



Draft

Mercury Issues in Japan

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Mercury Issues in Japan

Contents

1. Overview of Mercury Issues in Japan
2. Minamata Disease
3. Campaign for Japan's Mercury Export Ban
4. Some Data for Mercury in Japan
5. Whale-eating Town, Taiji

Overview of Mercury Issues in Japan

1. There is no primary mercury mining since 1974.
2. There is no mercury-based chlor-alkali plant since 1999.
3. More than **100 ton/year** of mercury is recycled from mercury containing products and by-products from smelters
4. About **13 ton/year** of mercury is used for production of mercury containing devices.
5. More than **100 ton/year** of mercury is exported.
6. Japan has a experience of serious methylmercury poisoning incidents in **Minamata** and **Niigata**

Minamata Disease

Minamata and Niigata



Image: Niigata Prefecture, 2007

Minamata Disease



Photo by W. Eugene Smith © Aileen M. Smith
Courtesy of Ms. Aileen M. Smith
http://aileenarchive.or.jp/aileenarchive_en/index.html

Minamata Disease Summary (1)

What Happened in Minamata during 1932 to 2010?

- 1932-1968: Chisso operated acetaldehyde plant in Minamata using **Inorganic mercury** as a catalyst. **Methylmercury** was released to Minamata Bay
- 1950s: Sufferers emerged among residents around Minamata Bay.
- 1956: Minamata Disease was officially confirmed. But the cause was unknown.
- 1968: Government and Chisso recognized the **methylmercury from Chisso** as the cause of Minamata Disease and Chisso closed the acetaldehyde plant.
- 1969: Government offered **a settlement**, but victims were split into two groups.
- 1969-89: Many victims took Chisso to court for responsibility and compensation.
- 1977: Government set criteria for recognition of Minamata Disease,
- 1977-78: Many victims who had not been recognized raised lawsuits against Government, Kumamoto Prefecture and Chisso.
- 1995: Government offered **political solution** for the issues of unrecognized victims.
- 2004: Supreme Court denounced inaction of Government and Kumamoto Prefecture in preventing damage enlargement and recognized their responsibility.
- 2009: **Minamata Relief Law** was passed at the Diet.
- 2010: Kumamoto district court recommended **a settlement** and the majority accepted.
- 2010: One group decided to continue their lawsuit seeking more substantial solution.
- 2010: Government announced **a policy for the relief of Minamata and Niigata victims** based on the Minamata Relief Law and the Settlement by the district court.
- 2010: PM Yukio Hatoyama attended the 54th annual memorial service for the victims of Minamata disease and apologized to Minamata victims.

Minamata Disease Summary (2)

How Many Victims ?

Site	Yatsushiro Sea / Minamata Bay, Kumamoto
Responsible Company	Chisso Corp.
Officially confirmed	May, 1, 1956

Numbers of Victims (No official data)

➤ Victims compensated (by Asahi Shimbun April 16, 2010)

1977: Those who were recognized approx. 3,000

1995: Those who accepted Political Settlement approx. 11,000

2004: Those who were recognized by Supreme Court Decision 37

➤ Victims to be compensated (by Mainichi Shimbun March 29, 2010)

Those who applied for recognition (as of Feb 28, 2010) 7,608

Those who received free medical treatment (as of Feb 28, 2010) 26,670

Those who may be identified later ??

➤ Estimated total number of compensated victims 48,315 + ??

Minamata Disease History (1)

- **1932-1968**: Chisso operated acetaldehyde plant in Minamata.
- Inorganic mercury was used as a catalyst.
- Alkylmercury compound was being released to Minamata Bay although no one was aware of it until 1959.
- **1950s**: Sufferers emerged among residents around Minamata Bay.
- **1956**: Minamata Disease was officially confirmed.
- **1959**: Organic mercury was identified as the cause by Kumamoto University.
- Chisso repeatedly offered counterarguments **mobilizing “expert scientists”**.
- Chisso provided monetary donations to 79 victims but did not acknowledge their responsibility of the pollution and harm.
- **1963**: Methylmercury in wastewater from Chisso was proved as the cause of Minamata Disease by Kumamoto University.

Minamata Disease

History (2)

- **1968**: Government officially recognized methylmercury as the cause of Minamata Disease, which was a by-product produced in the acetaldehyde manufacturing process at Chisso Minamata factory.
- **1968**: Chisso closed the acetaldehyde plant.
- **1969**: Ministry of Welfare set up a mediation committee and it presented some monetary settlement. The committee said that under the present legal system, it was not able to place legal responsibility on Chisso based on the sole reason that wastewater was the cause.
- Victims split into two groups; one relied on the committee and the other insisted on lawsuits.
- **1969**: Victims took Chisso to court for responsibility and compensation. (**The first lawsuit.**)
- **1973**: Victims took Chisso to court for recognition of Minamata Disease and compensation. (**The second lawsuit.**)
- **1977**: Environmental Agency set criteria for recognition of Minamata Disease, which accepted **only limited symptoms** to avoid increase in number of victims to be compensated.
- **1977-78**: Many victims who had not been recognized raised lawsuits against the Government, Kumamoto Prefecture and Chisso.

Minamata Disease History (3)

- **1980, 81, 89:** Victims took Chisso to court for recognition of Minamata Disease and compensation. (**The third lawsuit.**)
- **1982:** Victims who had moved to Kansai area (Osaka area) filed a lawsuit against the Government, Kumamoto Prefecture and Chisso for their responsibility, recognition of plaintiffs as Minamata Disease and compensation. (**Kansai lawsuit**)
- **1987:** The district court first recognized **the responsibility** of the Government and Kumamoto Prefecture as well as Chisso. (**The third lawsuit.**)
- **1995:** Government decided “**final**” **solution** for the issues of unrecognized victims but did not mention Government’s responsibility.
- **2004:** Supreme Court denounced inaction of the Government and Kumamoto Prefecture in preventing damage enlargement and recognized their responsibility. (**Kansai lawsuit**)
- **2005:** Victims raised lawsuits against Government, Kumamoto Prefecture and Chisso for recognition of Minamata Disease and compensation.

Minamata Disease History (4)

- **2009:** Minamata Relief Law was passed at the Diet with controversies surrounding the ff issues:
 1. Split Chisso into two companies, a parent company for compensation (Chisso Corp.) and a subsidiary company for business.
 2. The criteria for recognizing the disease remains unchanged.
 3. No whole health investigation has been made.
 4. Victims born after November 1969 are not eligible for compensation.
- Some major victims' groups decided to accept the relief based on the Law (**political solution**) **considering aging suffers** who need support quickly, but other groups did not accept the Law and decided to seek **legal solution**.

Minamata Disease History (5)

- **2010:** Kumamoto district court recommended a settlement which consists of lump-sum payments of 2.1 million yen (\$22,600) each and monthly medical allowances of up to 17,700 yen (\$190).
- The Government and Kumamoto Prefecture accepted the settlement.
- The **political solution groups** (about 4,300 victims) who had already accepted the Minamata Relief Law also accepted the settlement.
- The majority of the **legal solution groups** (2,123 victims) also accepted the settlement considering aging sufferers who need support quickly.
- Government intends to apply the relief based on the settlement in order to end the half-a-century Minamata saga to:
 1. Those who had filed application for recognition (7,608 victims)
 2. Those who had received new health notebooks for free medical treatment instead of recognition of Minamata Disease (26,670 victims)
- However, another group called "Gojyokai" (9 victims) in Minamata who had criticized the Minamata Relief Law decided to continue their lawsuit seeking more substantial solution, and so the Minamata issue has not yet reached a full-scale and equitable solution.

Minamata Disease History (6)

➤ Criticism at the Minamata Relief Law including:

- (1) A split of Chisso Corp. into two companies allows it to escape from their responsibilities.

It is said that once the victims have been compensated, the parent company, Chisso will be liquidated.

- (2) The criteria for recognizing the disease remains unchanged.

These limited criteria are not able to relieve potential victims who could not disclose their disease for fear of discrimination due to the disease in their community or those who may appear later as next generation of victims.

- (3) No whole health investigation has been made.

Thus nobody will be able to understand the full true picture of the Minamata Disease including victims who could not disclose their disease, who already died without being recognized, or future victims, and it will vanish into the night forever.

- (4) Those victims who were born after November 1969 are not eligible for compensation.

Minamata Disease History (7)



- **April 3, 2010:** Victims and supporters held a symposium on the theme of "Question of responsibility of Chisso and the Government" and "Is it allowed for wrongdoers to escape from their responsibility by the Minamata Relief Law?" They adopted a Statement calling for the Government and Chisso's responsibility for compensation and relief so long as victims exist.
- **April 5, 2010:** Victims and their supporters met the Vice Minister of Environment and handed over the Statement.
- **April 16, 2010:** Government decided its policy for the relief of all unrecognized Minamata Disease victims including Niigata ones based on the Minamata Relief Law and the Settlement recommended by Kumamoto district court.
- **April 30, 2010:** Victims and supporters held a meeting in Minamata , confirming that the redress measures including the Minamata Relief Law will not solve the problem.

Minamata Disease History (8)



慰霊式は、犠牲者の冥福を祈り、公善の教訓を後世に伝えるようと水俣市などが主催。小沢鋭仁環境相や清島郁夫知事、原因企業チッソの後援者古会長らも参列した。

式では、亡くなった認定患者27人の名簿を奉納。鎮魂の鐘が響く中、参列者が黙とう、献花台に菊の花を手向け、犠牲者の魂に祈りを送った。

患者・遺族を代表し、小児性水俣病患者の前田恵美子さん(56)、祖父母や父を水俣病で亡くした古永理江子さん(58)が「祈りの言葉」を朗読。

「犠牲になられた皆さまの命、願いをっないでい

↑

水俣病犠牲者慰霊式で献花する端山由紀夫首相。1日午後、水俣湾埋め立て地(野田港)

➤ May 1, 2010: Prime Minister Yukio Hatoyama attended the 54th annual memorial service for the victims of Minamata disease in Minamata and he apologizes to Minamata disease victims for the government not being able to prevent the spread of the disease in Japan's worst industrial pollution case.

➤ He also expressed hope Japan will actively contribute to creating an international treaty for preventing such mercury poisoning and naming the treaty the “Minamata treaty.”

Minamata Disease History (9)

Low Level Mercury Exposure

- At the Minamata Disease, the high-level acute mercury poisoning was emphasized but the low level exposure, especially to fetuses and children was not paid much attention and the studies were behind other countries in this area for the following reasons.
 - 1: Government's fear of increase in victims to be compensated.
 - 2: There were/are some sufferers who could not disclose their disease for fear of discrimination in their community.
- Now it is the last chance to make this clear to pass on the facts to future generations as the lessons learned from Minamata Disease, which was the first largest incident ever happened of environmental pollution and food poisoning through food chain.
(Dr. Masazumi Harada in Minamata, 2009)

Japan Eco & Child Study

100,000 Children for 21 years



Purpose: To know the impacts of chemical exposure on children's health from fetal stage to childhood

Method: National birth cohort study by Ministry of Environment

Scale: 100,000 children nationwide

Duration: 21 years

Subject: Wide range of chemicals and heavy metals including **mercury**

October 15, 2009
Civil Society Organizations Joint Statement

The Honorable Yukio Hatoyama, Prime Minister of Japan
The Honorable Katsuya, Okada, Minister for Foreign Affairs
The Honorable Sakihito, Ozawa, Minister of the Environment

October 15, 2009

**Civil Society Organizations Joint Statement
Japanese Government Needs to Enact Mercury Export Ban Act**

We, civil society organizations concerned about world-wide mercury pollution strongly request the Japanese Government to enact a Mercury Export Ban Act at the earliest possible time.

We strongly request the Japanese government to take the following action immediately.

- 1.To enact a Mercury Export Ban Act.
- 2.To safely place in long-term storage all surplus mercury produced in Japan
- 3.To show good leadership to realize the International Mercury Treaty and increase effort to create mercury storage capacity for Asia and the Global Mercury Partnership.

Signatory Organizations

(1) Japanese organizations: 54 (not shown here)

(2) Overseas organizations: 60 (as follows)

PAN AP, Asia and the Pacific
Susana Muhlmann, Architect, Argentina
Asociacion Argentina de Medicos por el Medio Ambiente (AAMMA), Argentina
National Toxics Network (NTN), Australia
News Network, Bangladesh
European Environmental Bureau (EEB), Belgium
Environment Protection Association (APROMAC), Brazil
Association of Combat against Pollutants (ACPO), Brazil
It's Not Garbage Coalition, Canada
Centre national d'information independante sur les dechets (CNIID), France
Asia Monitor Research Center (AMRC), Hong Kong
Society for Direct Initiative for Social and Health Action (DISHA), India
Vettiver Collective, Chennai, India
Corporate Accountability Desk of The Other Media, Chennai, India
Community Environmental Monitoring, Chennai, India
Bhu Bhadratha, India
BALIFOKUS Foundation, Indonesia
Center for Non-proliferation and Export Control, Bishkek, Kyrgyz Republic
Donat Anthony Theseira & Mylene Ooi, Malaysia
Sahabat Alam Malaysia (Friends' of the Earth Malaysia), Malaysia
Consumers' Association of Penang, Malaysia
Association of Doctors for the Environment "MADE", Republic of Macedonia
Ban Toxics!, Philippines
Ecological Society of the Philippines, Philippines
Global Alliance for Incinerator Alliance (GAIA), Philippines
Sagip Sierra Madre Environmental Society, Inc. (SSMESI), Philippines
Mother Earth Foundation, Philippines
BUKLOD TAO, INC, Philippines
Sining Yapak (SIYAP), Philippines
SOLJUSPAX, Philippines
Waste Prevention Association 3R, Poland
Indaloyethu Environmental Cooperative, South Africa
groundWork- Friends of the Earth SA, South Africa
Korean Zero Waste Movement Network, South Korea
ECOLOGISTAS EN ACCION, Spain
Ecologistas en Accion de Navarra, Spain
MERCURIADOS patients's association, Spain
Swedish Society for Nature Conservation (SSNC), Sweden
International Society of Doctors for the Environment (ISDE), Switzerland
Yufeng Wong, National Cheng Kung University, Taiwan
Greenpeace Southeast Asia, Thailand
Ecological Alert and Recovery - Thailand (EARTH), Thailand
Raks Thai Foundation, Thailand
Dr. Arpa Wangkiat, Rangsit University, Thailand
Ecological and Cultural Study Group, Thailand
Udon Thani Environmental Conservation Group, Thailand
Public Policy for Mineral Resources (PPM), Thailand
Uganda Network on Toxic Free Malaria Control (UNETMAC), Uganda
National Association of Professional Environmentalists (NAPE), Uganda
pro-biodiversity Conservationists in Uganda (PROBICOUG), Uganda
United Kingdom Without Incineration Network (UKWIN), United Kingdom
Environmental Health Fund, US
American Environmental Health Studies Project, USA
Green Science Policy Institute, USA
Mercury Policy Project (MPP), USA
Basel Action Network (BAN), USA
Pacific Environment, USA
Clean Production Action, USA
Texas Campaign for the Environment, US
Rainforest Action Network (RAN), USA

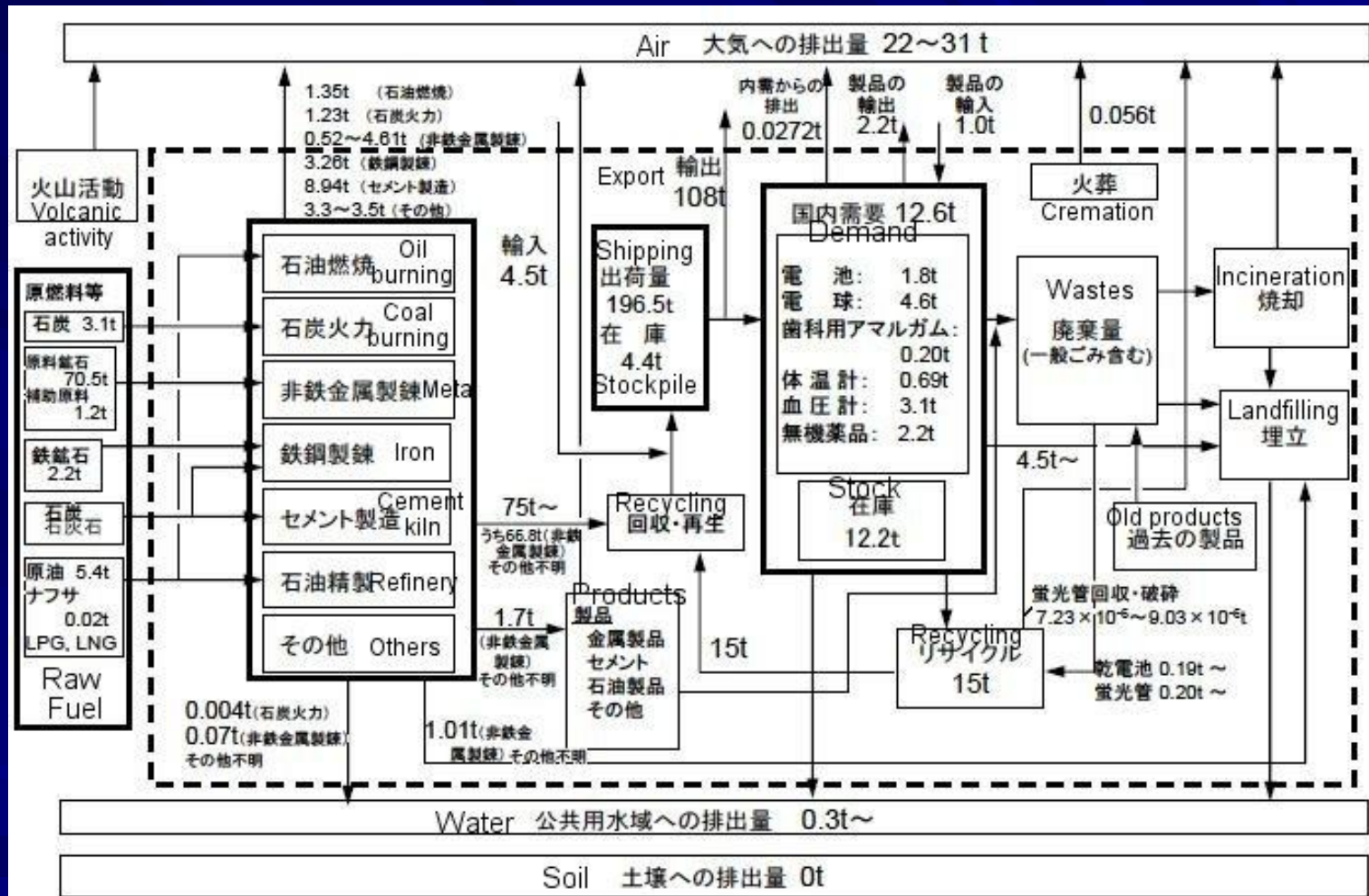
Verbal Reply by the Ministry of the Environment (MoE) To the Civil Society Organizations Joint Statement

http://www.ne.jp/asahi/kagaku/pico/mercury/CSO/091120_MoE_Reply_to_CSO_en.pdf

November 30, 2009

- MoE recognizes reduction of mercury export and storage of surplus mercury is to be considered.
- As the trade is reduced due to regulating export, surplus mercury will accumulate within the country, and therefore adequate long-term domestic storage is required.
- Since it is expected that economic incentives to mercury recycling will be lost and therefore present recycling system will not work properly, it is necessary to consider cost burden for continuing recycle operation.
- In order to avoid new mining for the essential use of mercury for some products, it is necessary to consider the use of recycled mercury.
- MoE will as soon as possible give full consideration consulting with quarters concerned for the mechanism of mercury recycling and long-term storage including storage technology, location of storage and cost burden as well as the issue of mercury export.
- MoE will continue to make any effort to establish an international legally-binding instrument on mercury reduction and waste management sphere as a part of the Global Mercury Partnership.

Material Flow of Mercury in Japan



注) 1. 図中の一部の数値については、出典の異なる数値を合わせている。

2. 在庫は期末時点での在庫量を示す。

Material Flow of Mercury in Japan
(Ministry of Environment, 2008)

Mercury Recycling in Japan

Recycling: **Nomura Kohsan** in Hokkaido

Refining Nonferrous Metals

Recycling used Batteries, Fluorescent Lamps,
By-products from Smelters, ...

<http://www.nomurakohsan.co.jp/us/pdf/WasteProcessingSystem.pdf>



Recycle: More than 100 Ton/Year

Demand: Almost 13 Ton/Year

Export: More than 100 Ton/Year

Maybe used for ASGM in Developing Countries

Recycle and Demand of Mercury in Japan

Recycle of Mercury

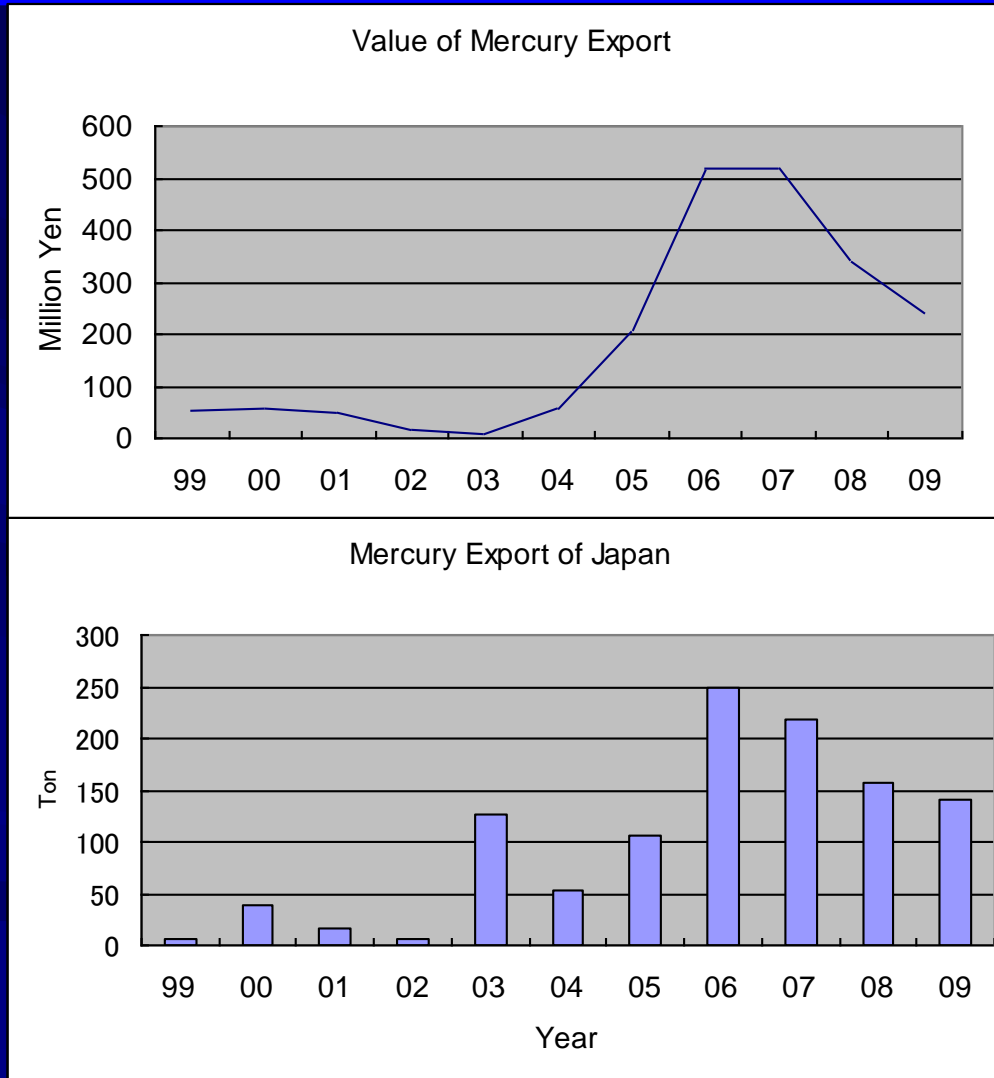
	2003	2004	2005	2006	2007	Unit: ton Average
Recycle from						
By-products from Smelters						>75t
Mercury-Containing Products						>15t
Mercury-Containing Batteries	0.28	0.26	0.17	0.13	0.10	>0.19t
Fluorescent Lamps	0.19	0.18	0.2	0.22	0.22	>0.20t

Demand of Mercury

Items	2001	2002	2003	2004	2005	Average
Batteries	2,500	2,030	1,810	1,910	1,830	2,016
Lamps/Light bulbs	5,062	4,498	4,551	4,656	4,722	4,698
Dental Amalgam	549	328	219	220	150	293
Body Temperature Thermometers	825	543	1,069	792	587	763
Blood Pressure Cuffs	7,611	4,425	3,986	3,664	1,890	4,315
Inorganic Drugs	2,200	3,200	1,900	1,900	1,700	2,180
NaOH Production	0	0	0	0	0	0
Pesticides	0	0	0	0	0	0
PVC Monomer Production	0	0	0	0	0	0
Total	18,747	15,024	13,535	13,142	10,897	14,256

Mercury Export of Japan

Value and Quantity



Source: Trade Statistics of Japan Ministry of Finance

Mercury Export of Japan

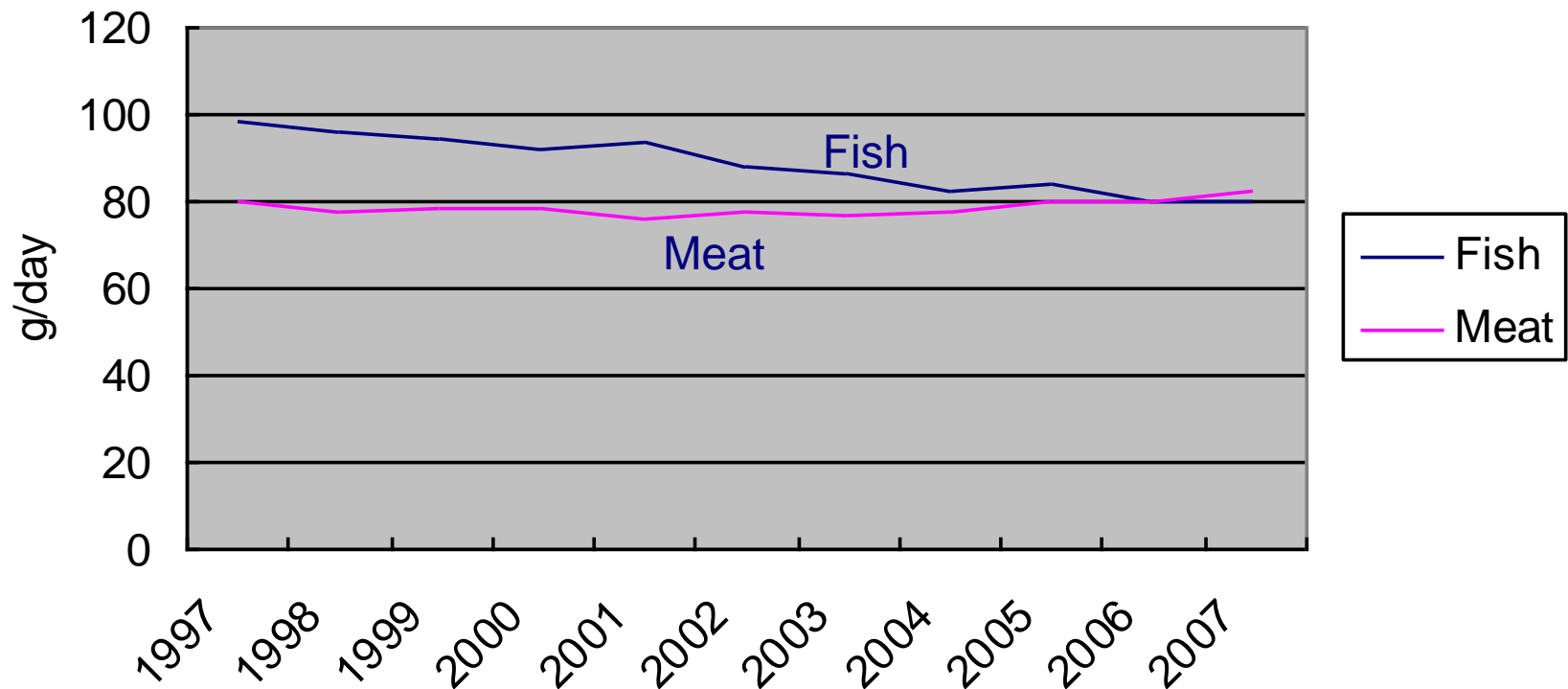
Destination

2006		2007		2008		2009	
CTRY	QTY (Kg)	CTRY	QTY (Kg)	CTRY	QTY (Kg)	CTRY	QTY (Kg)
IRAN	81,420	IRAN	100,050	HG KONG	43,125	SNGAPOR	54,200
HG KONG	56,925	HG KONG	58,650	NETHLDS	34,500	HG KONG	27,600
INDIA	34,500	NETHLDS	34,500	SNGAPOR	29,325	MYANMAR	20,700
HUNGARY	30,800	MYANMAR	10,350	MYANMAR	20,700	INDIA	19,320
NETHLDS	17,250	R KOREA	2,967	IRAN	17,760	NETHLDS	8,970
PHILIPPINE	12,938	BANGLA	2,484	THAILND	4,284	BRAZIL	5,175
MYANMAR	6,900	BRAZIL	2,070	R KOREA	3,312	THAILND	1,759
BANGLA	2,484	INDNSIA	2,046	INDNSIA	1,719	VIETNAM	1,606
R KOREA	2,088	THAILND	1,785	VIETNAM	1,070	R KOREA	1,335
MALYSIA	1,725	EGYPT	1,500	KENYA	862	INDNSIA	898
VIETNAM	1,070	VIETNAM	1,070	BANGLA	200	TAIWAN	5
INDNSIA	835	GERMANY	1,035	MALYSIA	127	Total	141,568
Total	248,935	TAIWAN	5	Total	156,984		
		Total	218,512				

Source: Trade Statistics of Japan Ministry of Finance
Mercury HS Code 2805.40 000

Japanese Consumption of Fish

Japanese Consumption of Fish and Meat



Source: Fisheries Agency 2008

http://www.jfa.maff.go.jp/j/kikaku/wpaper/h20_h/trend/1/t1_12_1_1.html

Mercury Concentrations in Fish

5 調査結果の概要

魚介類名 Fish	天然 または 蓄養 Natural or Cultured	測定部位 Measured Portion	検体数 Number of Sample	Total Mercury		Methyl Mercury	
				平均値 (ppm) AVG	標準 偏差 (ppm)	平均値 (ppm) AVG	標準 偏差 (ppm)
キハダ Yellowfin tuna	天然	筋肉部	20	0.08	0.04	0.06	0.03
クロマグロ Bluefin tuna	天然	筋肉部	60	0.72	0.40	0.50	0.27
	蓄養	筋肉部	30	0.61	0.23	0.44	0.18
		(小計)	90	0.68	0.35	0.48	0.24
ピンナガ Albacore tuna	天然	筋肉部	15	0.25	0.04	0.16	0.04
ミナミマグロ Southern bluefin tuna	天然	筋肉部	42	0.40	0.11	0.28	0.07
	蓄養	筋肉部	30	0.25	0.03	0.17	0.03
		(小計)	72	0.33	0.11	0.24	0.08
メバチ Bigeye tuna	天然	筋肉部	67	0.65	0.38	0.46	0.26
クロカジキ Blue marlin	天然	筋肉部	22	1.16	2.29	0.21	0.19
マカジキ Striped marlin	天然	筋肉部	22	0.41	0.23	0.31	0.17
メカジキ Swordfish	天然	筋肉部	37	0.93	0.32	0.65	0.21
カツオ Skipjack tuna	天然	筋肉部	30	0.14	0.04	0.09	0.02
メヌケ類 Sebastes alutus	天然	筋肉部	20	0.21	0.17	0.12	0.09
キンメダイ Alfonsino	天然	筋肉部	36	0.73	0.47	0.48	0.29
ギンダラ Sablefish	天然	筋肉部	20	0.33	0.24	0.21	0.15
ベニズワイガニ Red snow crab	天然	筋肉部	10	0.30	0.11	0.19	0.06
エッチュウバイガイ Finely-striate buccinum	天然	可食部 (内臓含む)	10	0.74	0.10	0.49	0.06
サメ類 (ヨシキリザメ) Blue Shark	天然	筋肉部	30	0.54	0.12	0.35	0.06
		合計	501				

● Exceeds Allowable Limits of Mercury

**Tentative Allowable Limits
of Mercury
for Fish and Shellfish
except tuna, swordfish,
bonito, shark, river fish and
deep sea fish**
Total Mercury: 0.4 ppm
Methylmercury: 0.3 ppm

Tentative Allowable Limits of Mercury for
Fish and Shellfish 1973 by Ministry of
Health, Labour and Welfare

[http://www.maff.go.jp/j/syouan/seisaku/ri
sk_analysis/priority/pdf/chem_me_hg.pdf](http://www.maff.go.jp/j/syouan/seisaku/ri
sk_analysis/priority/pdf/chem_me_hg.pdf)

Recommendations for pregnant women to select and eat fish and shellfish

Recommendations for pregnant women to select and eat fish and shellfish

Recommended amount (muscle)	Kind of fish and shellfish
Up to about 80 grams (average 1 meal) per 2 months (10 grams/week)	Bottlenose dolphin
Up to about 80 grams (1 meal) per 2 weeks (40 grams/week)	Short-finned pilot whale
Up to 80 grams (1 meal) per week* ¹ (80 grams/week)	Alfonsino Swordfish Bluefin tuna Bigeye tuna Finely-striate buccinum Baird' beaked whale Sperm whale
Up to 160 grams (average 2 meals) per week* ¹ (160 grams/week)	Yellowback seabream Marlin Hilgendorf saucord Southern bluefin tuna Blue shark Dall's porpoise

- MHLW repeatedly emphasizes the benefit of fish and shellfish.
- MHLW emphasizes that children and other adults than the pregnant women are unlikely to have a health risk from mercury in fish and shellfish they eat normally.
- Fishery Agency fears a bad reputation for eating fish and shellfish.

Ministry of Health, Labour and Welfare (MHLW), 2005

Advice for Pregnant Women on Fish Consumption and Mercury

<http://www.mhlw.go.jp/topics/bukyoku/iyaku/syoku-anzen/suigin/dl/051102-1en.pdf>

Current hair mercury levels in Japanese: survey in five districts

PubMed 2003 Mar <http://www.ncbi.nlm.nih.gov/pubmed/12703660>

Yasutake A, Matsumoto M, Yamaguchi M, Hachiya N.

National Institute for Minamata Disease, Minamata 867-0008, Japan.

- The total mercury levels of **3,686 hair samples** collected in five districts, **Minamata, Kumamoto, Tottori, Wakayama and Chiba**.
- The geometric mean of the total mercury concentration was **2.55** microg/g for male and **1.43** microg/g for females.
- The average hair mercury levels were highest in **Chiba** among the five districts both in males and females.

Contamination by mercury in the cetacean products from Japanese market

PubMed 2004 Mar <http://www.ncbi.nlm.nih.gov/pubmed/14675844>

Endo T, Haraguchi K, Cipriano F, Simmonds MP, Hotta Y, Sakata M.

Faculty of Pharmaceutical Sciences, Health Sciences University of Hokkaido

- Total mercury (T-Hg) and methyl mercury (M-Hg) contamination levels in all the cetacean products were markedly higher in odontocete species than in mysticete species.
- The contamination levels of T-Hg and M-Hg in odontocete red meat, the most popular whale product, were **8.94** and **5.44** microg/wetg.
- These averages exceeded the provisional permitted levels of T-Hg **0.4** and M-Hg **0.3** microg/wetg in marine foods set by the Japanese Ministry of Health, Labor and Welfare 1973 by 22 and 18 times.
- Suggesting the possibility of chronic intoxication by T-Hg and M-Hg with frequent consumption of odontocete red meat.

Whale-eating Town, Taiji

The dolphin drive hunt in Taiji, Japan takes place every year from September to April. According to the Japanese Fisheries Research Agency, **1,623 dolphins were caught** in Wakayama Prefecture in 2007 for human consumption or resale to dolphinariums, and most of these were caught at **Taiji**. The annual dolphin hunting provides income for local residents, but has been criticized. (Wikipedia, the free encyclopedia)

Associated Press - March 26, 2010- 'Heroes' star Hayden Panettiere visited a Japanese fishing village Friday to call for an end to its annual dolphin hunt, which was depicted in the Oscar winning documentary "The Cove." She received a chilly reception from residents.

<http://www.youtube.com/watch?v=Or84KZ7krl8&NR=1>

http://www.youtube.com/watch?v=6M3E-rB8FIE&feature=player_embedded

<http://www.youtube.com/watch?v=kXrIYfle66A&feature=related>



Image: Taiji-Cho

THE COVE
OSCAR® Award Winner
BEST FEATURE DOCUMENTARY



Whale-eating Town, Taiji

Mercury levels of whale-eating town's residents 10 times Japan average

Japan Today Friday 22nd January, 2010

<http://www.japantoday.com/category/national/view/mercury-levels-of-whale-eating-towns-residents-10-times-japan-average>

Taiji Samples	Taiji Average ppm	Taiji Max ppm	Japan Average ppm	WHO NOAEL ppm
30 men	21.6	67.2	2.55	50
20 women	11.9		1.43	

Health Sciences University of Hokkaido December 2007 and July 2008

High mercury levels in hair samples from residents of Taiji, a Japanese whaling town Tetsuya Endo and Koichi Haraguchi

Available online 31 December 2009

<http://www.ncbi.nlm.nih.gov/pubmed/20045122>

Environmental Justice!

Thanks!

Arigato Gozaimasu !

Citizens Against Chemicals Pollution (CACCP)
<http://www.ne.jp/asahi/kagaku/pico/>

