

Collective efforts to control pollution

Records and statement of pollution problems
in the Nishiyodogawa area, Osaka



From the 1930s onward, present day Nishiyodogawa Ward, Osaka City operated as a part of Hanshin Industrial Area. Throughout the 1970s, many of residents in Nishiyodogawa suffered from the health impacts of toxic gaseous and soot emitted day and night from factories in Nishiyodogawa, neighboring Amagasaki City and Konohana Ward. Automobile exhaust was also emitted from vehicles running on Hanshin Expressway and National Route 43. In the midst of difficulties, victims of pollution and the local residents faced the cause of pollution, fostered the solidarity among victims, enhanced the school education, established the collaboration with medical doctors, journalists, lawyers and academic scholars, and influence the public opinions and national laws. This is a precious experience to be passed on to the current generation which strives to rebuild local communities in the aftermath of pollution incidents. This panel presentation chronologically describes how the residents of Nishiyodogawa tackled air pollution and how they fostered the cooperation with various entities. As Nishiyodogawa still face a number of environmental challenges, continuous counter-pollution effort is necessary. Through this panel presentation, I would like you to think about what should be done to improve our environment.

Ecomuse Director, Oda Yasunori

Collective efforts to control environmental pollution
Nishiyodogawa pollution

Air pollution resulting from industrial development



Chimneys of a power plant owned by The Kansai Electric Co., Inc. (Photo taken on February 22nd, 1963 in Amagasaki City) Source: Plaintiff's exhibit no. 14, p.23 of the Nishiyodogawa Pollution Lawsuit

● Nishiyodogawa-ku is a ward located near the center of Osaka. At first, agriculture and fisheries contributed to the prosperity of this area. Since the 1930s, when heavy and chemical industries became widely prevalent in Japan, Nishiyodogawa, Amagasaki, and Konohana have been positioned as centers of these industries. Many large-scale factories were constructed in Amagasaki and Konohana, while the factories located in Nishiyodogawa were generally small or medium-sized in scale. The Hanshin industrial zone comprised these factories.

● The Nishiyodogawa area was seriously damaged by air strikes during World War II. Reconstruction, however, was achieved immediately after the war. Local companies tremendously increased their production until the advent of the high economic growth era. Expressways and national roads across the Hanshin district were constructed. As a result of these development projects, all types of pollution, including air pollution, water contamination, soil contamination, noise/vibration, and land subsidence, occurred and caused health damage to many people.

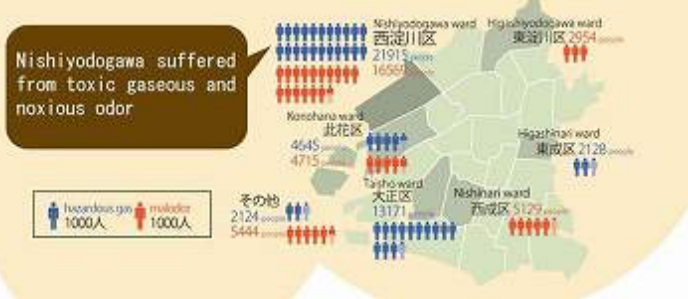
● After around 1960, SOx and nitrogen oxide (NOx) generated during heavy oil combustion in large factories in Amagasaki and Konohana scattered in Nishiyodogawa. These substances mixed with smoke exhaust from the factories in Nishiyodogawa and posed a serious air pollution problem. Moreover, NOx and suspended particulate matter (SPM) contained in emission from large diesel-powered vehicles were added to the contaminated air in Nishiyodogawa. Thus, the residents in Nishiyodogawa faced combined air pollution. This unbearable air pollution caused health hazards, including asthma.

Corporate profitability and productivity had priority over residents' health and living environment

Distribution map of major pollution sources (Source: Osaka Prefecture Environmental Management and Planning, 1970)



Affected populations estimated from the number of complaints about air pollution (1968年『大阪市の大気汚染資料編』より)



Roads and factories are concentrated in Nishiyodogawa because of its role as a strategic transportation hub



Left: A blast furnace of the Gotoh Steel, Ltd. about to be abandoned (1997). Right: National Route 43(1997)

Residents stand out in opposition to pollution

Collective efforts to control pollution Residents in Nishiyodogawa

Transition of the heavily contaminated Ono river



Ono river in the past

Ono river, which used to serve as a transport waterway for factories, was heavily contaminated by discharges from factories and household solid wastes. The landfill was therefore conducted in 1970.

⌚ Around the Otari bridge (before landfill)
(Photo provided by Osaka City)



About 40 years later (Photo taken in the same location as the one above)

After the landfill, Onogawa Ryokuin Doro was constructed on the site as a result of the signatures gathered by residents opposing the construction of a road for motor vehicles. Onogawa Ryokuin Doro is a road specifically for bicycle and pedestrians, with 130,000 trees planted on both sides of the road. It is now the treasure of Nishiyodogawa residents.



⌚ Yomiuri Newspaper evening issue, November 24, 1969
An article about the Eida Petroleum Development



⌚ Ono seseragi no sato
(built on the Eida Petroleum Development site)



⌚ Nishiyodogawa Ward Inhabitants Hall
(built on the Tanaka Electronics site)



⌚ Collecting signatures as part of the opposition campaign against the designation of 40% of Nishiyodogawa as industrial district

⌚ A leaflet distributed as part of the above campaign

Residents made concerted efforts to clean up sources of pollution Old polluting factory sites were utilized for residents

● Pollution adversely affected agriculture and fisheries, while abnormal odors and noise had a serious effect on residents' daily lives. In this manner, their health was compromised. In cooperation with local authorities, many residents directly asked the owners of nearby polluting factories to move to different places or stop pollutant emission. After an explosion in 1963, Tanaka Denki moved out and currently Nishiyodogawa Municipal Hall stands at the site. In 1968, Eida Sekiyu Kogyo emitted toxic gas that killed morning glory flowers at Dekijima Danchi overnight. The old site was regenerated as a natural park called Ono Seseraginatosato.

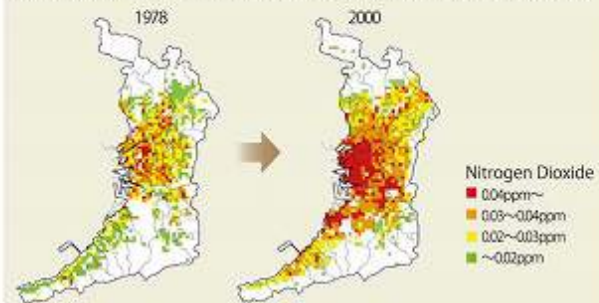
● Water volume decreased in the Ono River after establishment of an emergent facility. Wastewater discharged from factories formed sludge and methane gas was emitted from accumulated sludge. In 1968, a reclamation project was developed to improve this heavily contaminated condition. The residents became aware that an expressway would be constructed on landfill. They then recommended to local authorities to use the landfill as green space and collected 20,000 signatures of support in a two-month period. The City of Osaka promised the residents that it would construct Onogawa Ryokuin Doro (walking trail along the Ono River).

● In November 1977, the City of Osaka presented, to the residents in Nishiyodogawa-ku, a plan that would designate 40% of the ward area as a special industrial area. Because the residents wanted to control further expansion of pollution, they launched a campaign against the industrial project. Subsequently, the City of Osaka considerably scaled back the project and designated only a small area.

● In Osaka Pref., the residents have measured NO₂ levels every five years since 1978.



Nishiyodogawa residents measured air pollutants within Osaka Prefecture (Source: Soradasu 2006 Report)



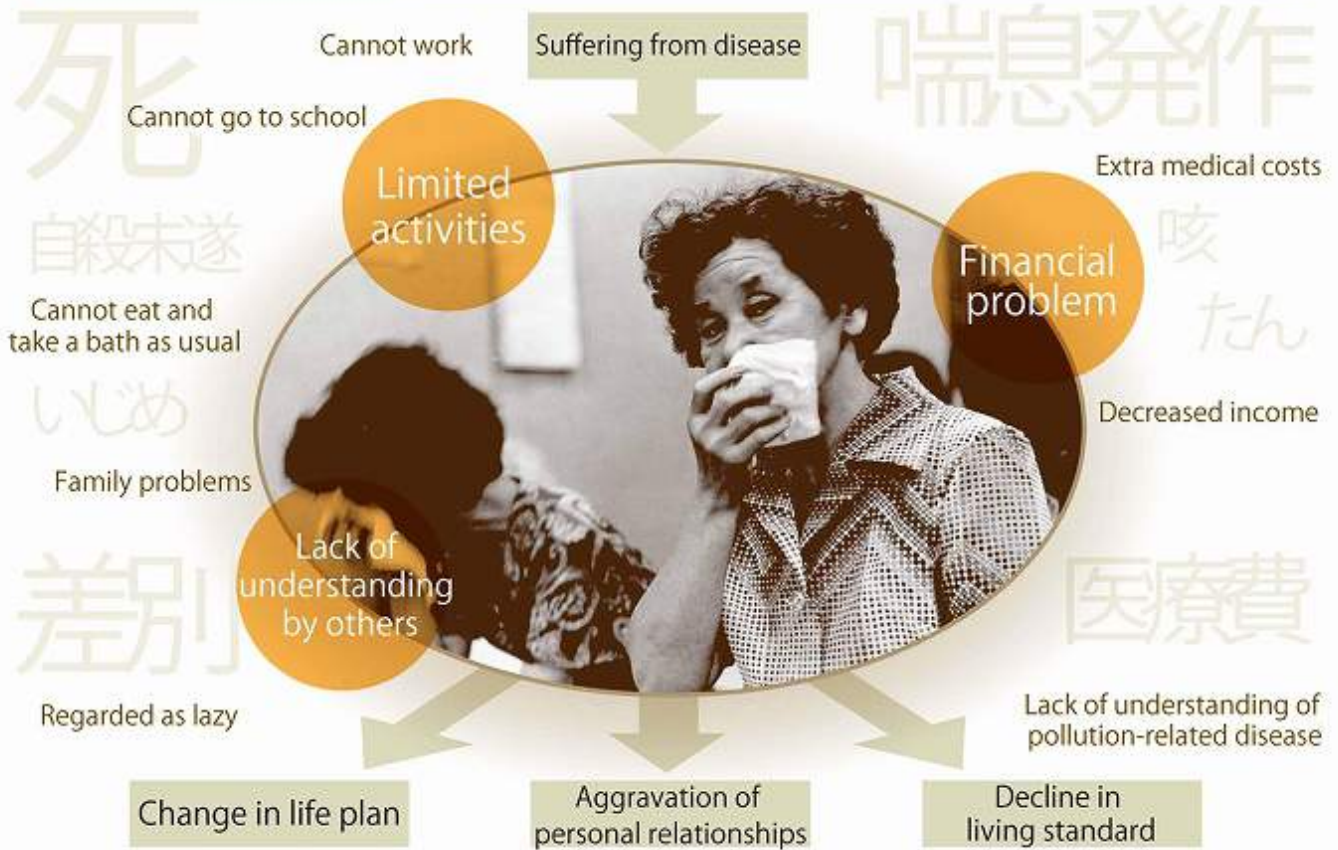
Residents clarified the state of air pollution by gathering scientific data

Collective efforts
to control pollution

Patients

Pollution-related disease

... cycle of suffering

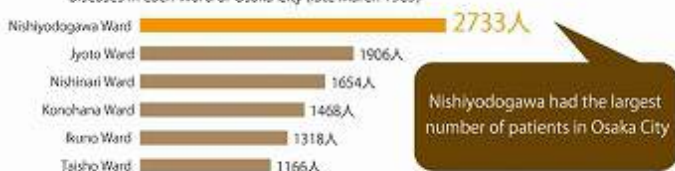


● Around 1960, many residents in the Nishiyodogawa area began suffering from various respiratory diseases, including asthma and chronic bronchitis. These patients appear to be healthy unless they have an attack.

● Patients with asthma have attacks at night or early in the morning. Patients with serious asthma occasionally lose consciousness and fall into a critical condition. Patients with chronic bronchitis cannot sleep well because they frequently cough and bring up sputum at night and early in the morning. Even if they go to the hospital every day, a complete cure cannot be expected. Even if they are willing to work, they cannot work. Even if they are willing to study, they cannot go to school. Because patients need care at night, their family members take care of them but have no time for sleep. Family members experience not only physical stress but also financial stress. Ever increasing medical costs may push families into poverty.

● Patients have the following type of complaints. 'Although it seemed that the air was not clean, I did not think I was suffering from a disease.' 'I appear to be healthy as long as I do not have an attack. Therefore, other people discriminate against me because I look like a lazy person.'

The number of patients with air pollution-related diseases in each Ward of Osaka City (late March 1989)



24 years of life The pollution-related disease took joys away from her youthful days

The life of Teruyo Minamitake (1956-1981)



- Age 6 Moved to Nishiyodogawa
- Age 8 Symptoms of the disease manifested. Had to leave the school early every day due to asthma attacks
- Age 13 Attempted to suicide in junior-high, feeling guilty of posing financial burden on family
- Age 16 Graduated from the high school after 4 years (usually 3 years). Commuted to the school from the hospital for 250 days in a year. Her schoolmate pushed her off the stairs, accusing her of 'stealing money (compensation for certified patients with pollution-related diseases) helping class'.
- Age 19 Could not find a job after graduation due to the disease. Spent most of her time in the hospital
- Age 24 Passed away at the Chibune Hospital

Testified the hardships of pollution-related diseases on the sickbed

Layer Did you go to the school while being treated at the hospital?

Patients are full of anxiety about their unpredictable future and their bodies getting weaker day by day

Teruyo (nods while breathing deeply and cries) I thought I could forget about the disease if I went to the school. It might have been harmful to my body, though.

Lawyer What is the most challenging thing for you right now?

Teruyo I'm worried about how I would survive if one of my parents passes away. (omission) If they pass away, nobody will care for me and I won't be able to live. I'm thinking about this all the time.

(Source: Witness examination for the Nishiyodogawa Lawsuit at Chibune Hospital, December 22, 1978)

Collective efforts to control pollution
The Japanese government and local governments launched a project to control pollution

Development of pollution control act

Under pressure from public opinion about pollution problems, the Japanese government enacted the Basic Act for Environmental Pollution Control in July 1967. According to this act, various tasks were assigned to the Japanese government, local governments, and polluting companies, and environmental limits were also determined. Because the act included a condition that pollution should be controlled in a manner that would not interfere with healthy economic growth, environmental pollution could not be strictly controlled. In the pollution diet that convened in December 1970, the condition that required pollution control in harmony with the economy was excluded from the act. Moreover, 14 related acts were developed/revised, and a system of no-fault liability that could be imposed on the wrongdoer without legal proof of negligence or fault was introduced. In this manner, polluting companies were held strictly accountable for their business operations and an earnest effort was made to reduce pollution.



Asahi Newspaper evening edition, June 15th 1973 (Defense Council No.8226)

Under pressure from the victims, the local community, and public opinion, the Japanese government finally developed effective programs

Asahi Newspaper, November 14th 1970 (Defense Council No.7447)



Medical and living expenses were provided to the patients by law

A patient is taking a lung function test to be officially certified as a pollution victim.



Establishment of a compensation system for pollution victims

Since 1965, the medical costs of pollution victims have been paid by the municipal treasury in Yokkaichi-shi, Mie Pref. The Japanese government enacted the 'Act on Special Measures Concerning the Relief of Pollution-Related Patients and have paid their medical costs since 1970. At first, three areas, including Nishiyodogawa-ku, Osaka City, were designated as special polluted areas. The Yokkaichi pollution decision handed down in July 1972 recognized the liability of polluting companies. The Japanese government followed the PPP and enacted the Pollution-Related Health Damage Compensation Act. The compensation system was financed by the polluting companies' contributions. Since September 1974, the government has paid their living expenses as well as medical costs. The industrial sectors gradually decreased their financial support for this compensation system. Thereafter, the government accepted their proposal, abolished the designation of special polluted areas (Class 1 only), and stopped certifying new pollution-related patients.

Types of pollution-designated area

Type 1
 Areas where diseases such as bronchial asthma are widespread because of severe air pollution.
 Osaka, Kawasaki, Yokkaichi and so on

They are divided into two types depending on causes of pollution and patient's symptoms.

Type 2
 Areas where diseases which are obviously caused by pollution substances are endemic.
 Kumamoto, Niigata(Minamata disease), Toyama(Ito-Ito disease)

A lot of people were certified as pollution-related patients and relieved on the condition that they show duration of residence and disease's names.

[Type 1] Conditions for approving patients as pollution victims

*It is based on the Pollution-Related Health Damage Compensation Act. In the case of child, there is another standard.

disease name	Residence period in the pollution designation area
bronchial asthma	Over a year
asthmatic bronchitis	Over a year
chronic bronchitis	Over 2 years
pulmonary emphysem	Over 3 years

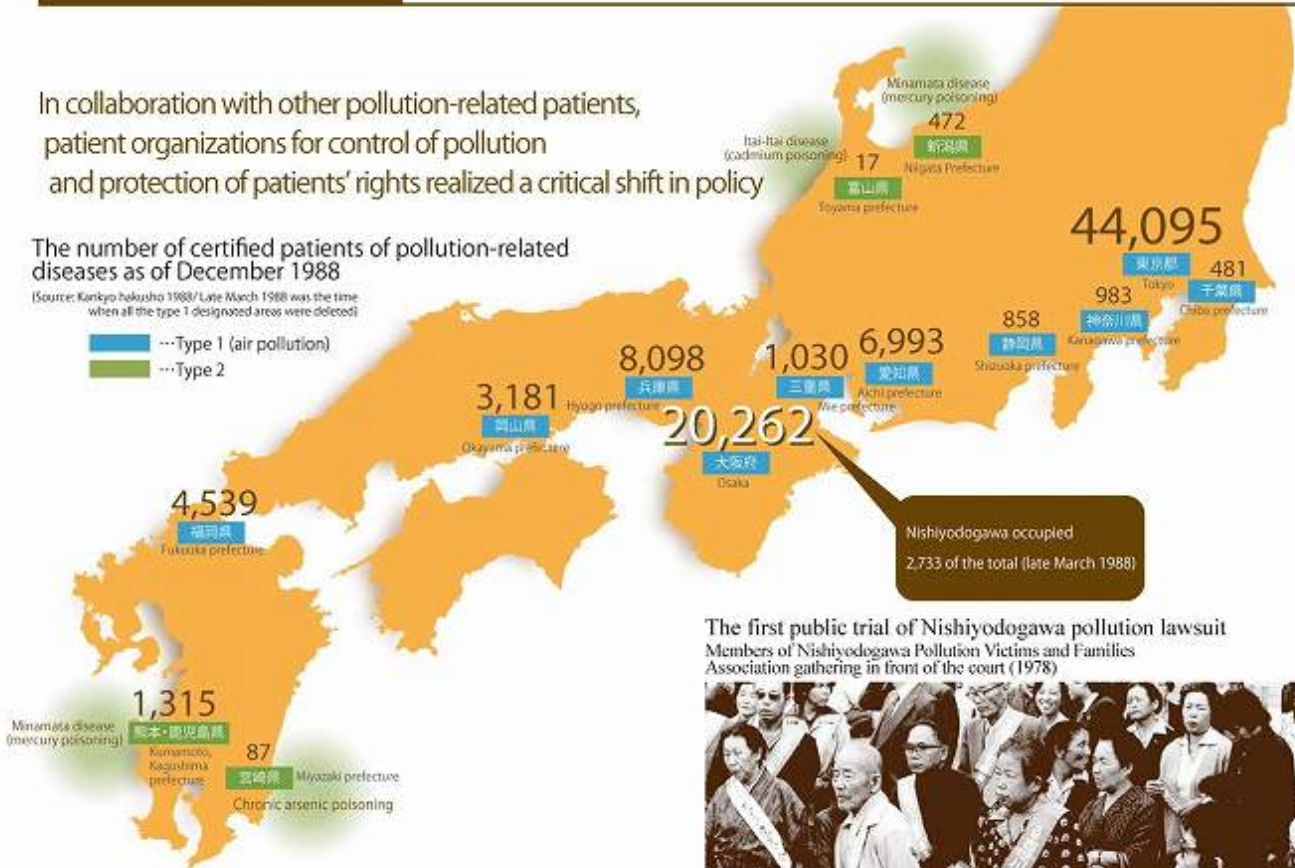
Collective efforts to control pollution
Pollution-related patient organizations

Establishment of patient organizations in Nishiyodogawa

In collaboration with other pollution-related patients, patient organizations for control of pollution and protection of patients' rights realized a critical shift in policy

The number of certified patients of pollution-related diseases as of December 1988

(Source: Kankyo hakusho 1989/Late March 1988 was the time when all the type 1 designated areas were deleted)



The first public trial of Nishiyodogawa pollution lawsuit
Members of Nishiyodogawa Pollution Victims and Families Association gathering in front of the court (1978)



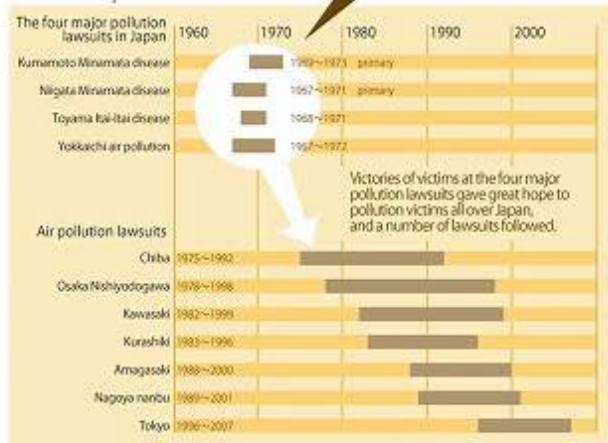
The First Pollution Victim Collective Action Day (6-7 June 1976)



The impact of the four major pollution lawsuits

- Raised public awareness of pollution issues
- Pollution victims stood up to take actions all over Japan
- Pollution victims all over Japan united to negotiate with the government and corporations

The history of pollution-related lawsuits in Japan



● The affected residents won four major pollution lawsuits. These successful results prompted the victims of air pollution to organize patient organizations in local communities. On October 29, 1972, as one of these organizations, Nishiyodogawa Organization for Pollution Victims and Their Families was established to eradicate the sources of pollution and protect the rights of pollution-related patients.

● In the environmental week in June, the victims of various types of pollution, including air pollution, visited government agencies and companies in Tokyo to submit their requests and discuss various problems. This annual movement, which started in 1976, was called All Japan Pollution Victims' Movement. It was difficult for an individual victim to overcome pollution problems, but victims' concerted efforts could open the way for solutions.

● The victims first filed a lawsuit in Chiba in 1975. They then filed lawsuits one after another in various regions, including Nishiyodogawa. These lawsuits revealed that polluting companies were liable for health damage and that automobile exhaust emission created serious health hazards. The victims' collective efforts also paved the way for reconciliation between polluting companies and the Japanese government, as well as successful results in lawsuits.

Collective efforts to
control pollution

Schools

Children should be protected

Compared the ginkgo leaves from Nishiyodogawa and other areas with rich nature



Leaves from Nishiyodogawa were browner than leaves from other areas

Let's reveal the impacts of environmental pollution together!



Mr. Araki Yoshitaro
(Former headmaster of the Nishiyodo junior high)

He was the first one to realize the change in the environment and children's health, and immediately began investigations

"Although Nishiyodogawa is located nearby sea, I cannot feel the smell nor the wind of the ocean, and cannot even see the ocean itself. I wonder whether students have been feeling this abnormality. Probably they have not even paid attentions to their changing physical conditions, such as a sore throat and irregularities in their nasal cavity and eyes"

(Source: Nishiyodo Junior High Steps for Pollution Investigation (1st year, 1969))

In the classes, teachers explained pollution problems and students learned how to protect themselves from pollution

Let's support the health of children with asthma!



Mr. Nishiguchi Isao
(Former headmaster of Utajima junior high)

He was shocked at the extent of suffering among students with pollution-related diseases and started supporting students involving local communities

"There was a student in my class who had severe asthma. I didn't notice his/her suffering just by observing him/her in school because he/she seemed relatively fine. It was when we went to the summer camping for children with asthma that I saw the hardship of asthma attacks. A child who was playing very energetically during a day turned into a completely different person at night, wheezing helplessly" (Interview)

- School teachers first noticed the health hazards to children due to air pollution and took appropriate action. Since 1967, various survey projects focusing on pollution problems have been promoted at Nishiyodo Junior High School. A student health survey has been conducted and a comparison has been made between the yellow-tinged ginkgo leaves in clean air and those in contaminated air to clarify the differences. These community-level surveys were featured in the newspaper and the fact was revealed that many children suffered health hazards from pollution.
- Other schools also took various actions to protect students. School nurses, teachers, and parents closely worked together to share information about health hazards. They supported children suffering from pollution-related diseases, promoted health programs to improve the physical condition of children, and provided educational programs that helped children understand the serious impact of pollution and necessity for preservation of a clean environment. In their classes, students discussed measures to solve pollution problems and had the opportunity to learn about the serious condition of pollution-related patients.
- In 1975, medical institutions and school teachers held 'Nishiyodogawa Summer Camp for Children with Asthma' during summer vacation. The participants stayed together for some time and learned how to improve their health condition. In their daily lives, they could not enjoy exercise because of asthma. In this summer camp, they learned how to enhance their physical strength, how to prevent asthma attacks by practicing special breathing, and how to take medication. This summer camp had been held for 21 years until 1996.

We want to eliminate the stereotypes of pollution-related diseases!



Compiled essays written by students
1st to 6th grades elementary school students wrote essays and compiled them into books (Owada elementary school)
Students performed a play
Students' drama club performed a play entitled Never Dying Leaf based on the pollution in Nishiyodogawa. By watching the play, students learned the hardships of asthma together. (Utajima junior high)

Students' Science Club measured the air pollutants' levels



Students measured the levels of air pollutants within school district on their own and presented the result in front of the whole students during a school's cultural festival (Utajima junior high)

Summer camps for children with asthma



While spending time in a group, children learned the sense of independence, their physical capacity and how to live with asthma.

Collective efforts to control pollution

Doctors

Doctors provided treatment and support for patients with diseases caused by pollution

● In 1970, Nishiyodogawa-ku was designated as the only polluted area in the City of Osaka. Since then, victims have been officially certified as patients with a disease caused by pollution. At that time, there were neither public hospitals nor health centers where examinations required for application for certification as a pollution-related patient could be conducted in Nishiyodogawa-ku. Subsequently, Nishiyodogawa Medical Association established the Nishiyodogawa Medical Association Pollution Examination Center at Senboku Hospital (currently Senboku Clinic) in 1970.

● Nishiyodogawa Medical Association announced its basic policy and clearly stated 'the association would consistently support local residents and make efforts to overcome pollution problems.' The association started to actively work on the pollution problems. For example, it held study meetings and submitted, to the Japanese government, a request for relief on behalf of pollution victims based on the polluter-pays principle (PPP).

● Nishiyodogawa Organization for Pollution Victims and Their Families was established in 1972. The association sent invitation letters to officially certified pollution-related patients in Nishiyodogawa-ku. The members of the association visited hospitals and clinics to enroll pollution victims in the organization. In this manner, the association helped the victims to establish their organization. Nishiyodogawa Organization for Pollution-related Patients eventually became a large organization consisting of 3,000 members (1,700 households). Nishiyodogawa Medical Association promoted an anti-pollution movement in cooperation with the patient organization.



● A leaflet which invites the patients to join the pollution victim association



● The Nishiyodogawa Medical Association Pollution Examination Center

Types of air pollutants and air pollution-related diseases



SO₂

SO₂ (Sulfur Dioxide)
SO₂ is released by the combustion of Sulfur (S) in fuels. It is colorless gaseous with the pungent odor. The gas irritates the respiratory system and causes symptoms such as coughing, asthma, and bronchitis.

NO_x

NO₂ (Nitrogen Dioxide)
NO₂ forms as a result of fuel combustion in a motor vehicle and in the process of Nitric Acid production.

SPM

SPM (Suspended Particulate Matter)
SPM is a particle smaller than 10μm (1/100mm) in the air. Currently, it is released from the automobile exhaust. SPM is so small that it can penetrate deep inside of bronchus and lungs. Moreover, SPM from diesel fuels (Diesel Exhaust Particles) is thought to be closely linked to cedar pollen allergy which is prevalent in Japan.



Bronchial Asthma

Normal respiratory tract

Bronchial asthma attack



With bronchial asthma, your respiratory tract has chronic inflammation. Your tract overreacts to irritants and shrinks, which causes sudden and severe shortness of breath.

Asthmatic Bronchitis

Mainly found among children under the age of two, with repeating bronchitis and light wheezing.

Chronic Bronchitis

Respiratory tracts and bronchus narrow due to inflammation and mucus.

Emphysema

Alveolus get destroyed and become less elastic, making it difficult for you to blow air out of your lungs.

Nishiyodogawa Medical Association established health centers, where pollution victims could undergo examinations required for application for official certification as pollution-related patients.

● Yasunori Jitsudo, a pollution patient, is taking a check-up



A doctor recollects his memory

Closely supported patients as a community doctor and empowered patients to take counter-pollution actions

Dr. Fujimori Hiroshi

(Formerly served Kashibana Clinic, Currently serves Fujimori Clinic)

Pollution exposure feels like a part of everyday life for citizens

While I was examining my patient, I found iron powders at the back of his eyelid. I was astonished to hear that he said: 'I'm so used to it that I didn't even notice it'

Educating patients to fight against pollution

When Nishiyodogawa became the only place in Osaka to be designated as an area with high air pollution level and high prevalence of pollution-related diseases, I decided to establish Kashibana Pollution Victims Association (later merged with Nishiyodogawa Pollution Victims and Families Association). I wished to educate patients on the state of air pollution so that they would participate in the counter-air pollution movement, instead of seeing them passively receiving financial compensation.

Proved the patients' eligibility to the government's certification by hand-made investigations

A lawyer of The Kansai Electric Co., Inc. was suspecting me for inaccurately diagnosing patients for pollution-related diseases because I was "just a community doctor". In fact, however, I was conducting various hand-made investigations such as measuring the patients' ability to exhale by making them blow match fire. Judge acknowledged that doctors in Nishiyodogawa were making an effort to make a scientific diagnosis, and not irresponsibly diagnosing patients as pollution-related diseases just because patients were coughing.

Collective efforts to control pollution

Journalists

Journalists reported

pollution-related damage

The patients who blame themselves.

Nishiyodogawa is suffering from air pollution. But the patients blame themselves saying that it may be an exaggeration to say it's a pollution. I thought it was wrong to think like that.

Asahi Newspaper evening edition
September 16th, 1970

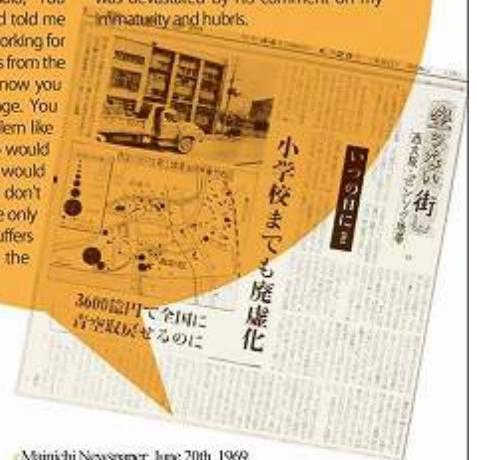


As pollution emerged as a social problem, many journalists visited Nishiyodogawa to report the actual conditions of pollution to many people. In their news gathering activities, they observed severe damage and popular protests against pollution. They also understood how serious the pollution-related damage was, and tried to gather news from the victims' viewpoints. These persons secured their positions as civil journalists. These journalists have taken a civil approach to clarify and deal with social problems. The residents also became aware that they should take a strategic approach to promote their activities. Thus, they promoted their activities to society by utilizing mass media.

Do not look at numbers alone. Empathize with each patient's suffering.

In a press conference of the follow-up result of Morinaga Milk arsenic poisoning incident, I asked Dr. Hiroshi Murayama how many percent of the 68 people suffered from the aftereffect. Dr. Murayama (a professor of Osaka University Medical Department), who is usually gentle, hardened his face and said, "You often came to my laboratory and told me again and again that you were working for the patients and looking at things from the perspective of the weak. But now you are asking me the percentage. You must not consider the problem like that. Are you saying 50% would be a problem and 10% would not be a problem? I don't think so. Even if the only one person suffers from the

aftereffect, the suffering is all that matters to him or her. Reporters who look at percentage alone cannot consider things from the week's point of view." I was scolded in front of other reporters. Until then, I believed I was standing on the side of justice and supporting the weak, but I was devastated by his comment on my inhumanity and hubris.



Mainichi Newspaper: June 20th, 1969

Journalists who understood the actual conditions of pollution wrote impressive articles

Citizens educate reporters

Reporters grow and are trained by making deep and extensive contact with civil movements. Members of the movements may think, "Reporters are stupid. They are ignorant of the problem," but they speak to reporters tenaciously. The patients who come to Senboku Hospital talked about how they have suffered from the disease. Their stories did not immediately become newspaper articles, but were accumulated and opened reporters' eyes little by little. Citizens have neither power nor money, but they have wisdom, intelligence and vision which I want to extract more and more to improve quality of news. I want citizens to educate newspaper reporters. I want them to train journalists.



Sankei Newspaper, March 19th, 1968

Yoshisuke Niizuma

Born in 1942. Former chief editor of Asahi Newspaper Osaka head office. Professor of Toxukayama Gakuen University. He often visited Nishiyodogawa Ward to cover a story about public pollution and introduced the issue to the public. "Mr. Niizuma's comment was excerpt from the report of 21th Nishiyodogawa Area Study Meeting(Dec. 14th, 2004).



Collective efforts to control pollution
Local companies

Survival of local companies depended on pollution control

Attempt to improve pollution control technology and promote coexistence with residents

- The designation of Nishiyodogawa as a polluted area in 1970 had a serious impact on Nishiyodogawa-based companies. Once contamination of the Nishiyodogawa area was known throughout Japan, local companies could not recruit workers. There was a widespread sense of crisis about the decline of the Nishiyodogawa area. The company owners thought the entire area would decline if this went on.
- In 1970, the City of Osaka dispatched a Nishiyodogawa-ku pollution control task force. The mean annual sulfur oxide (SOx) emission decreased from 0.083 ppm in 1969 to 0.051 ppm in 1971. The companies in Nishiyodogawa supported these pollution control programs. They learned new concepts of business activities, and environmental contamination caused by the factories in this area was improved.
- In 1973, for the relief of pollution victims, Nishiyodogawa Manufacturing & Industrial Association collected 300 million yen (charges imposed according to contaminant load) from 101 Nishiyodogawa-based companies and offered the money to the City of Osaka. The city used this money to enforce the 'Regulation for Relief of Pollution Victims' and provided living expenses to pollution-related patients.

Osaka City Government's effort

Since Nishiyodogawa-ku was designated as a polluted area, Osaka City Government formed Nishiyodogawa-ku pollution control task force. It took measures to control factories which are the source of pollution and planted trees to make air pollution level in Nishiyodogawa-ku lower than the environmental standard in two years.

The city government formed a task force and conducted unannounced inspections.

Three people on the left and a person on the right are members of Nishiyodogawa-ku Pollution task force.



Technology Consultant System

As a pipeline between the government and the companies

Nishiyodogawa Manufacturing & Industrial Association invited Minoru Nishida who was a former leader of Nishiyodogawa-ku pollution control task force as a technology consultant and received his guidance and advice about pollution prevention and environmental hygiene. Under his concrete guidance and advice as a pipeline between the government and the companies, the association made effort to prevent pollution in Nishiyodogawa.

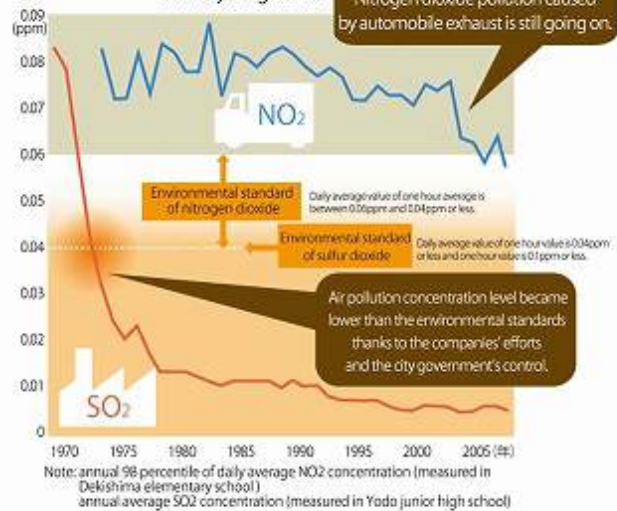
The important thing to tackle with the pollution is that the companies, the residents and the government work together.

"I have engaged in the pollution administration and worked as a pollution and hygiene consultant and I keenly feel the most important thing to tackle with pollution and health problems is that the companies, the residents, and the administration work together to build a consensus and take measures based on it. Otherwise, we cannot say it is really solved. Do not think stereotypically that the companies are victimizers and the residents are victims. It is important to respect and understand each other's stance. (from "The 50th Anniversary Magazine of Nishiyodogawa Manufacturing & Industrial Association")"



西田 稔さん

Change in air pollution concentration in Nishiyodogawa-ku



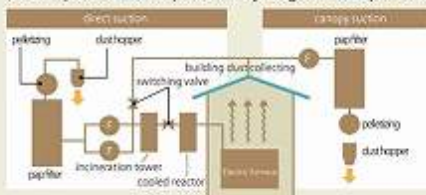
A building dust collector was set up to cut air contaminant.

Pollution control measures taken by factories

Under the state government's regulation and the local government's guidance, the factories made efforts to decrease air pollution by setting up equipment to remove contaminant and using fuels which include less contaminant.

Nakayama Kogyo Process chart of electric furnace dust collection

(1972 implementation report of Nishiyodogawa-ku air pollution emergency measures)



■ Nakayama Kogyo in Nishiyodogawa-ku



Collective efforts to control pollution

Lawyers

Lawyers devoted themselves to difficult lawsuits

When the first district court decision was made, 6000 supporters gathered and marched. (March 29th, 1991)



March 29th, 1991 The first district court decision
Keisuke Ioku, a lawyer, informs the plaintiffs of their winning the case.



20-year lawsuit stopped regression in pollution administration policies

The pollution-related patients in Nishiyodogawa decided to institute a lawsuit to reveal the liability of polluting companies and the Japanese government for pollution-related health damage and to recover clean air. It was a group of lawyers that kindly helped patients institute the lawsuit and made earnest efforts during the course of the trial. A group of lawyers visited Nishiyodogawa before their official registration and recognized the suffering and distress endured by patients. These lawyers joined the group to support these victims in some way. At that time, reference materials were extremely limited and the victims' claims were difficult to prove. Thus, they had little chance of winning the lawsuit.

The plaintiffs (patients) made the following demands: air pollution concentration should be reduced to levels below the environmental limits, and the Japanese government and polluting companies should admit their liability for health damage and pay financial compensation for the damage. The plaintiffs and the group of lawyers made strong appeals about the victims' painful experiences, requested support for the lawsuit, and collected more than 1,300,000 signatures of support across Japan.

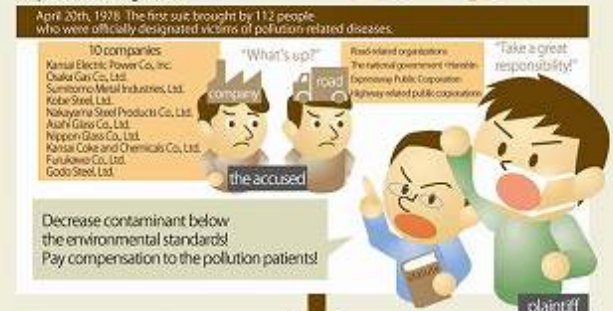
The group of lawyers frequently held discussions with collaborative specialists/researchers and accumulated sufficient knowledge before going to court. About 30 lawyers constantly supported the lawsuit, which lasted for 20 years.

As a result of these efforts, the plaintiffs won the lawsuit against the Japanese government and polluting companies. For the first time in Japan, the judge found that all companies in the industrial areas were jointly liable for health damage and that car exhaust emission had a serious influence on health.

March 1995
A company side representative lowers the head at the place of the settlement.



The Issue and the process of the trial



the date and the number of plaintiffs of each suit.

The first suit	April 20th, 1978	112
The second suit	July 7th, 1984	470
The third suit	May 15th, 1985	143
The fourth suit	May 15th, 1985	1

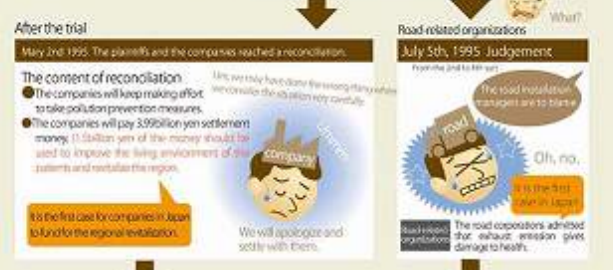
March 29th, 1991 The Judgement for the first suit

The court ruling was...

Companies are to blame! Pay compensation!

No health effect from car exhaust was found.

We did it!



Collective efforts to control pollution
Researchers

Researchers demonstrated the pollution-causing mechanism



However, corporations argue otherwise...

A lawyer on the corporations' side

It's not only my factory that is responsible

You cannot sue us without an evidence!

Then show us an evidence

Nishiyodogawa is so far that smoke from our factory cannot reach!

We are not wrong

We have nothing to do with other factories!

Corporations are hiding all the data... What can we do?!

Since factories in Nishiyodogawa were scattered as opposed to the industrial complex in Yokkaichi City, it was difficult for patients to prove the collective responsibility of corporations involved.

● In a pollution-related lawsuit, the plaintiff (victim) must demonstrate the relationship between the victimizer and the victim or the liability of the victimizer. Because of the absence of data on emission, the victims found it extremely difficult to demonstrate the causal relationship and liability of the Japanese government and polluting companies. In these circumstances, conscientious researchers supported the victims.

● The difficult part of the Nishiyodogawa pollution lawsuit was how to demonstrate the causal relationship. Many factories that were widely scattered in the Nishiyodogawa area emitted pollutants. How and to what degree these pollutants contaminated the air remained unknown. The researchers collected administrative data and photographs showing the conditions of air pollution at that time. They used super computers to analyze the mechanism of contamination, and finally demonstrated 'the mixture of smoke exhaust emitted by the accused factories contaminating the Nishiyodogawa area.' Thanks to their support, the victims were able to win the lawsuit.

● More than 30 researchers specializing in various academic fields, including engineering, economics, law, meteorology, city planning, history, and medicine, supported the victims by clarifying the problems of Japanese highway policy and the history of suffering from pollution throughout the local community, and pointing out the fact that each plaintiff suffered from a pollution-related disease. In the Nishiyodogawa pollution lawsuit, 11 researchers, including doctors, testified for the plaintiffs.

Effort to develop a theory to create a pollution-free society from the perspective of the weak

Demonstrated the polluters' responsibility

How can we prove that smokes from outside of Nishiyodogawa are gathering in Nishiyodogawa?

Plaintiffs exhibit no. 640 Analysis of Contribution Ratio of Air Pollution Source in Osaka Coastal Area.

Lawyers also read

Analyzed with supercomputers!!

Everyone in plaintiffs' team collaborated overcoming the differences in professions

We can help you!

Here come the powerful supporters

Professor Kunioki Kato
Expert in history of technology
His testimonies include the delay of pollution countermeasures taken by corporations, the amount of pollutants emitted by corporations, and cooperative relationship among corporations.

Professor Yoshimitsu Shiozaki
Expert in urban planning
He testified that the government and Hanshin Expressway Public Corporation did not take enough air pollution countermeasures when the expressways were constructed and managed.

Professor Tsuneo Tsukatani
Expert in public health engineering, focusing on the health impacts of air pollution and pollution control
He proved that smokes from factories inside and outside of Nishiyodogawa gather in Nishiyodogawa.

Professor Kenichi Miyamoto
Expert in environmental economics
He led the formation of the theoretical framework of environmental pollution issues, and paved the way for redevelopment of communities after pollution incidents.

Professor Hiroshi Nishimura
Expert in transport economics
He criticized the Japanese road policy which had been consistently pursuing the increase in traffic volume.

Professor Hiroshi Koyama
Expert in modern Japanese history
He testified the history of air pollution-related damages and those who caused such damages in Nishiyodogawa.

How can we hold corporations collectively accountable?

Revealed the collaboration between corporations!

power station

company company company company

Although each corporation is independent, there could be interactions of capitals and human resources between different corporations!

Mixture of smokes from different factories pollute the air in Nishiyodogawa

Analyzed the collaboration between corporations by looking at the history and internal information of each corporation

Further evidence

Books written by scholars who supported the lawsuits were used as evidence in court

Both books, Hanshin Kaupou shihei (The Hanshin Industrial Zone) which explains the Kansai Hyakusai (cooperative relationship) of corporations, and Nishiyodogawa Kaupou (Nishiyodogawa pollution incident) which inspects the air pollution in Nishiyodogawa from the historical approach, will guide readers to a deeper understanding of Nishiyodogawa case.

Victory of the plaintiffs

Certainly, such a vast pool of evidence is enough to prove the corporations' responsibility!

We all surrender

Yay!

Collective efforts to
control pollution
**Regeneration of
polluted areas**

A blue sky for our children

手渡そう川と島とみどりの街

公害被害者による西淀川再生プラン(素案)



A dream revitalization plan that the pollution victims drew(1991)

The Aozora Foundation continues to promote various activities to realize this plan

- The case was decided but the environment was not sufficiently improved. The problem of road pollution has not been solved and an increasing number of children suffer from asthma.
- The pollution-related patients used part of the settlement money won from the defendants in the Nishiyodogawa pollution lawsuit and established the Aozora Foundation in 1996. This foundation came up with the slogan 'A blue sky for our children', which is to be passed to future generations. Many people have helped the foundation promote various programs, including environmental learning, health promotion programs for pollution-related patients, organization of a resource center, and international exchange. These local regeneration programs have been widely adopted by other communities that have pollution problems.



The actual practice for the rebirth of polluted areas 1

Partnership ~for solving road pollution~

The cause of air pollution is factory smoke and car exhaust. Factory smoke has been reduced by pollution control, but road pollution problem is unsolved. Automobile performance is getting better and the amount of exhaust per car has decreased, but air is still dirty because the number of large sized car does not decrease. Floating micro particulate substances emitted from diesel cars (pm2.5) are increasing. Pollution problems have not been over yet. So even after the trial, the road administrators and the victims hold regular discussion meetings in Nishiyodogawa.



It is important that inhabitants talk with the government

The actual practice for the rebirth of polluted areas 2

Talk about experiences ~to hand over the blue sky~

It's important to correctly inform the world and the next generation of the experiences of pollution such as the miserable situation, the efforts for the solution and the meaning of the trial. The Aozora Foundation made the resource center of Nishiyodogawa pollution and the environment (ECOMUSE) in March 2006, collect and store pollution material and transmit information. It welcomes trainees from abroad who learn how to solve pollution and also provides lessons at school in which the pollution victims tell their experiences.



JICA seminar (2007)