage to persons and property has been at the same time the long history of a battle to establish a protocol for recognition of the fact of pollution itself.

In the 1960s, many serious cases of pollution occurred, and in 1969 the Japanese government passed the "Law Concerning Special Measures for Pollution-Related Health Damage Compensation"; then, in 1973, after the court had reached its decision in the Yokkaichi pollution suit, the "Law Concerning Pollution-Related Health Damage Compensation and other Measures" followed. In the case of the Minamata disease, the legal action for damages that the victims first sued for in 1969 was not decided in their favor until 1973, when their damage claim was at last admitted. As a result of negotiations for compensation between the patients and Chisso Corporation (the source of the pollution), the patients' application for recognition as sufferers from the Minamata disease based on the "Law Concerning Pollution-Related Health Damage Compensation and other Measures" was accepted by the prefectural governor and after the compensation agreement had been

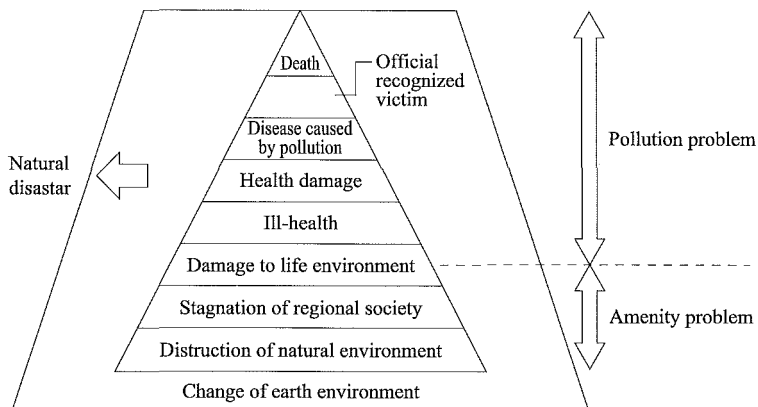


Figure 7-1 Pyramidal damage structure (Miyamoto, 2007: Figure 3-1).

reached they received compensation for damages from the Chisso Corporation. Consequently, this arrangement set a precedent for the institution of pollution recognition (administrative recognition), whether applicable to the Minamata disease or not. Yet four problems still bedevil this system of pollution recognition.

First, the protocol of administrative recognition set up by the Law Concerning Pollution-Related Health Damage Compensation and other Measures has limited the category of victims almost entirely to the cases of Itai-itai disease, Minamata disease and other cases. As in the case of recognition of radiation sickness caused by the atomic bomb, so here, too, the bureaucracy's occasional policy measures and budget constraints have restricted recognition only to the victims directly affected. As a result, frequent cases of litigation have been brought to court to recognize those suffering from the pollution who had not been officially authorized as victims; and many sufferers have been accredited as genuine victims only after such judicial proceedings rather than as a result of any formal recognition within the institutional framework.

Second, because institutions follow the judgment of the Certification Council, which is composed solely of expert witnesses, the institutional qualification requires a double or threefold procedure; and so, rather than being allowed to represent themselves, the suffering victims must wait for their case to be presented by officials and doctors.

Third, because the recognition system decides which patients are affected by the Minamata disease, those patients whose condition may be ambiguous

have been left unattended; and no compensatory relief system corresponding to degrees of damage has yet been established.

Fourth, since the actual survey of damage has only been conditional, no clear picture of the damage has emerged and little progress has been made to clean up polluted areas, while the Japanese government and prefectures have neglected to elucidate the damage realistically. In 2004, however, after a decision of the Supreme Court had emphasized the responsibility of the Japanese government and the administrative responsibility of the prefectures, the number of patients who applied for accreditation increased remarkably, as did those who were willing to take their cases to court. This was because the Supreme Court's decision made governmental responsibility clear and thus reduced people's fear of the discrimination that would follow should they admit to being sufferers of the Minamata disease. Yet, since such victims are growing older, the situation does not allow us to come to any premature conclusions.

The number of patients who have been recognized as suffering from Minamata disease as identified by the Law Concerning Pollution-Related Health Damage Compensation and other Measures totals 2,960, of whom 886 still survived at the time the last figures (which include those provided by Niigata prefecture) were published. In 1995, however, the number of patients who had received compensation authorized by the Government came to 12,271. (11,149 patients have been issued with a medical notebook, while 1,122 patients have a health notebook.)

The second Minamata disease lawsuit judicially recognized 3 patients as sufferers of Minamata disease, while the Kansai lawsuit recognized 51 patients as sufferers. When the right to claim an insurance handbook was reinstated, the names of 11,622 patients had, by August 2007, been added to those of the 26,907 patients who had already received compensation in some form or another. In early 2009, 20,558 new patients were issued with an official insurance handbook.

In 1995, the Government authorized the issue of a medical notebook and awarded a medical care allowance to the certified patients. Since this system pays an allowance only when patients attend medical clinics twice a month, it promotes regular visits to the hospital for a proper medical examination; and since "patients can consult doctors about their health" and "have a right to medical care", the system plays a significant role in the patients' reattainment of their functions.

Yet, while the Government's decision to issue a medical record book and pay a medical care allowance is in itself estimable, even after the decision of

the Supreme Court (at the end of March, 2009), the number of patients who are known at present to be seeking administrative recognition comes to no more than 6,365, while the number of patients who are not relieved at all is probably beyond count.

So far we have looked at compensatory measures taken by the government. Let us now consider the compensation due from the company responsible for the disease, Chisso Corporation. When Okada Shunichi, the President of Chisso Corporation, visited China in September 2005, he told a Chinese administration official that the company had learned four important lessons from the Minamata disease. We must not, he said, be over-reliant on scientific assessments; we must recognize that there can be no excuse for what has already happened; we must compensate over and above what is required of us by the court; we must never be the cause of pollution, for, should we be, it will lead to the destruction of the company (Nikkei Business Editorial Department, 2007).

Since Chisso Corporation was the enterprise responsible for the outbreak of the Minamata disease, it carries on its back a heavy weight of compensation accountability. At the same time, companies that cause serious social problems usually experience severe social sanctions, which often lead to bankruptcy and the dissolution of the company. In the case of Chisso Corporation, however the choice to declare bankruptcy was not taken, since the company has a continuing duty to compensate the victims and to preserve local employment. After 1975, the management of Chisso was deeply troubled when the fear that they would not be able to pay compensation became publically known. So, from 1975 to 2000, Kumamoto prefecture floated a public loan and supported Chisso financially (a loan amounting to approximately 260 billion JPY). Since Chisso found it hard to pay back the loan, however, the prefecture took the drastic step of remitting repayment from February 2000. In the mean time, the Japanese Government began to pay yearly compensation in Chisso's place. The Japanese government supports Chisso since it recognizes that should Chisso go out of business, bankrupted by "the polluter pays principle", it would have a most serious impact on the Minamata area.

Although the pollution recognition system requires the administrative institution to take charge, the Japanese government, in taking responsibility for recompensing the victims, pays indemnity on Chisso's behalf, while still retaining as a principle Chisso's responsibility to shoulder the payments without any direct governmental supervision.

Since the demand for liquid crystal has increased with the expansion of LCD TVs, Chisso's profits have recently begun to grow again and it now has

a current profit of 20 billion JPY (\$200 million). If these favorable conditions continue, Chisso should be able to repay its compensation-related debt within ten years, but the issue is still fraught with uncertainty. As we noted in Chapter 5, the compensation-relief policy requires that not only the enterprise which is the source of pollution but the administration, too, must also bear responsibility: this follows the decision of the Supreme Court in 2004 that the national government and the prefectures must take their share of the blame. In the summer of 2009, "The Law Concerning Special Measures for Compensation for Minamata Disease" was approved by the Diet. This law increased the amount awarded as compensation for the victims while allowing Chisso to divide itself into several smaller companies, sell its subsidiary stocks, and produce capital through the revenue thus acquired. This type of compensation, however, depends on the "profit-based principle", which is determined by the company's stock sales and differs greatly from the "polluter pays principle". And, furthermore, although a 1977 decision by the Supreme Court rejected what was then the basis of administrative recognition, the system has not in fact changed, and should damage occur after an offending enterprise has been dissolved as a result of the splitting up of the company, the issue of who pays remains even though the person who ought to take responsibility 'disappears'. One scheme designed to get around this obstacle is known as the "Major Victim Discarding Plan", in which two-thirds of the appellants' claims are rejected; this has been backed up by a "Curtain-drawing Plan for the Rescue of the Perpetrators": both these schemes have been criticized as a far cry from the solution sought by the victims. Should Chisso and the Liberal Democratic and Democratic Parties come to a political agreement without proper discussion with the victims over a plan concerning the division of Chisso, which would in turn bring about the disappearance of the responsible enterprise, this is bound to lay up trouble for the future. In light of the long drawn out continuation of the problems caused by the Minamata disease, what we require now is a concrete plan to relieve each victim without qualifications or backslidings.

3 Assessment and abatement of environmental damage

3-1 Policies to protect the people and the environment from generated pollution: the Itai-itai disease

Ever since the Itai-itai disease Court Case (one of the four major pollution tribunals presided over by the Japanese judiciary), its judgments regarding "the reduction of contamination and the cleaning up of the environment" as

well as “the active participation of citizens” have come to represent long-term goals as means to protect the public from generated pollution. The implementation of such a policy naturally requires close cooperation between the enterprises concerned, scientists with specialist knowledge and the legal authorities.

The main purpose of the Itai-itai disease tribunal was to ensure that polluted rice would not go on sale and that any damage caused by pollution had to be rectified. Since countermeasures were deemed necessary, both to clean up polluted soil (which might mean having to discard polluted rice), and to check the source of pollution, and since it was considered that this would require a continuous on-site inspection of the Kamioka lead and zinc mine, a pollution control agreement was concluded the day after the appellate judgment on the Itai-itai disease was passed down (August 10, 1972). The content of the agreement was epoch-making: never before had a company accepted on-site inspection of its plant by the local residents and a scientific expert, who was empowered to submit research data at the company’s expense. The participation of an attorney and the scientist was particularly important. For nearly 40 years, this on-site inspection by local residents has continued, and the quantity of cadmium drained from the mine has been reduced to one 15th of what it had been at its worst, while the water quality of the Jinzu River has almost returned to its natural condition, proof that it is practically possible for such an industry to be non-polluting if it tries. As of 2009, the action to reduce environmental pollution at the Kamioka mine was settled as follows.

- Separate clean water and polluted water at the headwaters (since mixing conditions make it difficult to collect metals from waste water).
- Prevent leaks by renovating old equipment and renew the manufacturing process: subsequent treatment becomes easier (drainage, flue gas accommodations).
- Prevent the flow of polluted water from a plant to rivers (by protecting water enclosures, providing water wells with barricades).
- Recycle plant water: reduce the total cubic displacement.
- Ensure that enough barricades are in place to prevent polluted water from leaking from the factory during an emergency.
- Institute at the time of the agreement an environmental auditing system similar to that of the International Organization for Standardization.
- Be prepared to disclose information: hold regular consultations with the victims’ organizations, facilitate on-site investigations, prepare annual reports.

- (Takao Shibue, "Actions to ensure a non-polluting enterprise", September 8, 2009, Resource and Material Institute lecture).

The President of the Kamioka mining plant, Takao Shibue, who has made "environmental safety a matter of high priority", says that all the employees of the company take pride in and have acquired confidence in their having worked to affirm the priority given to the protection of the environment: society has judged the company to be one that takes the environment seriously. Mr. Shibue has said, "The sufferers' organization has given me a wonderful gift: the gift of trust" ("My points of view", "The Asahi Daily News" February 5, 2009).

We can now extend our analysis to embrace the ideals of "sustainability" and "governance". As a consequence of the ruling laid down in the Itai-itai suit with the aim of defending the public from generated pollution, farmers living in Toyama, the affected area, studied the technology and pollution control of the Kamioka mine. Each participant (the enterprise, an attorney and a scientific researcher, for example) cooperated and pledged to create a relationship that combined "trust with effort". Such cooperative efforts are closely related to the reduction of pollution and the relief of the environment. People's confidence that "We can eradicate pollution" has been borne out by adhering to the principles of "scrutiny by the victims", "corporate efforts" and "the wisdom of the scientist".

3-2 Settlement of Yokkaichi's air pollution through total volume control

Thanks to technical settlements designed to reduce contamination, the Japanese effort to combat air pollution has achieved notable results.

As a consequence in particular of the judgment handed down in the Yokkaichi pollution tribunal, the attitude of the Japanese people towards pollution changed, and the notion of total volume control, which would ideally resolve the problem, at last became feasible. In order to achieve total volume control, the first need was to reduce both the capacity of an enterprise to emit poisonous substances and the effects on the environment of various kinds of damaging emissions. A comprehensive control system was also needed to maintain an environment reference standard and thus ensure that there would be no epidemiological impact on human health anywhere in the Yokkaichi region (SO₂ annual average 0.017 ppm).

Since such flexibility is attained through detailed research data on the sources of every discharge and on local weather conditions, we need the best possible model to obtain an acceptable concentration of discharge by con-

structing a base system to simulate atmospheric conditions, and by making factories the subjects of regulation to optimize desulfurization.

Since the reduction rate of SO_2 that is necessary for a satisfactory result is around 80%, and since the countermeasures that the company would have to take would be exceptionally costly, many people were apprehensive that the enterprise might refuse to accept or implement the scheme. Yet the aim was accomplished within three years.

This was because the enterprise believed that it would be unable to continue operating unless total volume control was achieved; consequently, it poured all its energy and immense amounts of money into technical development to improve its facilities and to regulate its working practices (Yoshida, 2002: 157–208).

Since engineers in the field doubted whether they would be able to continue operating in Yokkaichi without substantial developments in desulfurization technology and fuel conversion, they wrestled to improve the production system so that it could also collect chemical substances from the production process in the most thorough and efficient manner. While the original aim was pollution control and the initial investment was huge, before long an industrial plant of high productive efficiency had been completed and the company was even able to export its technologies, proof that anti-pollution measures are compatible with sound economic management. The methods and technology capable of total volume control can thus become the most effective measures for the reduction of greenhouse gases and air pollution in such countries as China.

Even so, we must not forget that 30 years after they contracted the disease more than 500 victims of Yokkaichi pollution are still suffering from it, while, at the same time, action to restore the environment itself remains weak. The environmental NGO, the Japan Environmental Council, has therefore proposed as targets for Yokkaichi's revival that it should focus on [1] a safe city, [2] the replenishing of the city's water, [3] an industrial policy based on inner spontaneous development, and [4] autonomous participation by local residents (Miyamoto, 2008).

All this is possible, for, in 1995, the Nishiyodogawa Osaka air pollution tribunal reconciled the accusers and the company, and as part of the settlement the parties established "The Aozora (blue sky) Foundation", a project designed to revive polluted areas, restore and expand the functions of the community, and foster regional development by restructuring relationships of trust and cooperation between the bureaucracy, the offending enterprise and the local inhabitants. Notably, the Foundation has created a town without

pollution, has educated the community by inviting sufferers to speak of their experiences of pollution, has taught the local inhabitants about nature and environment while taking special care of the victims of pollution. On the basis of the settlement agreed on by the Nishiyodogawa judgment, similar actions for regional revival have been undertaken in Nagoya, Kawasaki, Kurashiki, and Amagasaki. We shall look at these instances again in the next chapter in relation to "the restoration of the social environment and social relationships in polluted areas".

4 The restoration of the social environment and the mending of damaged social relationships

4-1 Actions taken to overcome complicated adversarial relationships

In the case of the Itai-itai disease, the affected area, in Toyama Prefecture, is more than 50km from Gifu Prefecture, where the mine was located, so that as well as occupying different geographical locations, they also belong to different administrative regions. In the case of the Minamata disease, on the other hand, the victims and the polluter were both living in the same area, which has meant that the interests of the concerned parties have been very complicated, and the area has been seriously and damagingly affected by the ensuing conflict.

In this section, therefore, we consider how, in the instance of the Minamata disease, the community tackled the restoration and restructuring of the social environment and social relationships.

The Minamata disease displays the following characteristics.

First, for the last 50 years, the damage caused by the disease has not been limited to the patients who have suffered directly from the disease. The whole area was damaged and the local consequences of the disease have been very serious. It has been necessary to rebuild the regional economy by reversing the decline of the fishing industry, halting the exodus of the population and squashing harmful rumors that only the victims of the disease would be relieved and not the environment. The problems caused by the disease and the ensuing business conditions of Chisso Corporation have had a huge effect on Minamata's economy, for the number of those employed by the Chisso Corporation interlocks with demographic change in Minamata City, whose population, because of the issue, fell from 50,000 to 30,000 even in the period of high economic growth, while at the same time the fisheries collapsed, Chisso's labor disputes intensified, and petrochemicals took over as the main source of fuel.

Second, the disease gave rise to many harmful rumors and serious conflict in the area took many forms. Soon after official confirmation of the disease, people spoke of it as an epidemic and once the rumor had spread it did not easily die away, thus damaging not only the sufferers but also the whole area in which the disease broke out. This was the result of the government's negligence in not making it completely clear that the disease was not an epidemic, so that, in addition to discrimination and prejudice shown toward the patients, marriages broke up, and people who were born in the Minamata area were unable to find jobs. When people moved to another area they hid the truth that they came from Minamata. All farm and sea products registered as coming from Minamata were avoided, while the number of tourists fell sharply, which made further difficulties for the whole community. Those citizens who were damaged only indirectly were filled with anger against those who planned to apply to be registered as official victims of the disease. As hatred and envy spread, the afflicted patients suffered from four things: social discrimination, the pain of the sickness, poverty and social isolation.

And thus, since the social life of Minamata City depended on Chisso for its economic well-being and because of the persistence of ill-founded rumors, other conflicts, in addition to the conflict with Chisso, broke out, all of which caused problems for the patients: conflicts between citizens and patients, between patients and the administration, and between citizens and the patients' support organization.

Moreover, since Chisso's economic condition became desperate, it was unable to pay its indemnities, and the situation simply grew worse and worse; and since the government felt forced to relieve Chisso before it assisted the victims, it was natural that the victims became more and more belligerent in the presentation of their demands (Yoshii, 2003).

Since Kumamoto prefecture judged that it could not leave "the socially unpopular area" in the region unattended, it was left to Kumamoto's regional development section, amongst other administrative participants, to take the initiative in forwarding the revival of the Minamata region. First, Kumamoto Prefecture removed critical levels of mercury sludge from Minamata bay and completed its landfill, after which it established a section called "the Minamata Regional Development Division". Once the prefecture started to tackle the restoration of Minamata City in earnest, it began to hear from patients and inhabitants that while the social structure of the City depended on Chisso, the inhabitants distrusted the information that the company gave out. In 1993, the officer in charge of promoting the revitalization of the Minamata area revised the principles that had been operating until that time and issued new

"structural guidelines to further the revival of Minamata City". The document set out to clarify the issues that needed to be addressed and distinguished three 'actors': the association of the diseased, the association for restoring the Gulf of Minamata, and the human beings whose relationships within the local society needed to be mended. It proposed to seek for "consensus among the local inhabitants" while setting out "to heal the area's damaged reputation". Such an outcome, though, would depend first upon a proper solution for the relief of the victims, confirmation of the area's safety and widespread mutual reconciliation, before the citizens could begin once more to trust and understand each other's conditions and feelings; at the same time it would seek to remove the city's dependence on Chisso Corporation by a planned diversification of the company's industrial structure. If followed, the proposed route would, it was hoped, lead to the rebirth of Minamata. The proposal thus sets out a basic strategy for reinventing Minamata as an environmentally creative city; and what it has brought into focus are the three issues that we must consider when seeking for any kind of environmental restoration after a case of serious pollution: proper compensation for the victims, thorough cleaning of the environment, and the revival of the local community.

Kumamoto Prefecture's actions have helped to educate the citizens of Minamata and a movement called the "Moyainaoshi" campaign has begun its work with the following aims in view: to raise civic consciousness so that the citizens will be able to reforge the bonds broken by the disaster, while seeking [1] to persuade the citizens to accept each other's separate existence and to understand that the pollution gave rise to different experiences and different values, [2] to help the citizens to accept that different people have different opinions and different theories about what had taken place, and [3], through dialogue and, by lowering the barriers that fear and ignorance had built up between them, to create a regime of common values for new regional development.

4-2 The role of the citizens as active participants

The leadership of the mayor and the participation of the citizens in the environmental restoration of Minamata have proved decisive. Masazumi Yoshii, who took office as mayor of Minamata in February 1994, had already served five terms as a municipal assemblyman and two terms as chairperson of the municipal assembly. He was a member of the Liberal Democratic Party, yet as he had been working in the forestry business in the mountainous valleys of the Kukino District he had had no direct personal interest in the previous history of the Minamata disease and was thus able to analyze the pressing

problems of the Minamata area objectively. Since Yoshii believed that the first thing to be done was to settle the conflict between the administration and the patients so that the victims could obtain due relief, he decided to listen directly to the leading representatives of the patients' association. As a result, he understood that the most difficult thing to ask of those who opposed any remedial actions would be that they should change their minds. He therefore decided first to show that he himself had changed, and hoped that by demonstrating a change in himself, he would effect a change in those who opposed relief of the victims. Consequently, just after he had assumed office, at a ceremony to console the spirits of the victims of the Minamata disease (May 1, 1994) attended by the Secretary of the Environmental Agency and the Prefectural Governor, he admitted reflectively and apologetically that the conventional measures taken by the City to deal with the Minamata disease had been wrong. Although each group of patients took its own independent line, they all agreed with the policy of "an early solution reached through consultation". A representative of "the citizen's meeting" who expressed an urgent desire for the continued existence of Chisso was also agreeable to the idea of patient relief, while the representatives of each group of patients and the municipal assembly urged the national government to seek for a solution. In 1995, the Minamata disease non-designated victim relief fund was proposed as the political solution to the crisis.

If we view this policy as a tactical move in a long-term strategy, we may say that, after genuine apologies had been made, the participation of the local administration at the planning stage reversed the mood from one of opposition to one of cooperation, and turned a negative inheritance into something positive, with the aim of regaining confidence and fostering pride amongst the citizens of Minamata by focusing on the restoration of the environment. What is at stake is how well the citizens have been able to adopt the policy of "Moyainaoshi" so that they can participate and act independently so as to achieve a rebuilding of social relationships; and because what the municipal administration thought essential to achieve "Moyainaoshi" was that citizens should have many opportunities to meet together and exchange their ideas, various events were scheduled, such as study meetings, lectures, gatherings for the exchange of views and international conferences. In addition, the municipal administration expanded its policy of thorough citizen participation, with the specific aim of educating citizens to think and act as independent agents. In 1996, Mayor Yoshii devised the third all-out plan to demonstrate the citizens' own involvement in the work in hand. Thanks to citizen participation based on the ideas of "Moyainaoshi", Minamata became the first local

government in Japan to consolidate its image for the future as “an industrial and cultural city that aims to restore its environment and reconstruct its industries”; and to this end a series of activities were set up to which we should pay attention as methods to enable citizen participation, namely an all-out plan to be achieved through “21st century Minamata plan citizen meetings” (in 1994, an appeal to the public) and “a 21st century Minamata citizens meeting” (in 2000, an appeal to the public), letters to the mayor (1,400 from 1994 to 2000), and a regional gathering meeting (which 4,200 people attended).

In conjunction with (and in contrast to) this, we may take as an example of a polluted city on the same scale as Minamata the cases of Bitterfeld and Halle in eastern Germany, two of the areas worst polluted by the chemical industries of the former GDR (the German Democratic Republic). Many of their factories produce acetaldehyde and acetic acid, and their technology is similar to that of Minamata, while to the heavy metals that contaminate the soil they added mercury.

Although the EU and the German federal government have injected funds into a plan to purify the environment, it is rare to find citizen participation and evidence of regional revival, such as a scheme for environmental purification or town planning, because the former socialist system lacked any democratic input from the bottom ranks of society. Since the old chemical industry was dismantled, the population has drained away, the unemployment rate remains high, and the area has become a hotbed of youth-led neo-Nazi violence and strife. A comparison of how society coped with the Minamata disease and how the former East Germany responded to their own similar cases of pollution demonstrates very clearly that civic participation and the strong will of the local community to begin afresh are indispensable for local restoration and communal rebirth.

4-3 Actions to create a safe environment and a vibrant city

If we hope to ensure sustainable community development, we must pay attention to activities that create a safe environment and a vibrant city. The third concerted Minamata plan (to cover the years from 1996 to 2005) brought all these ways of thinking into a single work. The plan was not entrusted to a remote consultant but was devised by the citizens working in cooperation. The plan envisioned “an industrial and cultural city that valued its environment and the health and welfare of its citizens,” and it set itself six objectives: [1] the settlement of all outstanding issues relating to the Minamata disease, along with the restoration and recreation of the environment of Minamata, [2] the creation of living conditions that are close to nature, [3] the establishment

of a harm-free life, [4] the creation of a vibrant city, [5] the rediscovery of the traditional Minamata culture, [6] the citizens' participation at all levels of town planning.

The community development support project established seven basic aims: [1] to save the beauties of the river and the sea, [2] to promote recycling, [3] to dedicate Minamata as a city for a study of the environment, [4] to build a healthy and culturally lively city, [5] to maintain the reclaimed land of Minamata Bay and its surroundings, [6] to exchange ideas as how best to base city planning, [7] to support community developments that are practiced by the citizens (consolidated by a plan from the latter half of 2001 through 2005 in line with the six basic projects). The recycling industry of Minamata is an important pillar in the building of an environmentally friendly and creative city, and is closely linked to the actions of the citizens in recycling projects. The citizens' recycling campaign has helped them to regain confidence, and has helped to promote the kinds of concrete industrial activity that will erase and wipe out the disgraceful label of "Minamata, the polluted city".

4-4 Separated collections and the recycling of garbage

After their first comprehensive discussions, the citizens submitted a record of their proposals to the government of Minamata City, and, since 1993, they have acted (on the basis of their deliberations) as responsible individuals who have agreed to carry out the careful separation of household garbage (divided into 21 separate categories) so as to utilize garbage as a recyclable resource. Burnable garbage is collected twice a week, while a neighbor will be asked to help unmarried persons and the elderly who may find it hard to participate in the classification of different kinds of the recyclable waste that are collected by rota once a month. Such movements to revive local communities as "Gomibata (garbage) meetings" have become popular, and the educational effect of the need to sort out different kinds of garbage has been enormous, while the earnings from garbage sales now amount to 5-6 million JPY (\$60 thousand) a year and are channeled back to 26 administrative districts. The money is used to install lights for outdoor security and for sports activities.

Kitchen waste is collected separately twice a week and is turned into compost. In Minamata, it is used to grow the salad onion "Sara tama", which can be eaten raw and is a specialty of the area. When Minamata City appealed to the citizens to reduce garbage so as to qualify for the ISO14001 certificate, the women called a special meeting: "Women on how to reduce garbage". Over 3,000 women from 16 women's groups, all of them concerned about garbage and how to deal with it, participated in the meeting. The

members agreed to the proposition that it is better not to bring anything into the home that is likely to become garbage and is difficult to dispose of, while after the meeting representatives of the women's groups discussed with the major supermarkets the abolition of the trays supplied with many kinds of food, and reached an agreement not to use them for specific items of perishable food.

The stores have said that as a consequence of the women's initiative the cost of wrapping has been reduced, and where the city had certified a store as having saved energy and reduced garbage, the meeting had recommended that such a store be accounted an "eco-shop".

BOX 7-1 Environmentally friendly community

A number of environmentally friendly community schemes have also been devised. A plan drawn up jointly by the citizens and the administration and known as "Yoro-kai" was circulated to 26 city districts as a means to regenerate those local communities that had been divided by the Minamata disease. The plan was to produce "local resources maps", whereby the local residents created maps in order to rediscover and develop such local benefits as the gifts of the river, among them eel and crab, such fruits of the mountains as bracken, such bounties of the sea as cutlass fish, the horse mackerel and the big old tree. We may say that the scheme is a means to renew each area by making use of what it already produces, while not asking for the impossible. Another scheme has been to develop further the re-routing of the local water supply by examining the actual conditions on the ground. Meanwhile, a "district environment agreement" was drawn up to decide on certain 'rules of life' that would preserve the local environment and keep it in good condition. The objective was "to conserve the beauties of nature as they are, in themselves", and at present seven districts have made promises "to protect the coastline, the riverbanks and the watershed forests", "to reduce and recycle household waste", "to watch out for the illegal dumping of garbage" and "to protect the stones of the riverbeds". Such actions as the drawing up of agreements and the making of local resources maps enhance the preservation of the local environments, while awakening and fortifying the civic awareness and confidence of the local residents by helping them to rediscover their local environments for themselves.

5 A strategy to bring about regional economic recovery

If communities decide to adopt the environment as the basis on which to regenerate the regional economy, they need a strategy that is based on the inherent characteristics of the local environment, and one that can help the local inhabitants to develop their talents as well as to improve their functional skills. The writer of this book fully supports the arguments put forward in this chapter and is therefore committed to a change from the old economic policies of conventional industry, while asking how, in a number of fields, a new economic policy can be devised.

5-1 The recycling industry

After a four-year effort, Minamata City drew up a plan to promote the development of industry by consolidating it with the recycling industry, and in 2001 it received official approval as an Eco-town from both the Ministry of Economy Trade and Industry, and the Ministry of the Environment. By that date, thirteen major Japanese cities had been named Eco-towns, but it was the first time that a small city was accredited with such an accolade. The concept of an Eco-town was first proposed in 1997 to promote advanced town planning that would be in harmony with the environment, and the idea was that the businesses of an Eco-town should be a model for the whole country. Should we ask why Minamata City aimed to align itself with the recycling industry, the answer is because both the work of environmental preservation and the activities of the recycling-oriented industry are needed if one hopes to create a city that is creative and environmentally friendly. The destinies of Minamata City and Chisso Corporation are intimately intertwined: when Chisso prospered, so did Minamata; when Chisso grew impoverished as a result of the pollution it had caused, so did Minamata. While I recognize the need to weave an industrial safety net by encouraging the various types of company to relocate, such reflections as those that I offer here may help to prevent the danger of future evils. Meanwhile, the garbage sorting carried out by the Minamata citizens attracted wide attention and received high evaluation from the whole country since it linked the recycling industry with the sorting of garbage, so that action taken to preserve the environment had at the same time a good effect economically, which was indeed part of the purpose. Manamata City has created conditions whereby citizens are able to learn about the environment by being given the opportunity to inspect the circulation of resources at the recycling factory. Since waste that can be recycled in the

simplest way has the fewest environmental loads, so, ideally speaking, it ought to be recycled in the place where it is generated or somewhere in the locality, and it was Manama's aim to become a model of the small or medium size city that had incorporated its own recycling factory. Seven institutions have already been built in Manama industrial park (which has become a general recycling center) on the roughly 20 hectare site of a former factory. Approximately six billion JPY (\$6 thousand) was invested in creating the institutions, which employ approximately 120 staff. The site houses such facilities as an "Act-B recycling" unit (for the recycling of the household appliances), a "Tanaka store" (for the reuse and recycling of bottles), and an "RBS" facility (for converting raw sewage into manure). In Minamata, however, a dispute arose over the construction of an industrial waste disposal facility because IWD Co., Ltd., a subsidiary of Toa Road Kogyo, planned to build such a facility (of a management type and a stable type) to treat the industrial waste from the Kyushu districts to Nagasaki and Kiusuno near a small water-source located in the upper reaches of the head-waters of the Yudegawa River, which supplies Minamata with its water. This led to the creation of an opposition movement with the slogan "Let us protect the source of the Minamata River". 85 percent of the inhabitants of Yudekawa ward signed the petition. The Governor of Kumamoto expressed disapproval of the proposal from the standpoint of the environmental preservation, and in the mayoral election of February 2006 the candidate who opposed the construction of the facility defeated the incumbent mayor who supported the plan, clear proof that the public opinion in Minamata was firmly set against using the site for such a purpose. Finally, in the summer of 2008, the plan to construct the facility was called off.

5-2 Agriculture and fishery in suburban areas

Originally, the Minamata area was a prosperous region specializing in citrus fruit, in particular, an early ripening orange. When consumers asked the question "Are the vegetables that are grown in Minamata safe to eat?", the farmers turned to organic farming to answer such concerns and reduced the amount of chemical fertilizer by seventy percent; in 1988-89, which was relatively early, they introduced a method that did without petroleum-based fertilizers entirely and inaugurated what became known as "Minamata type organic farming".

In doing so, Minamata established these agricultural methods before "the national guidelines" were introduced, and succeeded not only in satisfying subsequent inspection by JAC (Japan Agricultural Cooperatives), but also in

legitimizing the concept of "Minamata town planning", an idea that is now known throughout the world. As a result of the Minamata issue, lines of communication opened up between the producers and Tokyo, and in response to its concern for the environment organic farming has, from its very beginnings, been judged a success. Chisso, on its part, supplied manure. Meanwhile, from the 1970s to 1997, the Minamata Fishermen's Union received compensation of approximately one million JPY a year, but after the cessation of bulk net fishing in 1997, fishery as a livelihood revived and no further compensation was paid. During the 1990s, innovations led to the successful fishing of chirimen and contributed largely to the fishermen's livelihood, so much so that fishing has become a "part-time job" and leaves the fishermen time to engage in other work as well, so that more and more families now make a living by combining chirimen fishing with citriculture. In Modo town, for example, which had frequently suffered from pollution, four fleets of approximately twenty fishermen have made "sustainable fishery" their aim. They seek to produce safe food such as small dried sardines that are additive-free and that do not make use of synthetic preservatives, while at the same time they combine to grow citrus fruits with people who are returning to the province to work. The city authorizes a system called "The Environmental Meister" that gives its approval to manufactured goods that are made with special attention to the environment while taking advantage of experiences gained as a result of the Minamata disease. This project aims to direct the attention of manufacturers to the needs of the environment and the health of the citizens. It has given an official "seal of approval" to the producers of rice, tea, mandarin oranges, vegetables and the like who do not use any pesticides in their cultivation, as well as to the producers of small dried sardines who refrain from adding preservatives.

5-3 Ecotourism

The style of ecotourism that Minamata is now sponsoring is unique since the City is in the position to convey its own experience of the Minamata disease while also being able to offer, again from its own experience, information on how to set about creating a city that is both friendly to the environment and rich in its cultural life.

Minamata runs two ecotourism programs that combine these two aims. One is an "environmental study program" for primary and secondary school students, which provides a variety of courses. In the "Learn from the Minamata disease" course, held at the Minamata Disease Museum, you can listen to the experiences of someone who is able to speak about the disease at

first hand, walk to the spot where the factory's overflow entered the water system, and meet patients suffering from the fatal disease. The "Thinking about the Environment" course gives the visitor a chance to observe the Minamata method of sorting garbage as well as a tour of the recycling factory. Approximately 10,000 children a year now visit Minamata to learn about the environment. The other program, for adults, is "How to inspect and train for regional recycling".

An NPO named "The Minamata Education Tour" coordinates the eco-tours. It aims to turn the negative legacy of the Minamata disease into a positive contribution that will help in future planning of other environmentally friendly and culturally creative cities. This NPO network is composed of the recycling company, farmers, fishermen, Minamata disease patients, local resident volunteers, hoteliers and travel agents. To make even better use of the environmental study, plans are under way to combine the practical experience of pre-class training with a residential tour.

5-4 Medical care and welfare

Since the trend for young people to leave their home town to go to school or to find employment has led to depopulation, a declining birthrate and the nuclear family, 27% of the population of Minamata City is now over sixty-five, among them a small number of survivors of the Minamata disease, while the number of elderly persons who live alone is also increasing, so that, in ratio to the population, the number of medical facilities and welfare institutions is undoubtedly, and not surprisingly, higher than in other cities.

Minamata City may thus offer a striking foretaste of the aging society that may soon become the norm. The city has adapted the national medical welfare system, which actually came into being as a consequence of the Minamata disease, to the welfare system of an advanced aging society, and, in this respect, as in others, Minamata has taken the lead in responding to the challenges of Japan's aging society. It has instituted plans to make the town friendly to elderly and handicapped persons, to enrich the home welfare service, to build sheltered housing where handicapped persons may live an independent life within the local community, to promote the volunteer activity of visiting elderly persons living alone, and to promote a system for the rehabilitation of disabled children.

We may in this context note especially the building of a cooperative workshop called 'Hotto House' for fatally sick Minamata victims since it was built independently by disabled persons and did not rely on beneficial welfare. Hotto House is a cooperative workshop, an institution of small size that makes

it easy for visiting nurses to offer regular care while also providing workshops where the disabled can practice a trade. It was established in 1998 with the aim of assisting disabled persons to live worthwhile lives by continuing to work as members of society, and, at the end of 2003, it was officially registered as a social welfare corporation.

Since Hotto House is open to the local community, citizens are welcome to participate freely in its activities without obstacles of any kind, and fatally sick Minamata disease patients and disabled persons are thus able to make healthy social contacts with the citizens.

Hotto House engages in three socially meaningful activities. Firstly, it runs a café where citizens are not only able to talk to the members of the workshop but where they can also conduct their own business affairs and plan city events. Secondly, the members of the workshop use pressed flowers, which symbolize the richness of nature in Minamata, to make such objects as bookmarkers, drinks coasters and business cards, as well as potpourri of lavender, while their own home-baked bread is sold at the city hall and at high schools. Thirdly, so that future generations will understand the nature of the Minamata disease, they stage performances that bring together their experiences and messages through songs, readings, and photographs, as well as giving lectures at city schools and interchanging study trips with high school students.

At present, Hotto House is home to ten inmates, several handicapped persons among them, two full time staff and a resident local volunteer. The House is supported by donations raised by those who wish to help the disabled to escape from the pains of isolation and to create the image that a disabled person can live a productive and useful life.

In 2006, a community meeting was held to discuss what more should be done to address the issue of the Minamata disease. Among the ideas that were discussed was the proposal that Minamata and its surroundings should be designated "A model for advancing the environment and human welfare", by establishing a system whereby patients suffering from a fatal disease can continue to live in the community. In September 2006, The Ministry of the Environment in cooperation with the local government responded to these suggestions and set up "the Minamata disease outbreak area environment and welfare promotion center", with the object of stimulating improvements to the welfare and medical services within the area affected by the Minamata disease. We consider noteworthy from two viewpoints the practice whereby a person with a handicap can live a communal life without worry: from the capabilities approach (treating the citizen as the subject), and from the Theory of Environ-

mental Governance (the construction of an organization and its participating subjects). Such a practice involves the complete relief of the victim, which is the first issue to be resolved in any effort of environmental restoration.

BOX 7-2 The regional study born in Minamata

Actions taken to stimulate regional revival through the environmental restoration of Minamata gave birth to "A Regional Study of what the local community of Minamata can teach us" (Yoshimoto, 2008). The study sets out to examine the basic requirements of a good community life, especially in terms of what residents can do for themselves. It examines the steps that people whose lives are going astray can take for themselves to improve their condition.

The Regional Study does not ask for the impossible: its aim is to make use of existing resources, and it advocates a switch from "complaint" (*guchi* in Japanese) to "self-government" (*jichi* in Japanese). As Noriaki Tsuchimoto has said, "no one should live a life that consists only of despair". The making of the "local resources maps" is one of the results of this strategy. We should not concentrate on accumulating abstract knowledge or advancing our intellectual powers: what is important here is the practical information that we acquire at the local level; we have to keep our feet on the ground all the time. If we fail to do so, powerful external players may exploit the locality for their own financial or political benefit, not for the benefit of the residents. We must examine what goes to make "such things as are beautiful as well as useful, a comfortable neighbourhood, and a good life". Such an investigation is a continuous act of creation, to enhance the community's culture, and enable the residents to lead a thoughtful daily life. The aim of the Regional Study is to balance the three elements that go to make a sustainable society. These are "a good environment, satisfying work, and a cultural life that the local residents can enjoy". The whole country can benefit from the various actions to which the Regional Study has given birth, as practical methods to stimulate the local community without asking for a huge budget.

Summary

The three challenges that face environmental restoration, especially the requirement that we raised as our first point on page 161 (the elimination of damage and compensation for victims) continue to present problems that seem

almost irresolvable: it seems impossible actually to elucidate the exact nature and the full extent of environmental damage, while pleas to indemnify the designated victims of a pollution-related disease still go unanswered. Mercurial sludge still pollutes the land reclaimed from Minamata bay, while the political settlement of 1995 has left some Minamata disease patients still unrelieved.

It is imperative that we build an unbreakable framework strong enough to ensure proper compensation and the very best free medical treatment and after-care for the afflicted patients (see the "Proposal paper for confronting the issue of Minamata disease", 2006). As the Supreme Court has pointed out, the government bears heavy responsibility in this matter, while the subsequent "Minamata Disease Special Measures Law" (2009) adds to the weight that the government is obliged to bear in providing for patients who have already applied for compensatory treatment and patients who are still waiting for the opportunity to apply.

As for the second point, the reduction and cleanup of environmental pollution, the long-term countermeasures proposed to deal with the source of the pollution responsible for the Itai-itai disease have certainly attracted wide attention. When we review the issue of capability, we recognize that both the on-site inspection involving the participation of the local residents and the taking of appropriate steps to improve the ability of the plant to clean up its own mess are considerations of especial importance. The international community has responded favorably to Itai-itai example of successful environmental governance and it has applauded the reduction of the environmental load that has resulted from the building of confidential relationships between companies, local residents, legal consultants, and scientific advisers.

The case of Minamata has also attracted attention for its emphasis on the third point we raised, the rebuilding of social relationships and a healthy community. The keys to the lessons that the Minamata Affair asks us to learn with regard to "environmental restoration for regional revival" are the enhanced capability of citizens as actors and effective strategies of environmental governance. We may generalize "environmental restoration for regional revival" as follows. Since "environmental restoration" does not simply mean cleaning up the polluted environment, we must, to begin with, seek to restore the social environment and social relationships to their original state. And in addition to recognizing that environmental pollution degenerates and damages human capability, we must view as necessary the effective building up of the citizens' capability as actors, who think, participate, and act as responsible members of the public. This entails that we shall need a strategy capable of

transforming the negative into the positive by encouraging and effecting a change in the way the ordinary citizen participates in the democratic process. Only by reviving the confidence and pride of the whole community shall we succeed in transforming the negative legacy of the polluted city into the positive presence of a vibrant and harmonious community. It will be the strategic task of environmental governance to convert personal attitudes of mutual hostility into ones of friendship and trust while persuading industrial companies and the government to adopt attitudes of accommodation and cooperation towards the public, and by so doing transform the negative legacy of the polluted city into the positive inheritance of local resources of the kind that will stimulate ecotourism.

Third, if a community can acquire capability and establish environmental governance, it will be able to escape from absolute dependence on one particular company, and other local industries will be able to recuperate. It is the mission of every city to cultivate a variety of industries by diversifying its industrial structures into such projects as the making of an Eco-town, the restoration of primary industries, and the creation of tertiary industries that will play a role in supporting elderly or challenged people. So, through the development of human resources (capability) and with a focus on institution-building, such approaches as these represent the creation of "a well balanced and sustainable society", environmentally, industrially, and culturally. They also put into practice those policies that seek to integrate the environmental, economic, and social considerations that we shall need if we are to protect our own living environment, for besides taking care of the rivers, oceans, and forests, we must not exclude ourselves from the natural environment, of which we, too, are, after all, a not inconsiderable nor altogether negligible part.