

Learning Minamata disease with children

Grasping the point of Minamata disease.

1 The Shiranui Sea where Minamata disease outbreaked.

【How the Shiranui Sea where Minamata disease outbreaked has changed?】

As Minamata bay was a spawning place for fishes, it was once one of the most abundant areas in the Shiranui Sea. People called it “Welling sea” because there welled up many fish one after another there.

They got a large catch of fishes and spend a rich and peaceful life around the Minamata Bay.

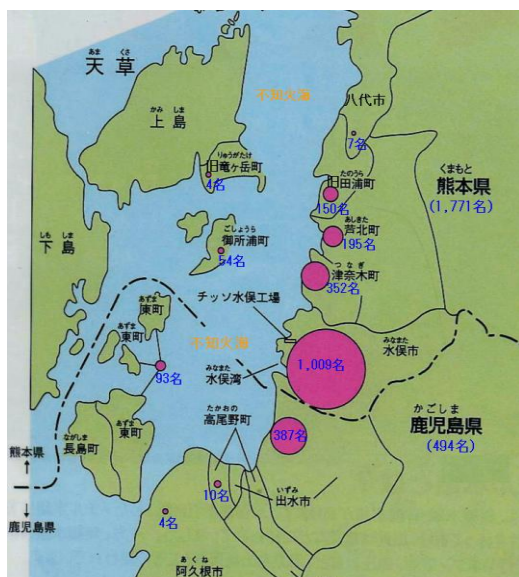
However the discharge with poisonous mercury from Chisso polluted the sea and fishes. People did not know what had been happening in the sea yet, and kept on eating the fishes.

Eventually they began ill to have disease gradually and their peaceful life was taken away at one.

Such incidents had happened in many areas not only in Minamata but also in other area around the Shiranui Sea.

Now the polluted fishes were cleared out and the construction of removing the sludge with poisonous mercury in the bottom of the sea and reclaiming the Minamata Bay was completed. And the bay became so clean that people could enjoy fishing and swimming. It became safe to eat the fishes even from the Minamata Bay, too. Fishermen also started fishing again.

The water in Minamata bay became one of the most pure and transparent water in Kumamoto prefecture.



[The zone map of certified Minamata disease patients]



2 *The relation between Chisso and Minamata city.*

【How Minamata city has changed since Chisso had made chemical plant?】

In 1908 Chisso founded chemical plant in Minamata Village, started to produce fertilizer. Soon it became one of the biggest chemical plants in Japan and supported economic growth of Japan after the World War II.

The grown of Chisso made the grown of Minamata. Minamata had changed from a small village into industrialized city with lager population than before.

There were many employed citizens by Chisso in Minamata. And eventually Minamata city was affected by Chisso economically and politically.

EVEN NOW CHISSO PLANT IS ONE OF THE
BIGGEST PLANTS IN MINAMATA CITY.
CHISSO SHOULD TAKE RESPONSIBILITY
FOR THE CAUSE OF MINAMATA DISEASE.
AND PEOPLE WISH THAT CHISSO BECOME
A GENTLE COMPANY FOR ENVIRONMENT
AND SURVIVE TO KEEP ON PAYING
COMPENSATION FOR THE VICTIMS.



3 *Unusual changes of the sea and the lives*

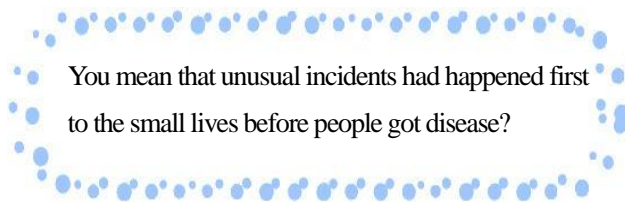
【What happened to the lives in the sea since Chisso had discharged poisonous water into the sea?】

Since 1932 Chisso had begun to produce acetaldehyde, raw material of plastic. On the process of producing it, strong poisonous methyl mercury was made incidentally, flew into the sea and polluted fishes and shellfishes.

The more Chisso produced, the more the sea was polluted.

Since the former of ninety fifties many fishes were seen dead on the surface of the sea, shell fishes died and seaweeds stopped growing. Especially the condition of Minamata Bay. Chisso discharged directly was the worst. Then a lot of sludge with poisonous mercury had begun to accumulate on the bottom of the sea.

And near the shore of Shiranui Sea, a lot of unusual incident happened. Such as cats went mad to death and birds fell down to the ground from the sky. And the chickens and pigs which had been eating the food with fishes from the sea went mad to death, too.



4 *Verification of Minamata disease and discrimination*

【How the life of patients had changed after getting Minamata disease?】

In 1956, it was verified for the first time that unusual incidents were happening to people, too. The doctors in the hospital could not treat the patients effectually because they did not find out the cause of the disease. Eventually patients could not get sufficient treatment and died in pain.

At the beginning of the outbreak of uncertified disease, it was considered contagious and patients' houses were disinfected. Even in the hospital the patients were quarantined. Patients spent painful time of being discriminated and persecuted.

After people began to suspect fishes to be the cause of the disease, fishermen with Minamata disease and their family got to be poor financially.

They lost their income because they could not work, but they had to pay for the treatment in the hospital.

Even after the cause of the disease was identified to be non-contagious, they still suffered by the offensive behavior and prejudice of the citizens who had depended their life on Chisso.

The patients and other people are same citizens in Minamata city, but communication between those citizens had faded away and the bond also had broken.

In addition, not only the patients but also citizens of Minamata were discriminated by the people in other part of Japan. Because Minamata disease had been misunderstood as infectious, inheritable or a regional endemic disease. Some people could not get jobs because they were from Minamata. Some people could not marry because they were from Minamata.

And the tourists in the train or the buses shut the windows when they passed by Minamata. The citizens of Minamata must have felt sad. And felt that they were discriminated.

Thus they could not have been able to be proud that they had been from Minamata.

5 *Experiment with cats to investigate the cause of Minamata disease*

【How did they investigate the cause of Minamata disease?】

As the grown of the number patients with an unknown sickness was recognized by the officials of Minamata city and Kumamoto prefecture, the medical school of Kumamoto University started to investigate the matter.

After examining the patients and analyzing drinking water and the soil, it developed that Minamata disease was not contagious but poisonous by eating the fished or the shellfishes from Minamata Bay.

There were many cats in the villages around Minamata Bay went mad to death.

Since 1956 Kumamoto University and Minamata health center started to conduct experiments with cats, feeding the fishes and shellfishes from Minamata Bay. In 1957, it developed that the symptoms of the cats on the experiments were same as that of the cats in the fishing villages. This experiment filled the big role to find out the cause of the disease, and government of Kumamoto prefecture announced not to fish or eats the fishes from Minamata Bay.

On the other hand, Chisso also conducted same experiments with cats and found out the cause of the disease. How ever it had kept on hiding the results and discharging poisonous water in to the sea until 1968.



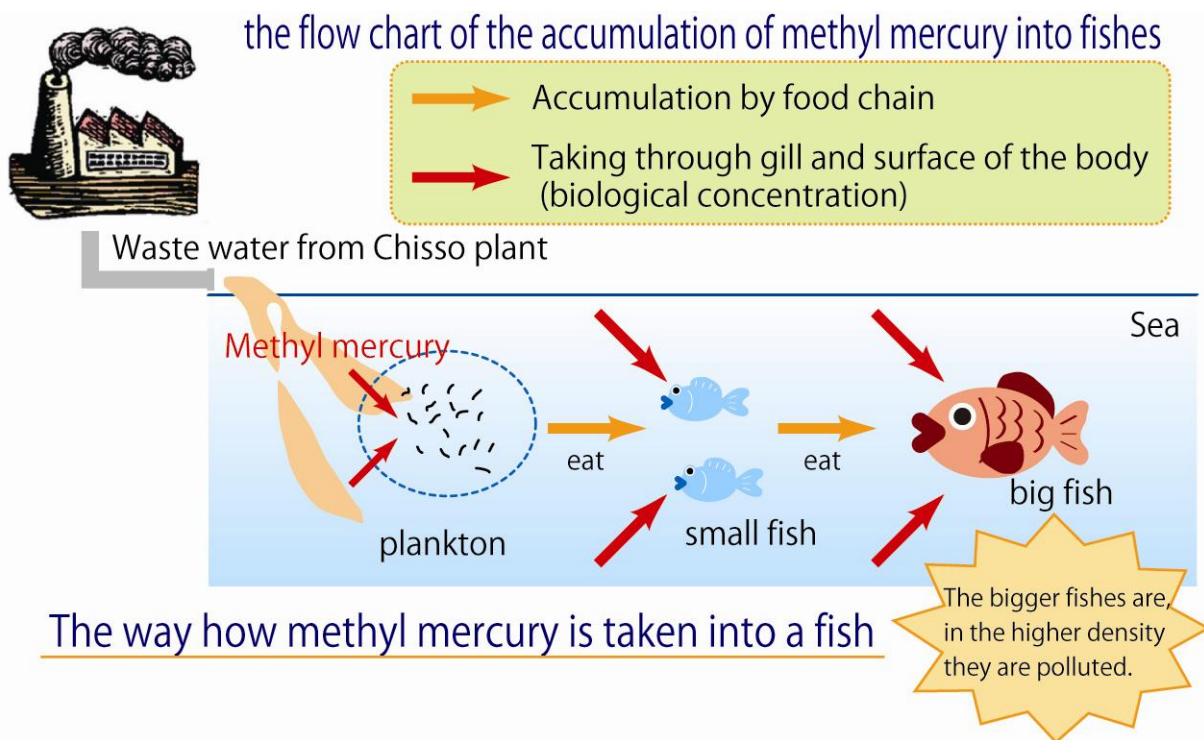
6 Polluted fishes by poisonous waste water from Chisso plant

【How to fishes in Minamata Bay were polluted?】

Methyl mercury flew out with the waste water from Chisso plant, was taken through the surface of plankton or through the bill of fishes into their bodies. This phenomenon is called “Biological concentration” .

Plankton with methyl mercury was eaten by a small fish, and then the small fish was eaten by a big fish, and the big fish was eaten by bigger one, and so on. This relation is called ” Food Chain” . And the bigger the fish was, the more methyl mercury was accumulated in the body of the fish.

There were extremely polluted fishes, which looked normal at first sight, in Minamata bay and the neighboring sea. People had kept on eating many fishes without knowing that the fishes had been polluted. And finally they had gotten Minamata disease.



7 Methyl mercury poisoning by the polluted fishes

What is the cause of Minamata disease?

There were not abundant with foods in Minamata in those days.

Especially near the sea there were little plains to grow rice, people who lived there could not get much rice. And it is more abundant with fishes in the sea, and it is easier to get fishes from the sea than rice from plains for the people who live in the village near the sea. They had eaten more fishes than rice. And without fishes they had not survived.

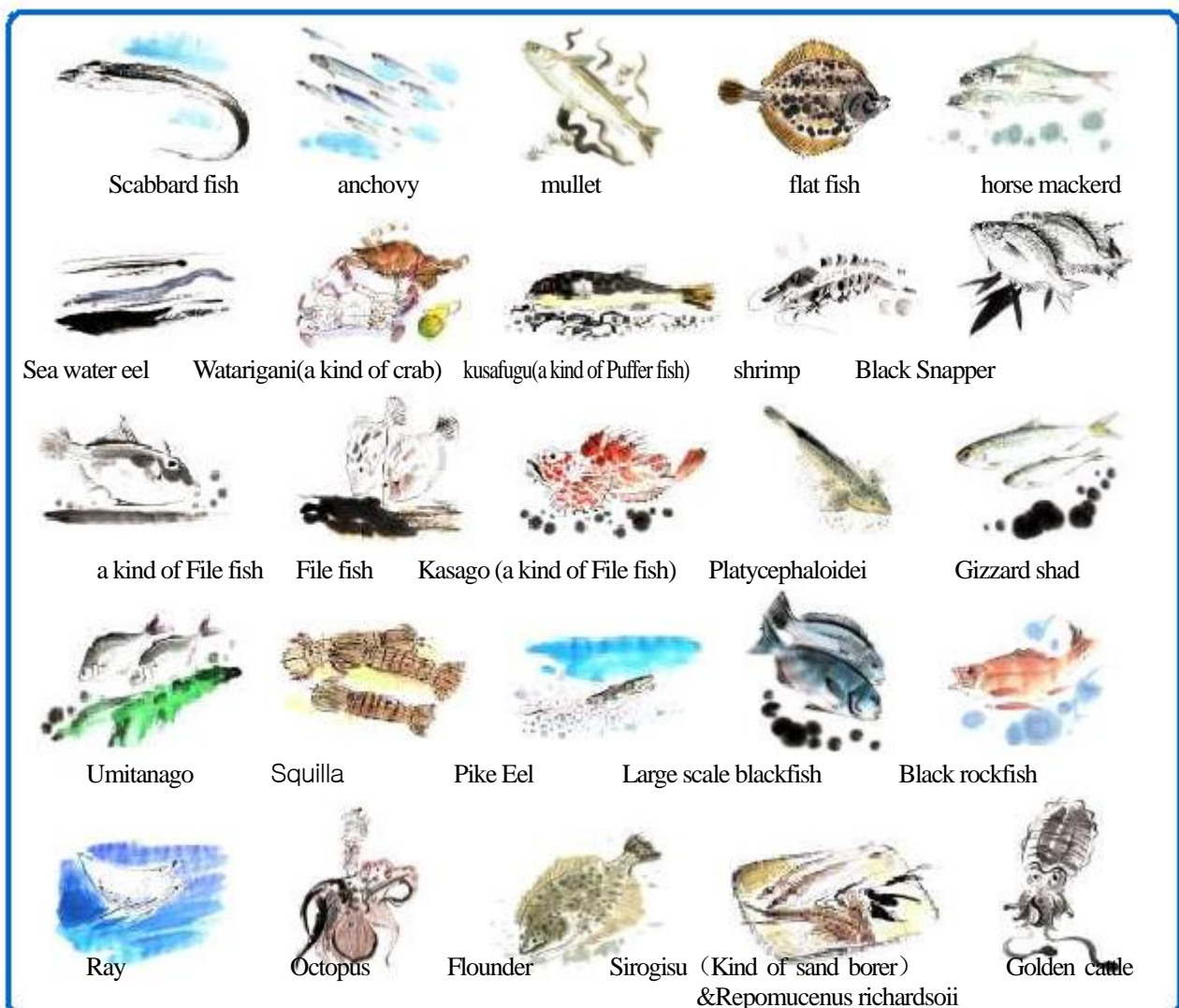
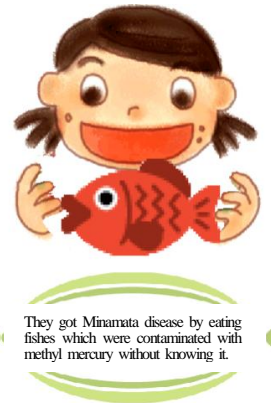
Especially in the fishing village there had broken out many Minamata disease, as people had been eating the fresh fishes from the sea without knowing that they had been polluted by methyl mercury. Methyl mercury had been accumulated in the bodies of the people.

Minamata disease is not contagious but poisonous disease by methyl mercury. It never infects you. And you never inherit the disease.

There are three kind of Minamata disease. Minamata disease in fetuses, children Minamata disease, and adults Minamata disease.

The former is the disease which was caused by the polluted fishes the fetus' s mother had eaten. And the second and third which was caused by the polluted fishes they had eaten themselves.

Fishes in Minamata Bay when Minamata disease had been appearing.



8 *Minamata disease in fetuses, children and adults*

【Minamata disease in fetuses, children and adults】

If you keep on eating many polluted fishes for long time, methyl mercury will be accumulated in your body and poison you. And this is called Children, Adults Minamata disease.

Methyl mercury in the fishes which you eat gets into your body and is carried to various organs. Especially the mercury which was carried to your brain and nerve cells damages them seriously. And there are various symptoms such as on the list will appear on you.

At the beginning of Minamata disease outbreak, there were some patients who had been serious and had gone mad to death within several days since they had gotten the disease.

The methyl mercury accumulated in the body goes gradually out from the body with pee, hair, and nails. However it is impossible to repair the brain and the nerve cells even after all methyl mercury went out from the body. There is no way to cure. The patients depend only on taking medicine or needle therapy to ease the pain.

Symptoms List

- Numbness in the limbs
- Hard to sense the pain
- Hard to sense hotness or coldness
- Uneasy motion
- Uneasy pronunciation
- Hard to hear
- Tunnel vision
- Headache
- Hard to smell and taste
- Tiredness

※There is wide range of levels and symptoms.

9 *Fatal Minamata disease*

【What is the symptom of the baby born with Minamata disease?】

When a baby got Minamata disease in its mother's body it is called Fetal Minamata disease patients. There were some babies who arrived with Minamata disease even though they had not eaten polluted fishes themselves. When a pregnant mother eats many polluted fishes, methyl mercury get through umbilical cord into placenta. Then the baby arrives with Minamata disease. Minamata disease isn't inherited from parents to children.

Such patients who had damaged organs by methyl mercury in their mothers' body had not healthy brains and nerve cells. And such patients who had serious symptoms had passed away in their youth.

Main symptoms

- Unstable neck
- Difficulty in walking, a stagger
- Convulsion
- Water mouth

It was so sad! There were several children who passed away without playing or going to school with their friends!



10 Negotiation against Chisso for compensation

【How did the patients negotiate against Chisso to get sufficient compensation?】

In 1968 the government finally announced that Minamata disease was caused by methyl mercury in the waste water from Chisso plant, twelve years after the initial outbreak.

After the announcement of the government, the patients and their families started to negotiate against Chisso for compensation, but it was not easy to make rapid progress on negotiation. Then they filed lawsuit against Chisso in the Kumamoto District Court in 1969.

In 1973 they won a suit.(Minamata disease first lawsuit)

The Japanese law provides that one who polluted must pay for compensation. So Chisso have to compensate for the certified patients sufficiently.

However there had been long fights against Chisso, Japanese government and prefectural government directly for compensation and certification by the uncertified patients.

11 Compensation for the victims

How Minamata disease patients are certified? And how are the certified patients compensated?

Is there any compensation for uncertified Minamata disease patients?

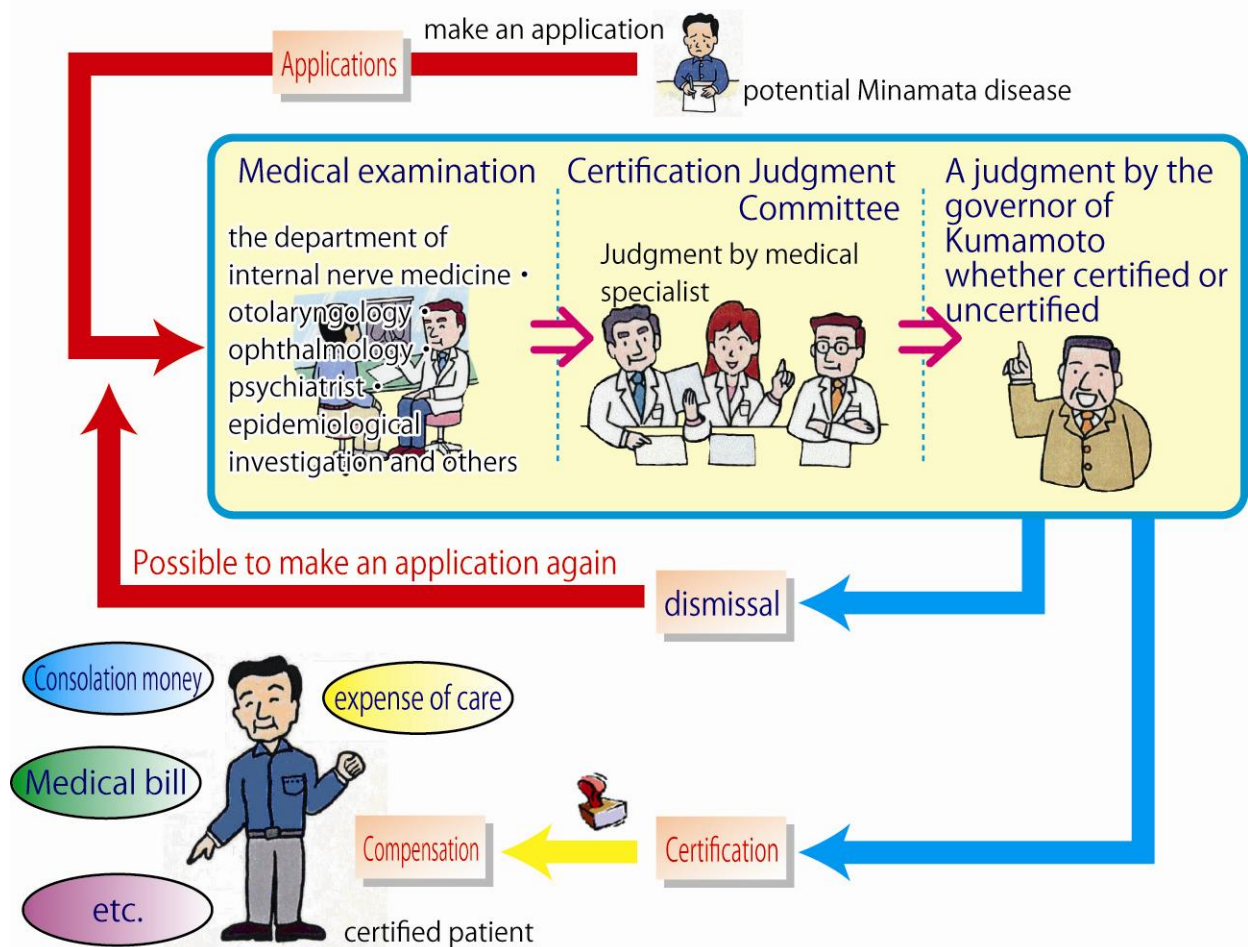
When you wonder whether you have Minamata disease or not, make an application for certified Minamata disease patient to the government of Kagoshima prefecture or Kumamoto prefecture. And the government judges whether you are certified or not. And then Chisso which caused the disease pays the certified Minamata disease patients consolation money, medical bill, and other additional money which depends on each symptoms of the patients.

And the government assists the medical bill of the uncertified patients who had lived in the areas where and when Minamata disease had broken out, and eaten many fishes from Minamata Bay and surrounding sea, and have numbness in their limbs.

These are the measures made by the government of Kumamoto and Kagoshima prefecture for the residents' health problems and anxiety.

(Comprehensive Measures of Minamata Disease Medical Treatment)

Application for certified Minamata disease patients and Judgments. (Certified or uncertified)



12 *Solution by the government and relief of victims*

【How the negotiation for compensation went on which uncertified patients had kept on having for long time?】

Many years have passed and many victims who had appealed patients have gotten old, and died since the Minamata disease had broken out.

So the court proposed to open negotiations with Chisso and government in stead of long trial.

There appeared many victims who wanted relief before they die. And in 1995, after the people concerned kept on having a negotiation, the Japanese government made measures for solution.

After the agreement of the negotiation Japanese government assists the medical bill of the uncertified patient who had lived in the areas where and when Minamata disease had broken out, and eaten many fishes from Minamata Bay and surrounding sea, and have numbness in their limbs. And Chisso also pays temporal consolation money 2600,000 yen.

The number of the relieved victims amounted to 11,540 including the victims who had died already. **【1997.8.1】**

The victims had been saying, “We want Japanese government and prefectural government to apology sincerely and take their responsibility completely.” “Certify our disease as Minamata disease and compensate us as quickly as possible.”

For the victims the solution measure that the government had made was not sufficient and they had not enough time to get compensation within their living if they had kept on fighting in court.

Even though it was a hard decision, most of the parties of the victims had stopped trial and agreed with the measure.

Must of the parties of the victims agreed the measure and settled a lawsuit out of court. However the other victims who had moved from Minamata to Kansai (Osaka and the neighboring area) had kept on accusing in court the government of Japan and Kumamoto of their responsibility in court. They had insisted that damage by pollution had grown worse because of their failure to halt the discharge from the Chisso plant.

Finally Supreme Court had acknowledged that the government of Japan and Kumamoto prefecture had neglected to control the discharge from Chisso plant and their responsibility to relieve the victims in 15th Oct. 2004.

The victims want quick reactions and relieves of the governments according to the judgment of Supreme Court.

13 Disposal of fishes polluted by methyl mercury and Restoration of Minamata Bay.

【What happened to the polluted sea and fishes in Minamata Bay?】

Chisso had discharged waste water with methyl mercury for 36 years since 1932 to 1968. The amount of discharged methyl mercury from Chisso plant into Minamata Bay is estimated about 70 to 150 tons or more. Eventually there are many polluted fishes in the bay and there is a lot of polluted sludge on the bottom of the bay.

So, Kumamoto prefectural government took such measures as putting dividing nets in the bay to isolate the polluted fishes and catching them

to dispose in 1974. They had caught about 487 tons of polluted fishes for 23 years since 1974 to 1997, till the dividing nets were taken away.

They removed sludge from Minamata Bay to inside of Shinsui shore

(Eco Park), and restored. And the restoring construction of Minamata Bay took 14 years and cost 485,000,000 yen. In 1990 the restoration was finished and there appeared a reclaim land, the spread of 58.2 hectare. It is 13.5 times spreads of Tokyo Dome, and called Eco Park Minamata. The park is abundant with green trees, symbolizing preservation of environment and good health.



14 Minamata Bay after the restoration

【How is the condition of Minamata Bay now?】

Methyl mercury in the fishes has decreased gradually after the construction had finished. In 1997 the governor declared that the bay was already safe and clean to catch and eat fishes, and the dividing nets were taken away.

And the fishermen started fishing again. The bay became as clean and safe as before it had been polluted. You can fish, eat them, and also see coral in the sea.

Methyl mercury in the fishes and water in Minamata Bay have been examined continuously, and the fishes are identified as safe to eat.

