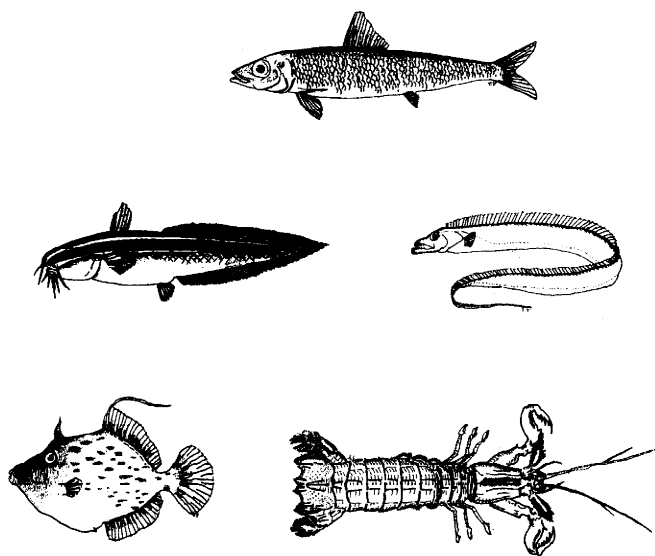


# TEN THINGS TO KNOW ABOUT MINAMATA DISEASE

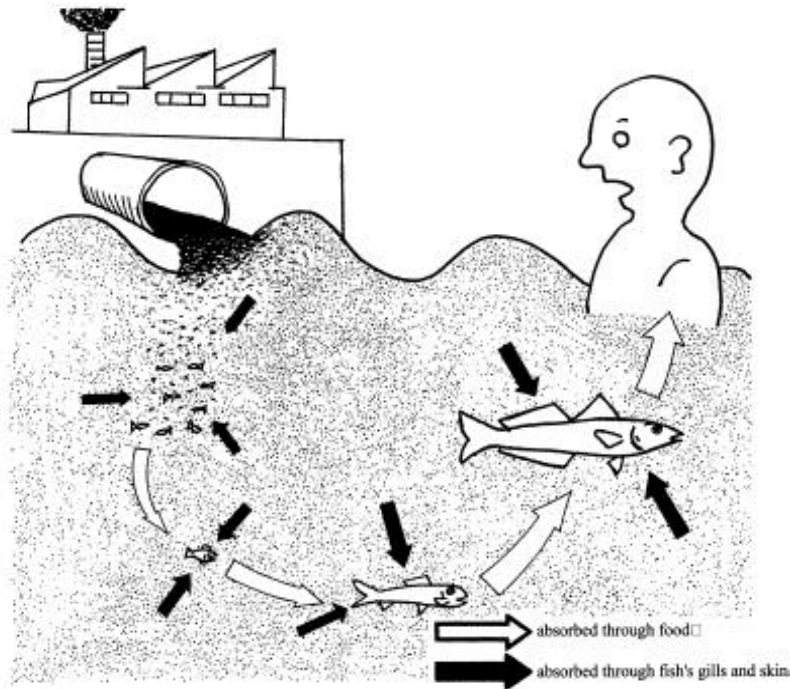


Minamata disease shows us that we must not ignore the past, and the more we study and learn about it, the more it teaches us lessons about living, such as the value of the environment and health.

So that the tragedy of Minamata disease will never be repeated, we have prepared answers to some of the most common questions about Minamata disease.

We will be gratified if this pamphlet helps to improve understanding of Minamata disease.

## 1. WHAT KIND OF DISEASE IS MINAMATA DISEASE?



*accumulation of methyl mercury*

Minamata disease is a form of methyl mercury poisoning caused by eating large quantities of fish and shellfish polluted by methyl mercury in factory wastewater. It is not a contagious disease transmitted through air or food, and it is not inherited. Minamata disease was officially discovered in 1956, and in 1968 the national government announced that it was a pollution disease caused by the Chisso Co., Ltd.

The methyl mercury that enters the body mainly attacks the central nervous system, including the brain, and causes various symptoms including numbness and unsteadiness in the legs and hands, tiredness, ringing in the ears, narrowing of the field of vision, loss of hearing, slurred speech, and awkward movements. Some early severe victims of Minamata disease went insane, became unconscious, and died within a month of the onset of the disease.

There are also victims with chronic symptoms, such as headaches, frequent tiredness, loss of the senses of smell and taste, and forgetfulness, which are not easily visible but make daily life difficult. Moreover, there are congenital Minamata disease patients, who were born with handicaps after being attacked by methyl mercury while in the wombs of their mothers who consumed polluted fish. No fundamental cure for Minamata disease has yet been discovered, so treatment consists of attempts to lessen the symptoms and physical rehabilitation therapy. In addition to the physical damage, there is also social harm, such as discrimination due to Minamata disease.

## 2. WHAT KIND OF SUBSTANCE IS ORGANIC MERCURY?



*The Great Buddha in Nara*

Humans have had a long history with mercury, and it is well known, for instance, that mercury was used in the gold plating of the Great Buddha in Nara, and in the Edo period in medicine and facial powder. Furthermore, Japanese place names such as Niu indicate areas where mercury was produced and used long ago.

Mercury is classified into inorganic mercury and organic mercury. Metallic mercury, which is a type of inorganic mercury, is used in familiar items such as fluorescent lights, batteries, and thermometers.

The methyl mercury which caused Minamata disease is a type of organic mercury. It is a white powdery substance and smells like the sulfur in a hot spring. It is easily absorbed from the stomach into the blood and carried to the liver and kidney, and then the brain and even the fetus, where it is absorbed and concentrated and causes great damage to the human body.

### 3.HOW MANY MINAMATA DISEASE PATIENTS ARE THERE?



*Memorial service for victims of Minamata disease*

Over 17,000 people from Kumamoto and Kagoshima prefectures (all figures given below are for patients in both prefectures) have applied for certification as Minamata disease victims. Of these, 2,264 (of whom 1,408 have passed away) were certified by the government. In addition, 10,353 people have been declared eligible for lump sum payments from Chisso based on the national government's 1995 settlement plan to aid uncertified patients. Therefore, 12,617 people have been officially recognized as patients affected by mercury. However, in addition to these, some people died before the official discovery of Minamata disease, others died after the discovery but before they could apply for official certification or medical assistance, and for various reasons some patients have never applied for compensation, so it is impossible to know the exact number of victims.

In addition to the Minamata disease caused by Chisso, in 1964 Minamata disease also broke out along the Agano River in Niigata prefecture, where the Showa Denko Corporation used the same production process. Elsewhere in the world, damage to health due to mercury pollution from factories has also been reported along the Songhua (Sungari) River in China, and in Canada. And in recent years rivers and lakes polluted by mercury in the Amazon and Tanzania have created serious health concerns.

#### 4.WHAT KIND OF COMPANY WAS CHISSO?



*The old Chisso factory constructed in the Meiji period*

Chisso began as a hydroelectric power company in 1908, late in the Meiji period (1868-1912). It built a carbide factory which used this electricity, and before long began producing chemical fertilizers, becoming one of Japan's major chemical companies.

As Chisso grew, so did Minamata. Its population increased, and Minamata became one of the leading industrial cities in Kumamoto prefecture. A former factory director served as mayor, and both Chisso's influence on the region and the residents' dependence on Chisso grew.

In addition to chemical fertilizers, Chisso produced acetic acid, vinyl chloride, and the plasticizers that were necessary in their production. Chisso became one of the companies that made Japan's rapid postwar economic growth possible.

Beginning in the Taisho period (1912-1926), pollution of the ocean by the wastewater from the Chisso factory occasionally became a problem. However, from 1932 to 1968 the company continued to use inorganic mercury as a catalyst in producing acetaldehyde, which was used to produce acetic acid and vinyl chloride. Methyl mercury, a by-product of the production process, was discharged virtually untreated into the sea until 1966.

Even after Chisso knew its factory wastewater was the cause of Minamata disease, it did not suspend operations. In the decision in the first Minamata disease trial, such corporate negligence and immorality was severely criticized.

## 5.WHAT HAS HAPPENED TO CHISSO?



*Some of Chisso's products*

Chisso Co., Ltd. has its head office in Tokyo, and factories in Chiba and Okayama prefectures in addition to the one in Minamata. The main products of the Chisso Minamata factory include liquid crystals, preservatives, desiccants, chemical fertilizers, and synthetic resins. It employed about 660 people as of September 2000, and is still an important company in Minamata.

Chisso owes enormous debts as the company that caused Minamata disease. In 1975 its worsening financial situation led to fears that it might become unable to make compensation payments to patients, so since 1978 the national and prefectural governments have provided it with financial support through the issuance of prefectural bonds. The total value of the prefectural bonds issued through the end of December 2000 was about 256.8 billion yen, of which Chisso must repay 166.1 billion yen to Kumamoto prefecture.

Types of prefectural bonds	Amount (including interest) as of March, 2000	Purpose/notes
for patients	about 164 billion yen	compensation payments to certified patients
for sludge	about 68.8 billion yen	cost of mercury sludge dredging and reclamation of Minamata Bay
for the reconstruction of Chisso	about 12 billion yen	fund for reconstruction of Chisso
for lump sum compensation payments	about 12 billion yen	payments to uncertified patients under the national government's Final Settlement Plan (after forgiving 85% of the loans to Chisso as of Feb. 31,)
TOTAL	about 256.8 billion yen	

## 6.WHAT HAS HAPPENED TO MINAMATA BAY?



*The land reclaimed from Minamata Bay (“Eco Park Minamata”)*

The sludge in Minamata Bay with a mercury content above 25 parts per million (ppm), was dealt with by Kumamoto prefecture by dredging and reclamation, at the huge cost of 48.5 billion yen over 14 years. As a result, 58 hectares of reclaimed land was created in Minamata Bay. The water in Minamata Bay is said to be among the most clear and clean in Kumamoto Prefecture, and it is quite safe to swim and play in. In order to prevent the spread of polluted fish and reassure the residents of the prefecture, the prefecture placed nets around Minamata Bay in 1974, and enlisted the cooperation of the fishing cooperative to catch fish in the bay. These fish were then bought and disposed of by Chisso.

Mercury levels in fish and shellfish in Minamata Bay have continued to decrease since Chisso stopped its production of acetaldehyde in 1968, and a June 1994 survey by the prefecture confirmed that there are now no species of fish that average above the provisional national standards (0.4 ppm total mercury, 0.3 ppm methyl mercury). Therefore, the governor of Kumamoto declared Minamata Bay safe in July 1997, and the nets around the bay were removed in October. Now it can be said that the fish and shellfish in Minamata Bay are as safe as those in other regions.

After the removal of the nets, mercury levels in fish and shellfish continued to be tested twice a year for the next three years. Comprehensive data on the seas of Minamata, which experienced such large-scale environmental destruction, and on the health of the local residents, will be passed on to the rest of the world so the most can be made of the lessons of Minamata disease. For this purpose, long-term monitoring is desirable.

## 7.WHAT COMPENSATION DO THE PATIENTS RECEIVE?



*The signing of an agreement between patients' associations and Chisso in 1996*

The March 1973 decision in the Minamata disease trial was a victory for the patients, and in July of that year the patients and Chisso concluded a compensation agreement through direct negotiations. Under this agreement, Chisso made lump sum consolation payments of between 16 million and 18 million yen to certified patients. In addition, costs for annuities, medical treatment, nursing, funeral expenses, hot spring treatment, and acupuncture and moxibustion treatments are paid. Also, the interest from a reserve fund set up by Chisso pays for diapers, home help, condolence gifts, massage treatments, and transportation to and from hospitals.

Moreover, for those who have not applied for certification but meet certain requirements such as loss of sensation in all four extremities and having eaten large amounts of fish and shellfish, Kumamoto and Kagoshima prefectures pay medical costs not covered by health insurance, and expenses for other medical treatment (17,200 to 23,500 yen per month as of November 2000) through their comprehensive Minamata disease treatment program.

Based on the national government's 1995 Final Settlement Plan, an agreement was concluded with Chisso in 1996 under which those (including patients already deceased) who met certain medical requirements received lump sum payments of 2.6 million yen on the condition that they not press for further compensation in the future.



## 8. WHAT HAVE THE PATIENTS BEEN REQUESTING?



*Patient Hamamoto Tsuginori talking about Minamata disease*

More than 40 years have passed since Minamata disease broke out. For Minamata disease patients, these have been 40 years of continuous hardship and strife. What the patients sought through court cases and negotiations with the government and Chisso was a heartfelt and sincere apology and acceptance of responsibility for causing Minamata disease and neglecting the patients. They have also demanded that the truth of the tragedy be made clear, and that quick relief be provided to the patients. What they most strongly appealed for during this period of isolation from the local society was that they be treated as human beings and as citizens of Minamata.

There is no hope for a true cure for Minamata disease. Most patients spend their days going to hospitals for treatment aimed at reducing their pain, and for rehabilitation. And as they age, the number of people who are hospitalized or receive home medical assistance increases. The patients' desire to be able to live in the community without any worries is also a common concern throughout the region in this rapidly aging society.

Needless to say, those who are physically able do what work they can every day. Although farming and fishing require heavy labor, they can help with rehabilitation. Some patients work for companies. These people have prayed for ways to live with their Minamata disease. However, prejudice and misunderstanding related to Minamata disease still remain, and there are cases in which patients hide their Minamata disease even from their families and relatives. Other patients devote themselves to activities such as talking about their own Minamata disease, in order to pass on the experiences and lessons of Minamata disease to future generations, in the hope that Minamata disease will never be repeated.

The patients of Minamata disease ask us not to forget those who were sacrificed in our search for material prosperity and the destruction of our ties to nature, and to always consider what we should do in the future.

## 9.WHAT IS “MOYAINAOSHI”?



*A joining—moyai—of boats*

“*Moyai*” literally means to tie boats together or to do something together, and “*naoshi*” means repairing something, or doing something again to get it right. We have given the name “Moyainaoshi” to cooperative community projects which stress tackling the Minamata disease issue directly and talking and working together here in Minamata, where the relationships among people and between people and nature were once destroyed.

At the time of the outbreak of Minamata disease, patients suffered from ostracism by their communities because it was feared the strange disease was contagious. Even after it was made clear that the cause was the mercury in Chisso’s wastewater, the citizens, who were dependent upon Chisso, shunned the patients for threatening Chisso’s existence through their lawsuits and demands for compensation.

The compensation payments gave rise to further discrimination and harassment, such as the false rumors that there were “fake patients” among those who had applied for certification. Since the disease was caused by Chisso, on which Minamata was economically dependent, and because of serious labor strife at Chisso, the residents were divided against each other, and communication between people on different sides of the issues was severed for a long time.

However, in recent years the government, citizens, and victims have overcome these problems and realized that “antagonism accomplishes nothing,” and are talking, meeting, and working together for the reconstruction of Minamata.

## 10. WHAT CAN WE LEARN FROM MINAMATA DISEASE?



*Residents separating trash into 23 categories for recycling*

Minamata disease was caused by eating fish and shellfish contaminated by chemicals in the industrial waste discharged by Chisso, and it also caused people to be divided against each other.

From this experience, the people of Minamata have learned the value of water and food, which are essential to life. They also learned that household and industrial waste must not be allowed to destroy the environment.

Mass production, mass consumption, and mass waste have made our lives more convenient and prosperous, yet we are surrounded by toxic substances such as exhaust gases, pesticides, and food preservatives that endanger our environment and our health. We cannot think about the material prosperity of our lives without considering our relationships with the other countries of the world. Minamata disease tells us that we are perpetrators as well as victims.

Minamata disease teaches us the importance of not destroying nature; of living with the awareness that nature gives us life; of considering food safety and the interconnectedness of people, rivers, and the sea; of reducing and recycling home and industrial waste; and of never turning our eyes away from local problems.



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This booklet is a revised translation of "TEN THINGS TO KNOW ABOUT MINAMATA DISEASE" (first edition: November 1994, revised: September 1997 and January 2001)

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