

# A review of Human Dimension Indicators in the NPESR of Japan

(PICES Section Human Dimension)



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# Background and our input

## Background

PICES S-HD NPESR and WOA workshop, June 2013~  
2 meetings was held in Hawaii and Nanaimo.

## Human dimension indicators of Japan

### Contents

- 1 for Human dimension Index
- 2 weak point of statistics in Japan (seafood)
- 3 How understand it (What's good? and lack)  
(and what's need to work)

# The First workshop in Hawaii



Photo by NPRSR Report (Keith)

Landings and catch (amount) in EEZ, outside EEZ  
Landings and catch (value) in EEZ, outside EEZ  
marine aquaculture production (value and amount)  
Exvessel price  
Sport fishing  
other non-commercial fishing  
Fishing costs  
Fishing subsidies  
IUU fishing

fishing vessels (number by gear type, size and tonnage)  
fishing vessel power (HP)  
fishing companies (number)  
fishing effort (by gear type)  
CPUE

commercial fishers (numbers)  
commercial fishers (demographic characteristics, full-time or part-time)  
mortality/injury rates (absolute and relative)  
income of fishermen (absolute and relative to median)  
net revenues from fishing

fish processing plants (number by scale and scope)  
employment in fish processing  
processed fish products (amounts)  
first wholesale value  
value added  
value added multiplier

fishing households (number)  
fishing villages/communities (number)  
fishing ports (number)  
Gini coefficient--equality?

health/contamination monitoring  
per capita consumption  
fish price to consumers

fish exports  
fish imports  
inventories of fish products

laws etc  
international agreements

Value of ecosystem services  
environmental acct/natural capital  
valuation of non-marketed goods/services  
replacement cost of ecosystem services

# Human Dimension Index of Japan

# Human Dimension Index in Japan

## Variable

## URL

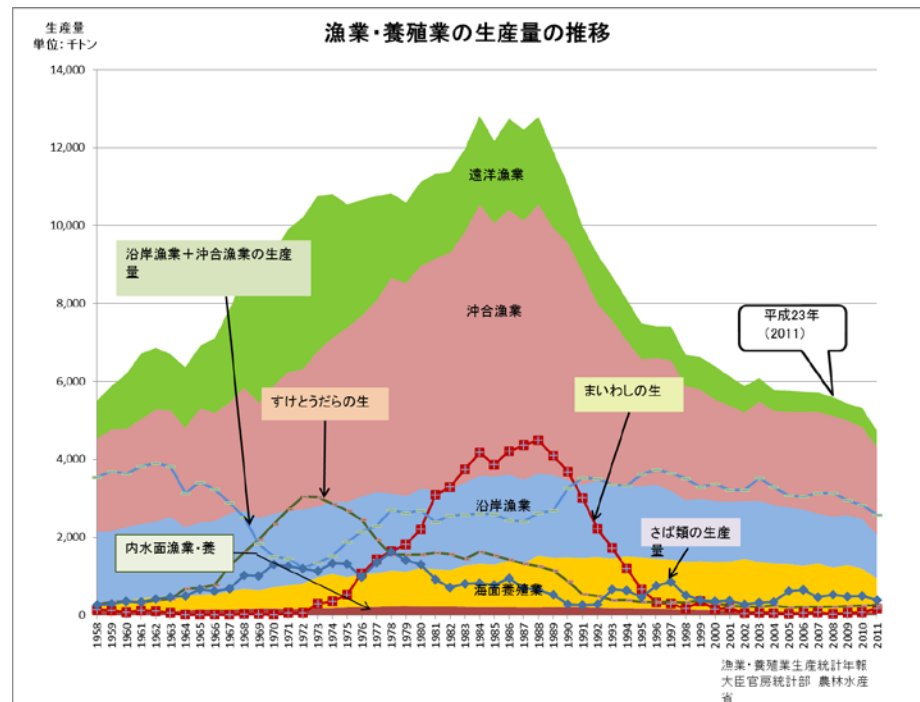
Landings and catch (amount) in EEZ, outside EEZ	X	<a href="http://www.maff.go.jp/tokei/kouhyou/kaimen_gyosei/">http://www.maff.go.jp/tokei/kouhyou/kaimen_gyosei/</a>
Landings and catch (value) in EEZ, outside EEZ	X	<a href="http://www.maff.go.jp/tokei/kouhyou/kaimen_gyosei/">http://www.maff.go.jp/tokei/kouhyou/kaimen_gyosei/</a>
marine aquaculture production (value and amount)	X	<a href="http://www.maff.go.jp/tokei/kouhyou/kaimen_gyosei/">http://www.maff.go.jp/tokei/kouhyou/kaimen_gyosei/</a>
Exvessel price	x	<a href="http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/">http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/</a>
Sport fishing	x	<a href="http://www.maff.go.jp/tokei/kouhyou/yugyo_horyo/gaiyou/index.html">http://www.maff.go.jp/tokei/kouhyou/yugyo_horyo/gaiyou/index.html</a>
other non-commercial fishing	x	<a href="http://www.mlit.go.jp/common/000162415.pdf">http://www.mlit.go.jp/common/000162415.pdf</a>
Fishing costs	x	<a href="http://www.maff.go.jp/tokei/kouhyou/gyokei/">http://www.maff.go.jp/tokei/kouhyou/gyokei/</a>
Fishing subsidies	x	<a href="http://www.maff.go.jp/tokei/kouhyou/gyokei/">http://www.maff.go.jp/tokei/kouhyou/gyokei/</a>
IUU fishing	x	<a href="http://www.jfa.maff.go.jp/j/press/kanri/130201.html">http://www.jfa.maff.go.jp/j/press/kanri/130201.html</a>
fishing vessels (number by gear type, size and tonnage)	x	<a href="http://www.library.maff.go.jp/library/list_27-2.htm">http://www.library.maff.go.jp/library/list_27-2.htm</a>
fishing vessel power (HP)	X	<a href="http://www.library.maff.go.jp/library/list_27-2.htm">http://www.library.maff.go.jp/library/list_27-2.htm</a>
fishing companies (number)	x	<a href="http://www.jfa.maff.go.jp/j/kikaku/wpaper/h20_h/trend/1/sankou_4.html">http://www.jfa.maff.go.jp/j/kikaku/wpaper/h20_h/trend/1/sankou_4.html</a>
fishing effort (by gear type)	x	<a href="http://www.maff.go.jp/tokei/kouhyou/gyokei/">http://www.maff.go.jp/tokei/kouhyou/gyokei/</a>
CPUE	x	<a href="http://abchan.job.afrc.go.jp/">http://abchan.job.afrc.go.jp/</a>
commercial fishers (numbers)	x	<a href="http://www.maff.go.jp/tokei/census/fc/">http://www.maff.go.jp/tokei/census/fc/</a>
commercial fishers (demographic characteristics, full-time or part-time)	x	<a href="http://www.maff.go.jp/tokei/census/fc/">http://www.maff.go.jp/tokei/census/fc/</a>
mortality/injury rates (absolute and relative)	x	<a href="http://www.mlit.go.jp/maritime/unkohrohml/unkoh3.files/link-data/1sisyousaigaihasseijoukyounosui_s42-h22_.pdf">http://www.mlit.go.jp/maritime/unkohrohml/unkoh3.files/link-data/1sisyousaigaihasseijoukyounosui_s42-h22_.pdf</a>
income of fishermen (absolute and relative to median)	x	<a href="http://www.maff.go.jp/tokei/kouhyou/gyokei/">http://www.maff.go.jp/tokei/kouhyou/gyokei/</a>
net revenues from fishing	-	
fish processing plants (number by scale and scope)	X	<a href="http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/">http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/</a>
employment in fish processing	X	<a href="http://www.maff.go.jp/tokei/census/fc/">http://www.maff.go.jp/tokei/census/fc/</a>
processed fish products (amounts)	X	<a href="http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/">http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/</a>
first wholesale value	x	<a href="http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/">http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/</a>
value added	x	only hard copy
value added multiplier	x	only hard copy
fishing households (number)	x	<a href="http://www.maff.go.jp/tokei/census/fc/">http://www.maff.go.jp/tokei/census/fc/</a>
fishing villages/communities (number)	x	<a href="http://www.jfa.maff.go.jp/j/bousai/haigosyuurakutyousa.html">http://www.jfa.maff.go.jp/j/bousai/haigosyuurakutyousa.html</a>
fishing ports (number)	X	<a href="http://www.jfa.maff.go.jp/j/gyoko_gyozyo/g_zyoho_bako/gyoko_itiran/sub81.html">http://www.jfa.maff.go.jp/j/gyoko_gyozyo/g_zyoho_bako/gyoko_itiran/sub81.html</a>
Gini coefficient—equality?	-	
health/contamination monitoring	x	<a href="http://www.maff.go.jp/syuan/tikusui/gyokai/g_kenko/busitu/01d_zyokyo.html">http://www.maff.go.jp/syuan/tikusui/gyokai/g_kenko/busitu/01d_zyokyo.html</a>
per capita consumption	X	<a href="http://www.stat.go.jp/data/kakei/npsf.htm">http://www.stat.go.jp/data/kakei/npsf.htm</a>
fish price to consumers	x	<a href="http://www.stat.go.jp/data/kakei/npsf.htm">http://www.stat.go.jp/data/kakei/npsf.htm</a>
fish exports	X	<a href="http://www.customs.go.jp/toukei/info/">http://www.customs.go.jp/toukei/info/</a>
fish imports	X	<a href="http://www.customs.go.jp/toukei/info/">http://www.customs.go.jp/toukei/info/</a>
inventories of fish products	x	<a href="http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/">http://www.maff.go.jp/tokei/kouhyou/suisan_ryutu/santi_ryutu/</a>
laws etc	X	<a href="http://law.e-gov.go.jp/cgi-bin/idxsearch.cgi">http://law.e-gov.go.jp/cgi-bin/idxsearch.cgi</a>
international agreements	x	<a href="http://www3.mofa.go.jp/mofaj/gaiko/treaty/index.php">http://www3.mofa.go.jp/mofaj/gaiko/treaty/index.php</a>

# There are data of Each Fish species, Products, city easily download from website as Excel file

漁業・養殖業生産統計年報(併載:漁業生産額) 大臣官房統計部  
昭和33年-平成18年(1958-2006) 農林水産省

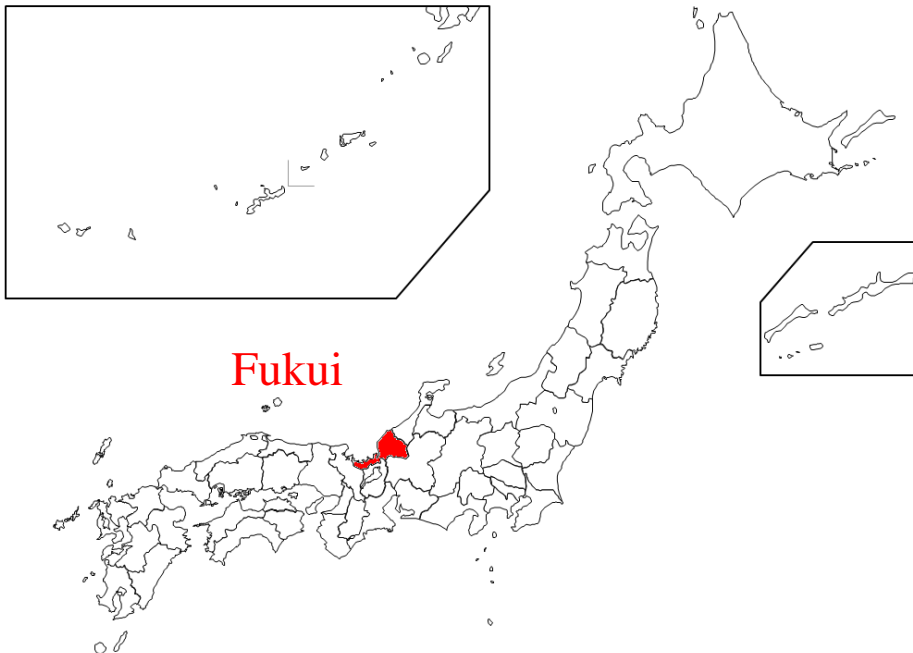
漁業・養殖業部門別生産量 単位:t

西暦	合計	内水面	海面養殖業	沿岸漁業	沖合漁業	遠洋漁業	
昭和33年	1958	5,412,457	93,592	214,187	1,831,005	2,391,272	975,863
昭和34年	1959	5,793,940	90,717	225,408	1,841,579	2,602,736	1,124,084
昭和35年	1960	6,102,740	90,003	284,829	1,893,310	2,514,552	1,409,962
昭和36年	1961	6,609,950	100,595	322,499	1,925,037	2,680,000	1,682,400
昭和37年	1962	6,760,214	104,680	362,897	1,934,690	2,874,212	1,588,324
昭和38年	1963	6,590,237	108,237	389,989	2,026,636	2,731,109	1,442,403
昭和39年	1964	6,231,725	118,981	362,993	1,784,362	2,540,336	1,554,032
昭和40年	1965	6,761,427	146,244	379,798	1,861,041	2,916,932	1,603,656
昭和41年	1966	6,962,841	139,641	405,195	1,872,268	2,773,041	1,912,336
昭和42年	1967	7,711,507	139,273	470,137	2,011,196	2,827,591	2,402,582
昭和43年	1968	8,514,989	155,148	521,941	2,004,329	3,158,375	2,830,343
昭和44年	1969	8,449,221	164,201	473,293	1,861,779	2,948,889	3,165,260
昭和45年	1970	9,146,843	167,819	549,082	1,889,339	3,279,384	3,429,038
昭和46年	1971	9,757,430	151,114	608,684	1,934,169	3,540,891	3,673,686
昭和47年	1972	10,047,925	165,188	647,905	1,901,948	3,593,527	3,904,545
昭和48年	1973	10,584,003	178,641	790,974	1,820,166	3,984,376	3,988,487
昭和49年	1974	10,628,792	179,428	879,761	1,873,749	4,177,731	3,697,551
昭和50年	1975	10,345,809	199,339	772,741	1,935,214	4,469,457	3,168,397
昭和51年	1976	10,455,200	200,711	849,900	2,000,100	4,636,600	2,968,600
昭和52年	1977	10,549,000	207,819	861,400	2,106,700	4,898,200	2,682,800
昭和53年	1978	10,600,200	228,118	917,200	1,989,500	5,518,300	2,175,100
昭和54年	1979	10,359,400	231,010	882,600	1,953,200	5,458,000	2,065,600
昭和55年	1980	10,900,400	221,449	991,800	2,036,700	5,704,700	2,167,200
昭和56年	1981	11,102,700	216,976	959,700	2,038,300	5,939,400	2,165,400
昭和57年	1982	11,169,500	218,621	938,400	2,072,300	6,069,900	2,088,900
昭和58年	1983	11,756,300	210,948	1,059,800	2,136,600	6,428,000	2,132,000
昭和59年	1984	12,612,100	203,773	1,110,800	2,265,500	6,955,900	2,280,000
昭和60年	1985	11,965,100	206,207	1,088,100	2,268,000	6,497,600	2,111,300
昭和61年	1986	12,539,000	199,929	1,198,300	2,212,600	6,792,400	2,335,700
昭和62年	1987	12,266,800	197,846	1,137,400	2,150,700	6,634,400	2,344,300
昭和63年	1988	12,586,600	198,133	1,327,400	2,115,000	6,896,800	2,247,400
平成元年	1989	11,711,700	201,769	1,272,000	2,123,100	6,340,400	1,976,200



# Saba no heshiko

## Mackerel preserved in salt and rice bran



Local favorites: a taste of place

Yamagata Map ~6

Tabako

Chunky cod stew



*Dongara-jiru*

Dongara-jiru

This is a winter dish, prepared from gray cod. The fish is cut into large chunks, including the bones and also the head and innards. To this are added scallions and tofu that have been cooked with miso, and wa-nori (rock liver seaweed) is used as a seasoning. Adding daikon radish and sake lees makes the stew even more warming. In Yamagata, this is a dish that is often cooked at home.

Fukushima Map ~7

Tabako

Choice pickled herring



*Nihin no sansho-zuke*

Herring with sansho pepper

A traditional way to prepare herring so that it can be eaten year-round. The fish are first opened, cleaned, and dried. Then they are layered with leaves of sansho pepper in between and pickled in a liquor prepared from soy sauce, sake, vinegar, and sugar. In the old days, special ceramic serving bowls for pickled herring were used in the Aizu-Wakamatsu region, and were an integral part of a bride's trousseau. They are still produced by local ceramics craftsmen.

Fukushima Map ~7

Tabako

Auspicious country cuisine



*Ko-zuyu*

Ko-zuyu

This clear soup is an essential dish served on auspicious occasions, such as at the new year, and at other ceremonial gatherings. It is made from dried scallop hokketei, which are softened in dashi stock. Other ingredients include wheat gluten croquettes (nabe-fu), shiitake mushrooms, carrots, taro yams, kikkurage fungus, and komiyaku jelly noodles. It is seasoned with soy sauce, salt, and sake, and should be served in bowls of red lacquer produced in Aizu-Wakamatsu.

Ibaraki Map ~8

Kanto

Classic winter fish dish



*Anko-ryori*

Anko-ryori

According to an old saying there are two classic winter hot pot dishes in Japan: puffer-fish in the west of the country and anglerfish in the east. It is commonly said that apart from the bones, the whole of the anglerfish can be eaten. The best-known recipe is anglerfish hot pot, but other dishes include prepared anglerfish with a vinegar dressing and "mud bath" (using only the fish and vegetables, without adding any water).

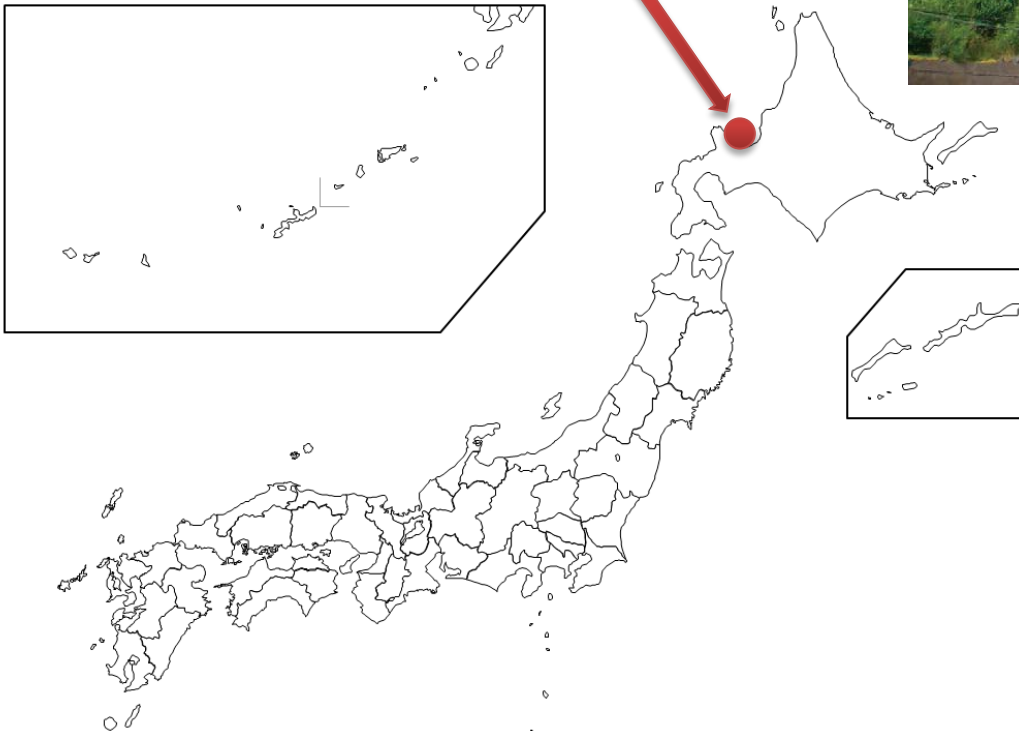
24

25

From "Japan's taste secrets" by MAFF

# Nishin Goten (Herring Mansion)

Otaru, Hokkaido



During the heyday of herring fishing, large Herring Mansions (Nishin Goten) were built by wealthy fishermen to process the fish and as a residence for themselves and their employees. A large preserved herring mansion dating back to the end of the 19th century stands on a hill beside the water about five kilometers outside central Otaru.



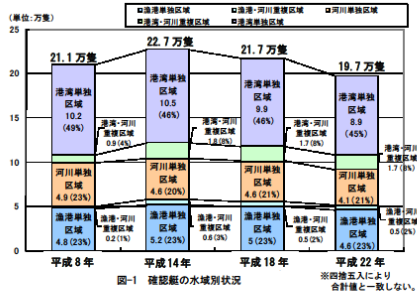
# But there are only PDF file for example, no commercial sectors

## But, several statistics written in Japanese, and formatted by PDF...(IUU, Injury, mortality, pleasure)

### 1. プレジャーボート全国実態調査結果について

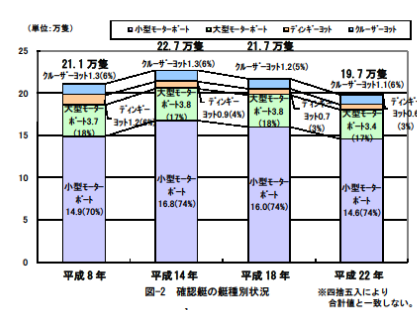
#### 1) 確認艇の水域別状況

- 確認艇は19.7万隻で、減少傾向(前年比9%減)にある。
- 水域別の割合は大きな変化はなく、港湾が約1/2を占め最も多く、次いで、河川と漁港がそれぞれ約1/4となっている。



#### 2) 確認艇の艇種別状況

- 艇種別の割合は大きな変化はなく、M小が約7割を占め最も多く、次いでM大が約2割を占め、残りがGY、DYとなる。



### 5. 海上環境関係法令違反の取締り状況

海上環境関係法令違反の送致件数は562件(前年593件)で、前年と比較し31件(約5%)減少しました。

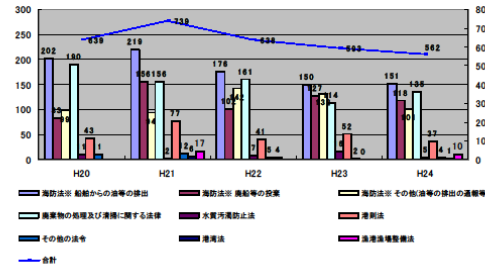


法令別では、船舶からの油や有害液体物質の排出等を禁止する海洋汚染等及び海上災害の防止に関する法律違反の送致件数が370件で全体の約66%を占め、次いで廃棄物の投棄等を禁止する廃棄物の処理及び清掃に関する法律違反の送致件数が135件で全体の約24%を占めています。

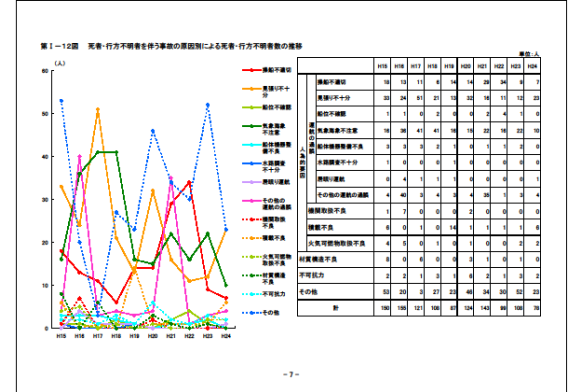
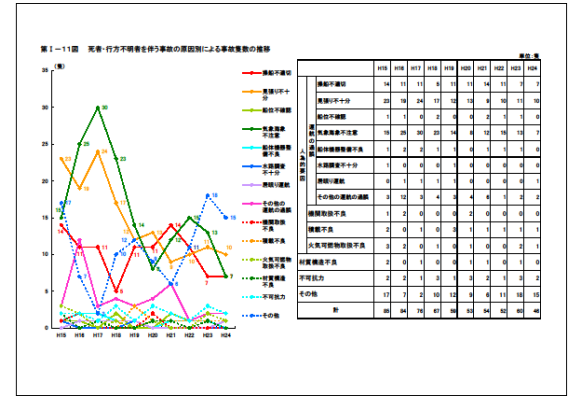
なお、外国船舶に対する油等の不法排出事犯の取締りについては、国際条約に基づく担保金の提供による釈放制度を適用しており、その結果、11件(昨年は12件)の油等の不法排出事犯について、担保金の提供を受けました。

海上保安庁では、引き続き関係機関や地域住民と連携・協力して、港内等における油や汚染水の不法排出事犯や廃棄物の不法投棄事犯の摘発を進めるとともに、航空機による広域監視能力を活用し、外国船舶による油等の不法排出事犯の確認を効率的に実施するなど海上環境事犯の摘発に取り組んでいきます。

#### 【海上環境法令違反の法令別送致件数の推移】



(※ 海防法: 海洋汚染等及び海上災害の防止に関する法律)



# For Human Dimension Index

## Our Goal

How use the Index mutually & effectively to assess Human Dimension members countries

## Result and problems

- 1 We can cover the all index data completely
- 2 but these are written in all Japanese (no English)
- 3 How solve this basically problem ?

(Should we make the list of name of a fish species, products and others? We also have a local name)

# Weak point of statistics of Japan Index

# Weak point of our statistics for the Index

Using the statistics, we must watch two hidden problem in it for human dimension analyses

This Problem is...

Data (information) amount & quality are different between each data categories.

It is divided more two problems.

We have many statistics perfectly,

- 1 but seafood industry also doesn't cover all detailed they have inclined to domestic wholesale system date.
- 2 They can't shift their sight to a growing sectors.

# For example; from a view of commodity chain

Landing & forward



Domestic Wholesale market



Retail data



Processed data



Between private sector trade data



Direct selling data

Self using data

Local commodity chain data

Employment, Income, factory data



Employment data

Income

Added value data

Import-Export data



Organization & system

Distribution channel

Sub data related HD

# For Human Dimension Index

Why

In Japan, the whole sale market system has been managed by government sector as main supply system for people.

Therefore, These statistics have been made detailed

That's why,

- 1 They have inclined to domestic wholesale official data.
- 2 But they don't have enough data, such as Export data, private sector's data (processors, distributor)

Are there same problem in other countries?  
(one data is detail, the other is no detail)

# How to do to solve these problems?

1 As the basic problem is...

A part of statistics are formatted by PDF, and most statistics are written in Japanese. How to solve it ?

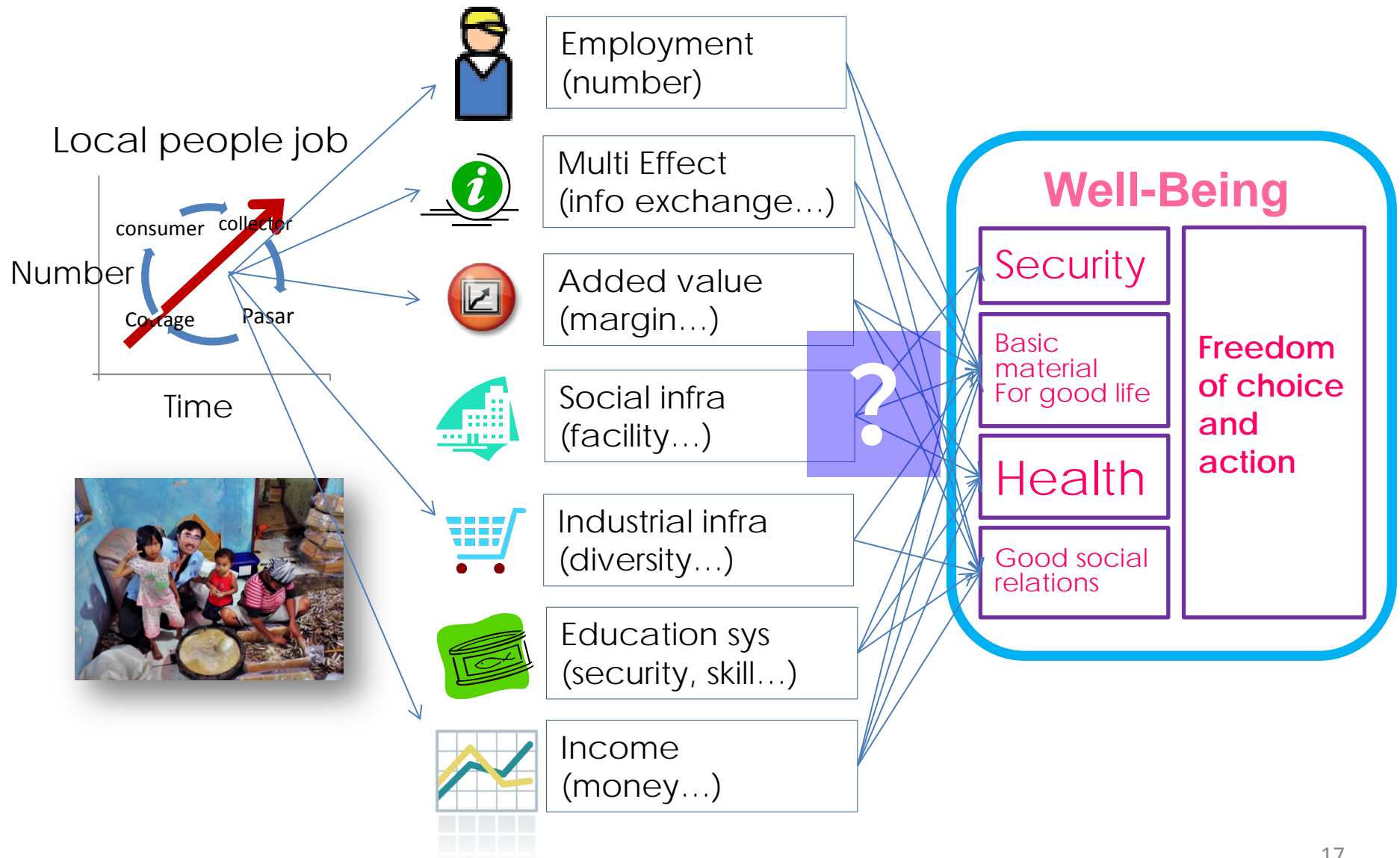
2 In Japan, there are many gaps between the statistics in the Human Dimension Index, one information are detail and the others are lough. How to solve this problem?

3 How to assess the culture?





# Weak point of our statistics for the Index



# Demand and supply in JAPAN 2012

(unit: 10MT)

<2010th: estimation value>  
Fisheries annual report

Production  
474  
[ Food 409  
No-food 65 ]

Export  
73  
Food 70  
No-food 3

No-food  
Consumption  
206

Food  
Consumption  
680



Import  
484  
[ Food 327  
No-food 157 ]

Stock + - ▲1  
Food ▲14  
No-food 13

Food consumption / Production  
<62.03%>

Data: 「Fisheries annual report」