



國際化學品2019

8/7~8/9 管理研討會

**International Chemical
Management Conference**

無毒家園 綠色首都 永續社會
Toxic-free Environment Green Community Sustainable Society

Experience of turning a polluted city to an environmental model city and sustainable local communities in Japan

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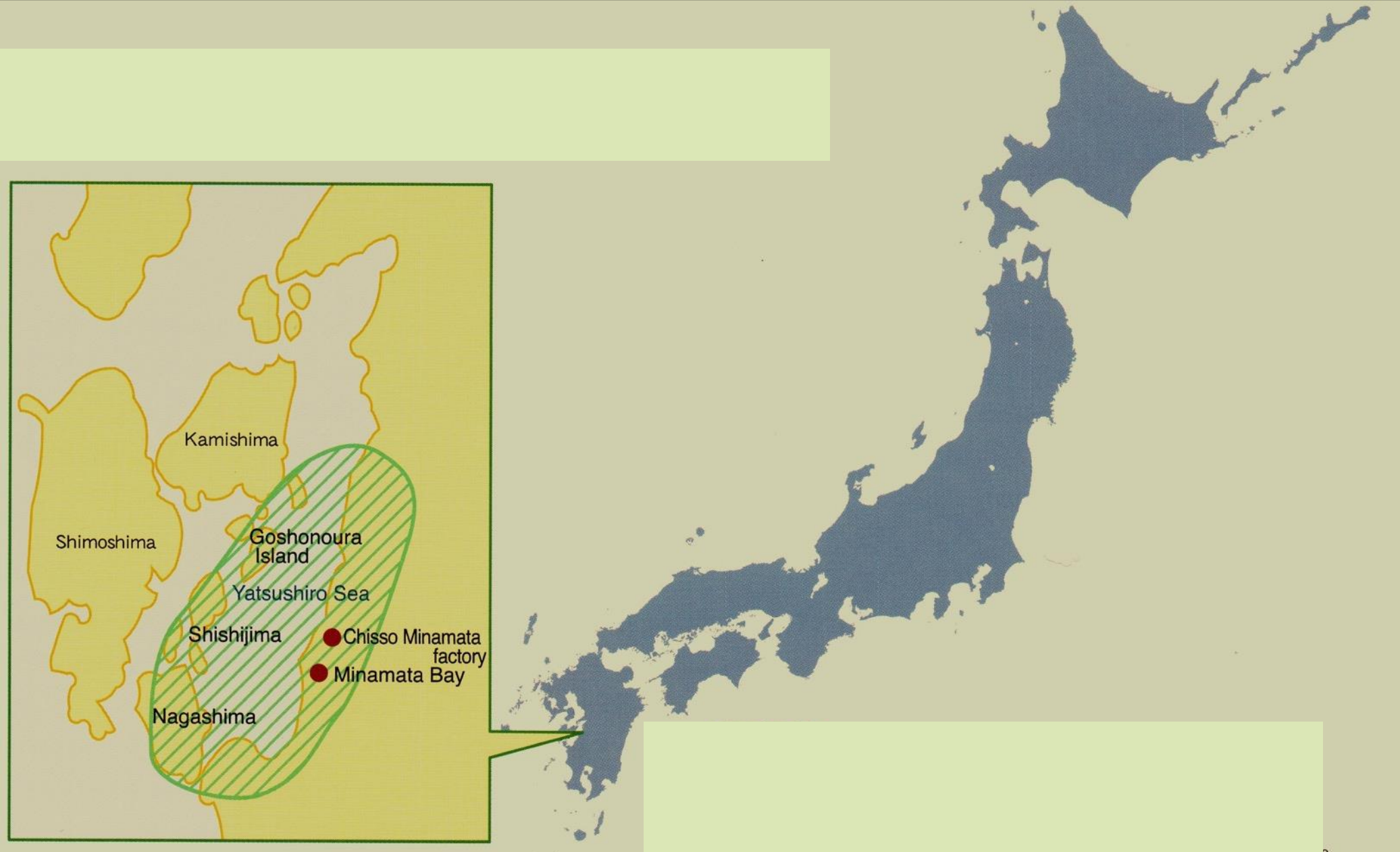
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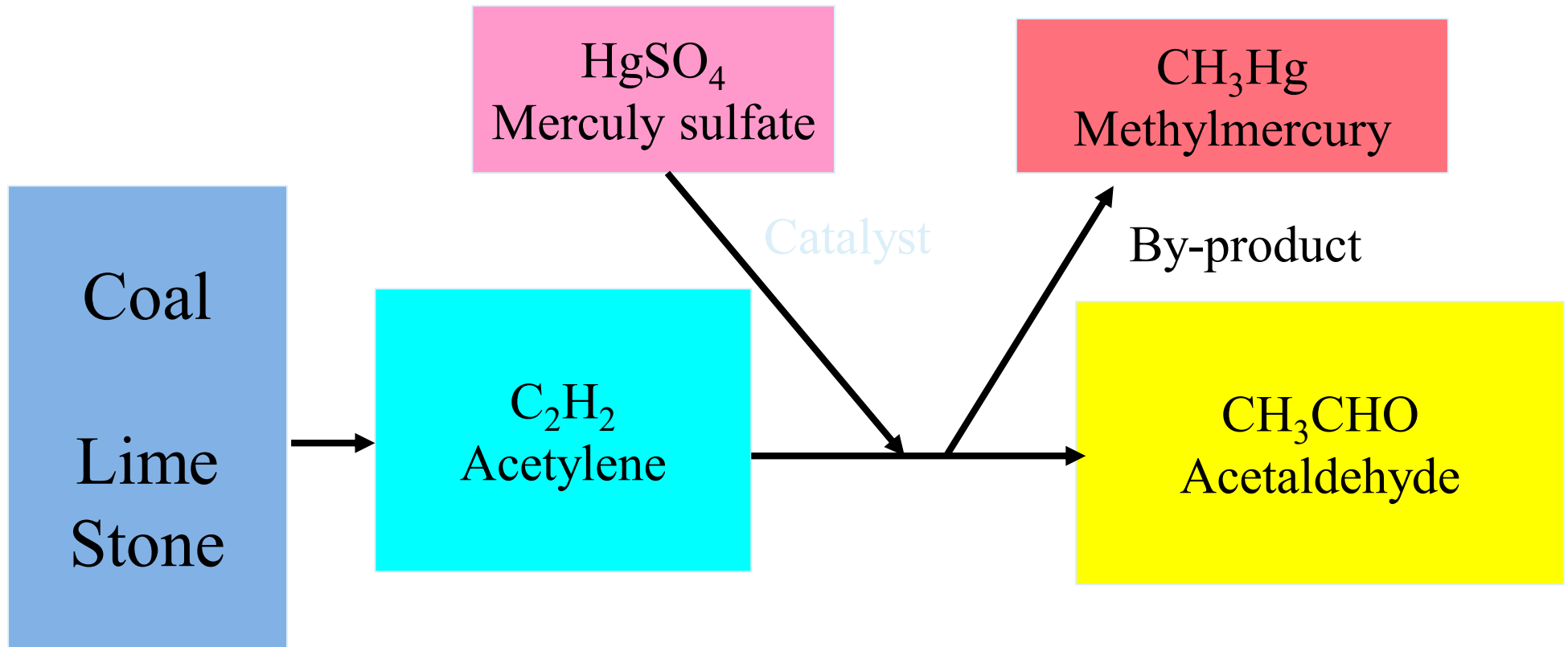
Minamata Disease

- ◆ 1909 Chisso, Minamata Div. established
- ◆ 1932 Acetaldehyde production plant started
- ◆ 1937 Methylmercury poisoning reported in UK)
- ◆ 1955 Became a leading chemical company in Japan
- ◆ 1956.5 Minamata Diseases were reported.
- ◆ 1959.7 Kumamoto Univ. concluded the disease was caused by organo-mercury.
- ◆ 1962 Fetus poisoning (17 case)
- ◆ 1968.9 Government recognized organo-mercury poisoning.
- ◆ 1965 Niigata Minamata Disease

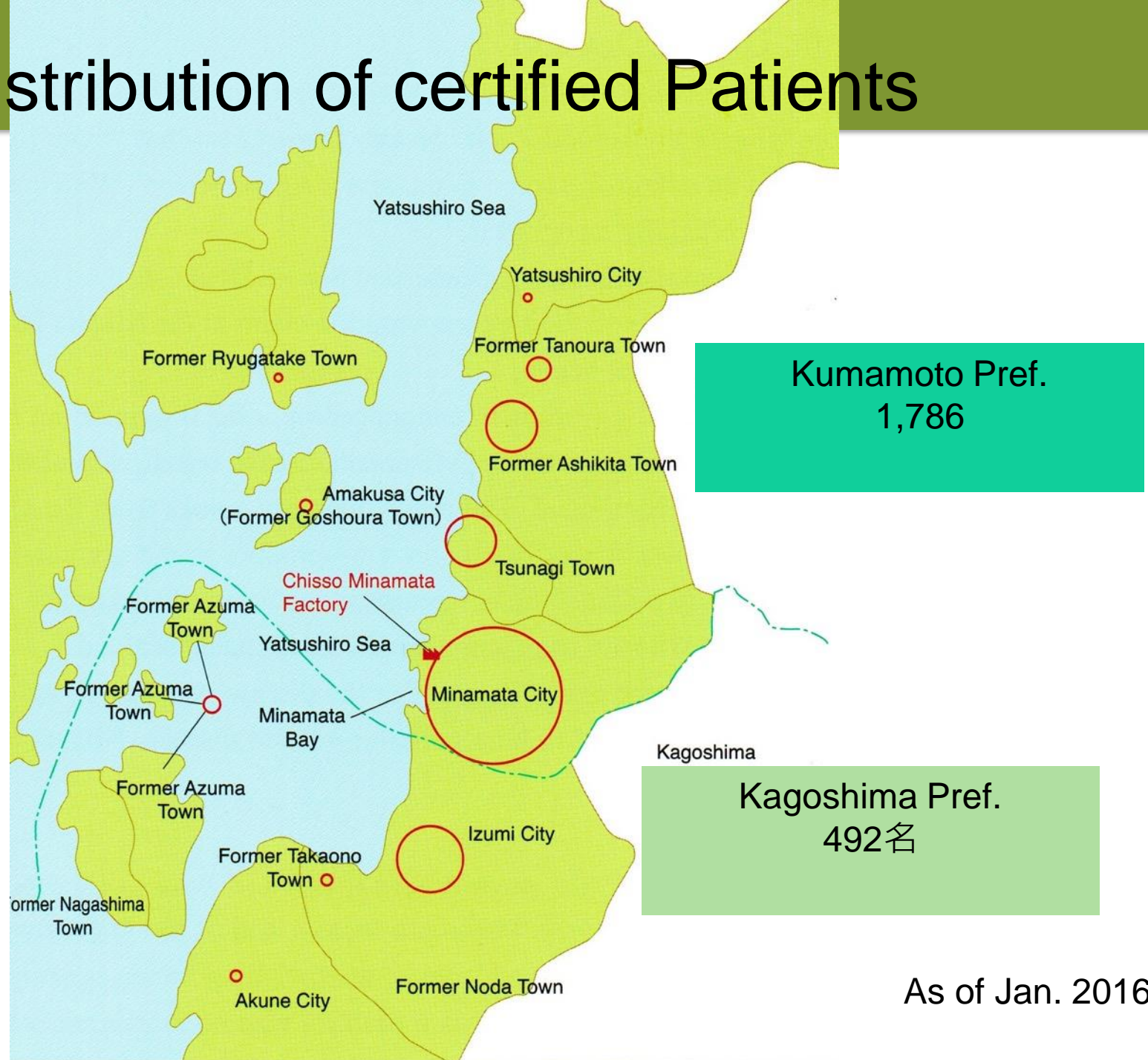
Outbreak area of Minamata disease patients



Methylmercury formation in the process



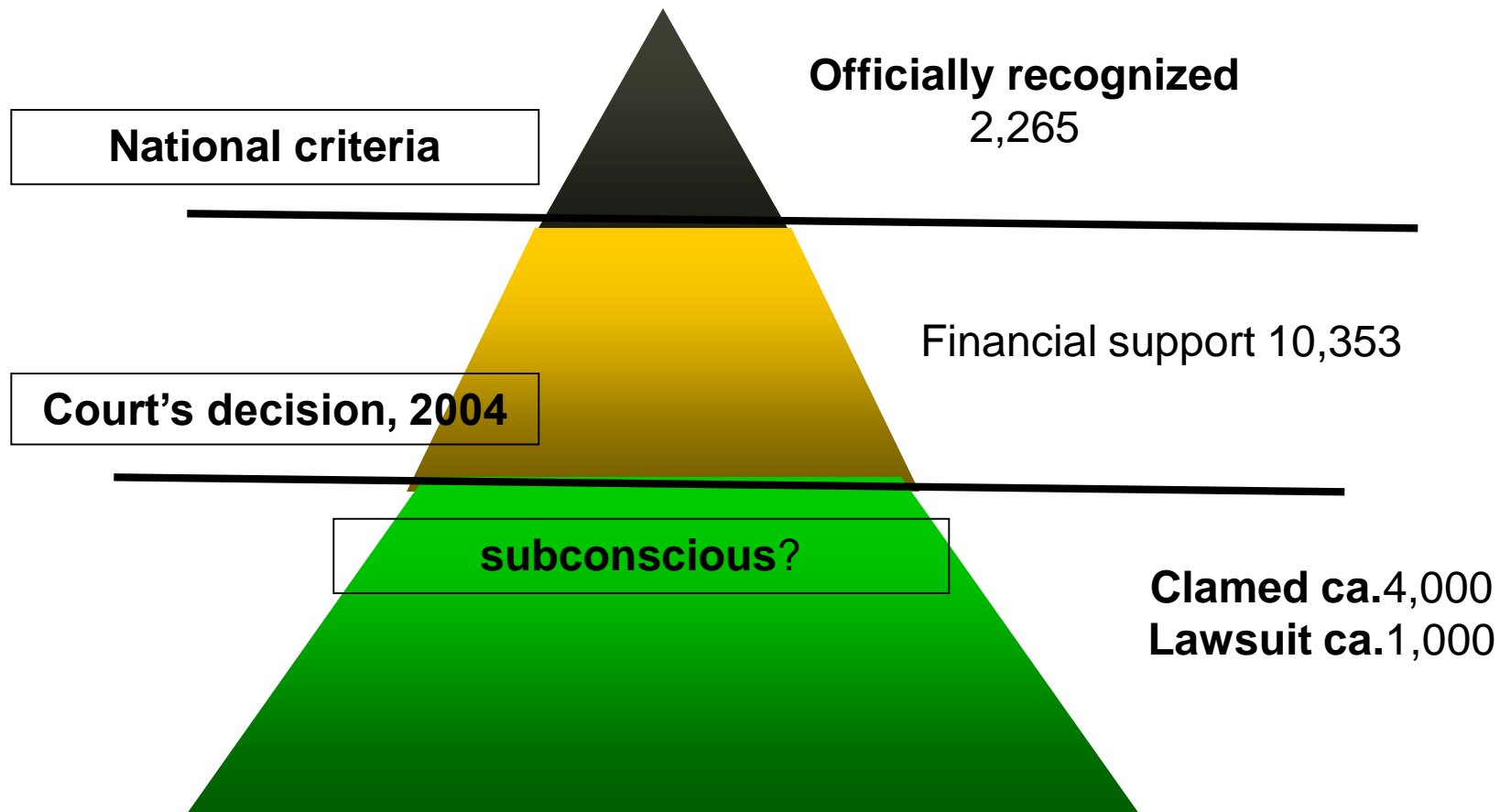
Distribution of certified Patients



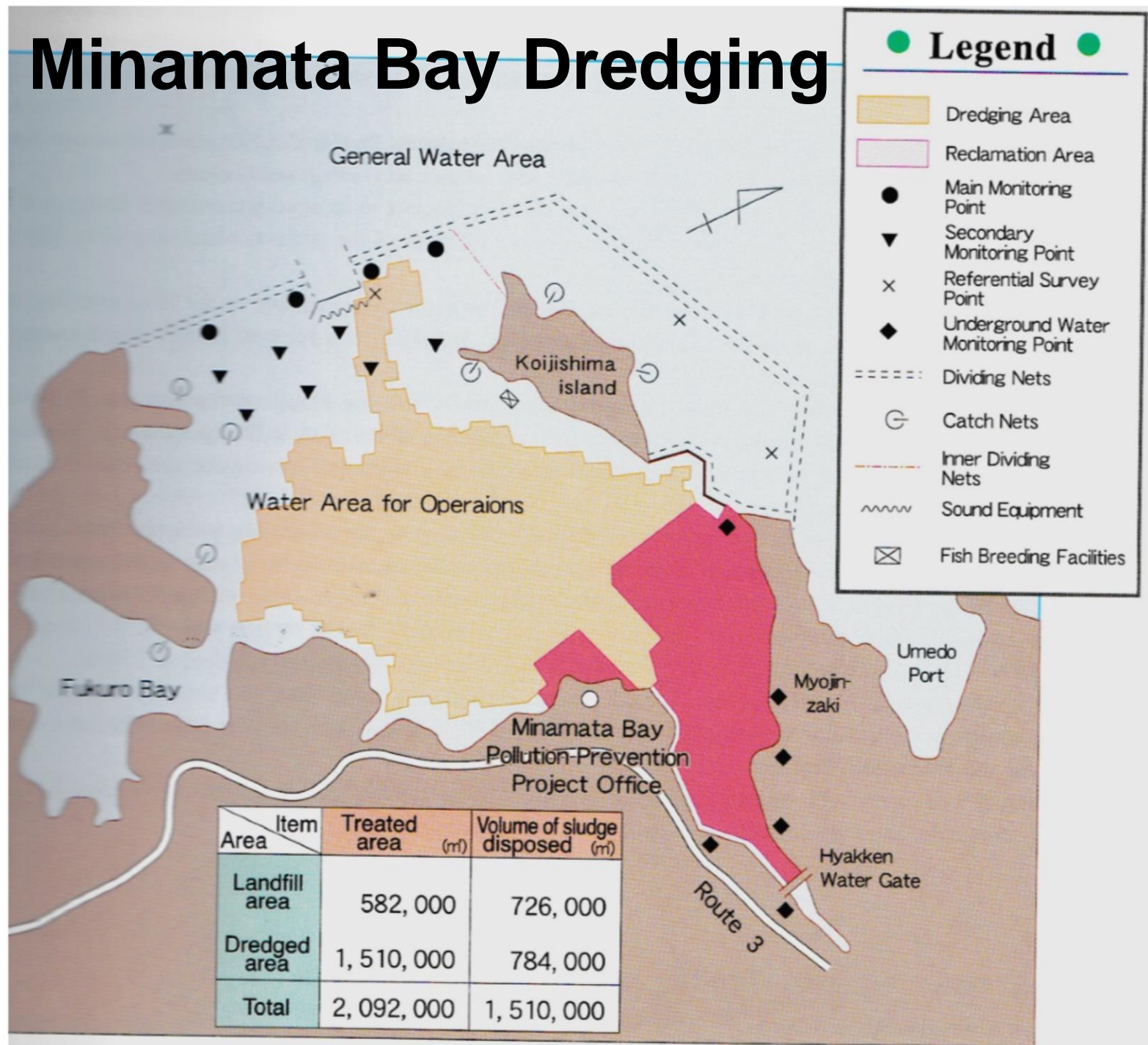
Typical symptoms of Minamata Disease

- Sensory disorder of the four extremities
- Ataxia
- Concentric constriction of the visual field
- Hearing impairment
- Disequilibrium
- Speech impediments
- Tremors
- Disorder of the ocular movement

Victims of Minamata Disease



Minamata Bay Dredging



Compensation Sums of Minamata Disease

Sums of provided compensation
(million yen/year, as of 1991)

Health care : 7,671

Dredging : 4,271

Fishery : 689

Sum: 12,631

Estimated Treatment Cost : 123/year

Comprehensive Lessons from the Minamata Disease Affair

1. The actual setting must be directly observed, and the approach to the affair must be initiated from sincere hearing from the people.
2. Protection of health against damages must have priority over everything, and the administrative decision is required according to the certainty of the cause.
3. Collection and presentation of information in various scenes are necessary.
4. Companies have the social responsibility.

From: Report of the Social Scientific Study Group on Minamata Disease. NIMD, 2001.

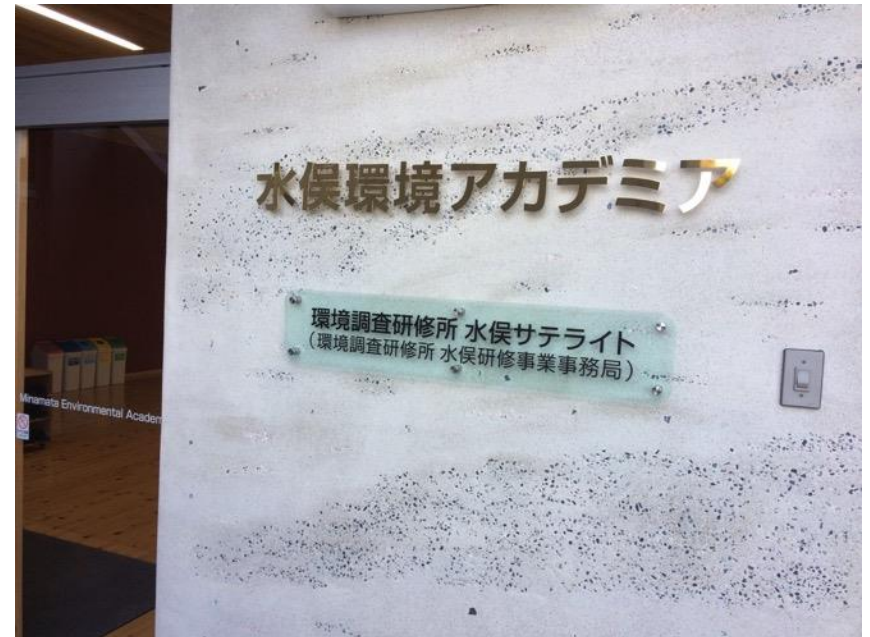
Minamata's Regeneration (moyai-naoshi)

- 1992 The declaration on a City that values the Environment, Health and Welfare.
Declaration on the “Construction of a Model City for the Environment.
- 1993 The sorting and collection of household waste began (22 categories)
- 1994 Declaration of “Moyai-naoshi”
- 2001 Minamata Eco-town launched
The 6th International Conference on Mercury in Minamata.
- 2011 “Environmental capital” received.
- 2013 Minamata Convention in Kumamoto city and Minamata city.
92 countries signed.

Citizen participation type garbage sorting and recycling.



Minamata Environmental Academia



Established in April, 2016.

Missions of the Minamata Environmental Academia

1. Research and Education
2. Local Community Development
3. Job-Creation and Industrial Development



Activities of Minamata Environmental Academia

Number of visitors: 384 groups,
(2016-2018) 10,647 people



APMMN Workshop
Nov. 2016



JST Sakura Science Program
July, 2017



Sophia Univ. Field-work
Oct. 2016

Minamata Convention on Mercury

- Adopted at the conference held in Kumamoto city and Minamata city in Oct. 2013. (92 countries).
- 70 Ratifications (as of July 14, 2017), enacted from August 16, 2017.
- COP-1 on Minamata convention was held in Geneva, Switzerland, September, 2017.
- Collaboration with WHO, UNEP, etc.

Toward sustainable community

Issues

Population decrease

Innovation of new industries

Minamata Regeneration

- Model Environmental City
(International Environmental City)
- Based on abundant natural resources
(clean water, forest, marine products),
promotion of primary industry and
agricultural diversification.
- Promotion of sustainability of the
community.

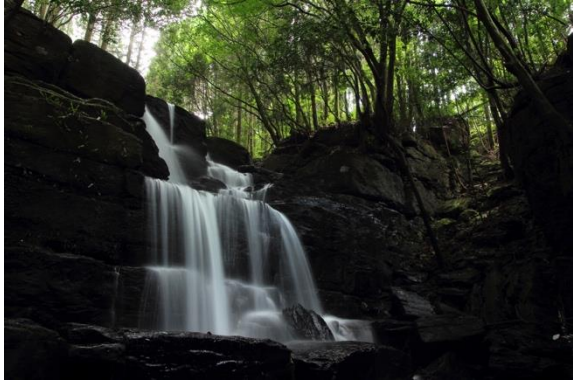


- Minamata Disease Municipal Museum
 - Environmental Center
 - NIMD Information Center



National Institute of Minamata Disease

Attractive nature and environment in Minamata area



A river source of Minamata



Rice paddy fields in Kugino area



Cherry blossoms along
the Minamata river



Tea plantation in Ishidobi area



Yunoturu hot springs

Key persons to develop the sustainability in Minamata



Mr. H. Amano, owner of tea plantation.



Mr. T. Sawahata, organizer of local activities.



Mr. K. Sasahara, patishie, sweetshop.

Minamata's original sweets
Monaka & Horaku manjyu



Mr. M. Morishita, diving instructor.

Products of Minamata



Young sardine



Sweet Orange



Japanese Tea



Salada-Onion
(Salatama-chan)

Sakura Science Plan in Minamata

Sponsored by JST

10 graduate students from Taiwan, Thailand, Singapore.

10 days program regarding Japanese high technologies and environmental issues.

Home stay (1 day) program included.



Collaboration with International Agencies

UNIDO-ITPO Tokyo Site Visit Tour in Minamata 2018.11.20 ~ 22



Workshop with Taiwan EPA on Minamata
Convention
2018.7.30 ~ 8.2



UNEP/ETC Initial Assessment on Minamata
Convention
2018.5.30 ~ 31



Thank you for your Attention.



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