

**"Cope with the Stress of Future Changes –
Preparing States, Regions, Cities,
Organizations, Families and
People for the Ongoing Transition"**

Sustainable Japan and Fukushima

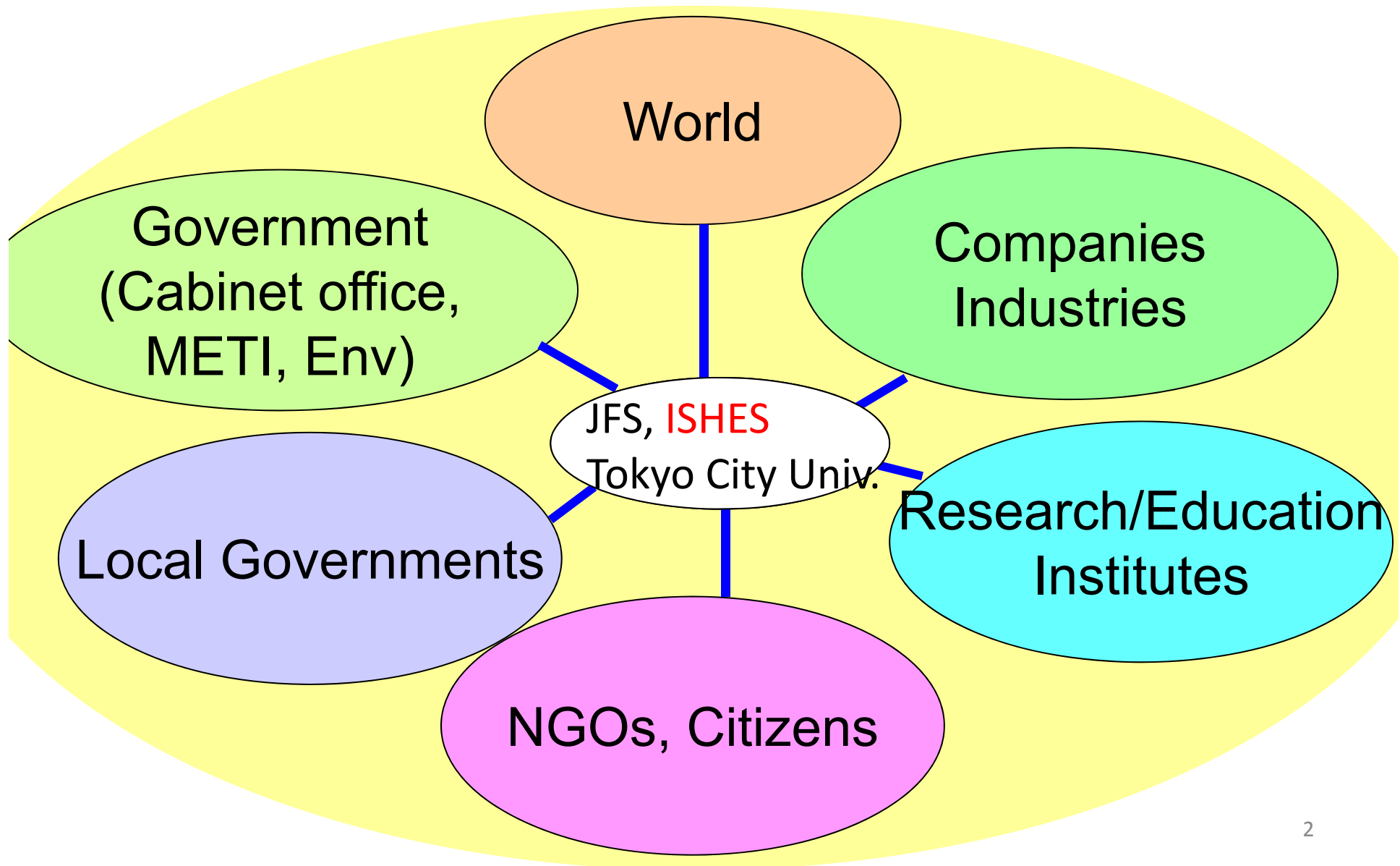
Junko Edahiro

Tokyo City University

Japan for Sustainability

Institute for the Studies in Happiness, Economy and Society

Working as interface among sectors



15+ years in the field of sustainability

- Climate change, biodiversity loss, local environment degradation.... all are symptoms
- Root cause
 - Continuing demand for economic growth
 - Psychological issue, such as identity and happiness



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53

A website to think happiness *left brain and*

Institute for Studies in Happiness, Economy and Society



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January 2011

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Author of "Ancient Futures: Learning from Ladakh"

Helena Norberg-Hodge

Quotational phr

“I would accept th

growth in the eco

of my economist c

demonstrate that

commensurate ra

ISHES

- On our **finite planet**, we have created structures that assume there will be **infinite economic growth**.
- An increasing number of regions and people are now **searching for different paths** to well-being.
- ISHES engages in activities such as research, publishing, informing public opinion, dialogue, and networking with the world.

**"Cope with the Stress of Future
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May I add....

**"Cope with the Stress of
Current Challenges and Future
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Current Challenges

Fukushima (nuclear power plant accidents)

- Radioactive materials still leaking
- More than 47,000 persons are still displaced
- No place for debris
- Possible energy shortage and more price hike

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Leakage of radioactive materials (testimony of the President of TEPCO)

To air:

- To date : 20,000 trillion Bq (cesium 134 and 137)
- Continuously 10 million Bq per hour

To ocean:

- To date: immediately after the accident: 7,100 trillion Bq (cesium 134 and 137)
- Continuously 20 billion Bq per day due to contamination of underground water

Continuing leakage of contaminated water

- About 400 ton of underground water is pouring to Reactor No.1-4 every day and getting contaminated.
- Currently, about 72,000 tons of contaminate water is there underneath the Reactor No.1-4 buildings and so far 480,000 tons of contaminated water has been treated.

Cooling shield is to be installed

- In order to contain the contaminated water, about 1,550 pipes will be installed 30 meter deep for 1.5 km to surround reactor buildings.
- Cooling materials of 30 degrees below zero will be circulated to freeze underground water together with surrounding soil.

Can this freezing operation stop the leakage ?

- Operation will start next March and the operation will continue until 2020.
- The construction expenses of 32 billion yen will be paid by the government and the annual electricity cost is said to be equivalent to cover power use of approximately 13,000 households.
- “The underground water bypass” and “purification system for contaminated water” have been put in operation but have suffered various troubles and there is no clear prospect for their effectiveness.

Current Challenges

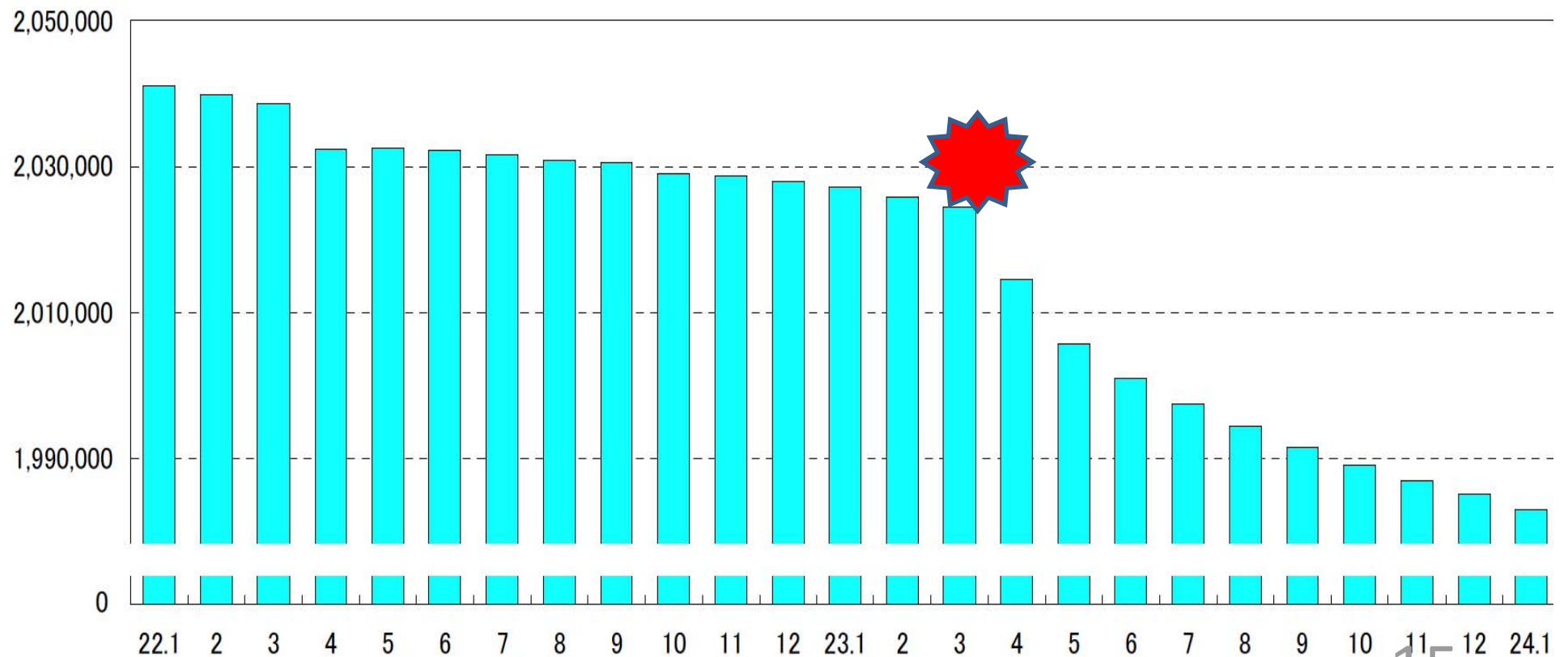
Fukushima (nuclear power plant accidents)

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Population of Fukushima Prefecture

Losing nearly 80,000 residents

図2 福島県の総人口(H22年1月～H24年1月)



Many tragedies....

- Communities torn apart
- Families torn apart
- Divorces
- Suicides
- People in other areas don't buy agriculture products from Fukushima because of fear of radioactive materials, damaged image and harmful rumor.

Current Challenges

Fukushima (nuclear power plant accidents)

- Radioactive materials still leaking
- More than 47,000 persons are still displaced
- No place for debris from Fukushima
- Possible energy shortage and more price hike

Current Challenges

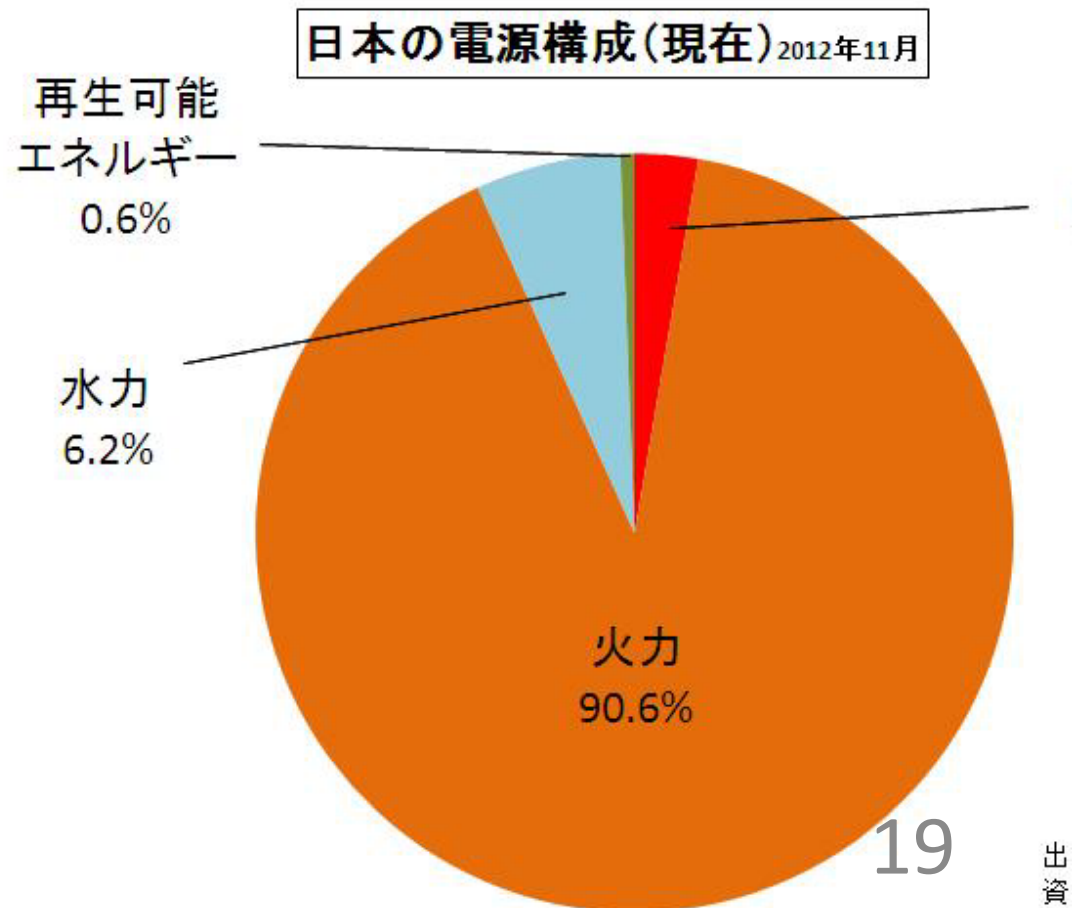
Fukushima (nuclear power plant accidents)

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Electricity prices have gone up

- increased by 20-30% since 3.11
- Energy security concerns

- 90.6%:thermal
- 6.2%:large hydro
- 2.7%:nuclear
- 0.6%:renewables
(as of 2012, Dec)



Real Challenges

- Fading people's concerns and interests
- The Abe Administration has put priority on economic performance, making people feel that now we have no luxury of thinking through Fukushima and our energy situations.
- The previous administration tried to change, but they failed and were overthrown by the LDP.
- The Abe Administration kicked out anti-nukes guys(including me) from governmental committees.

Real Challenges

- Government officials and their committees have been promoting nukes **as if there was no 3.11**.
- So-called “nuclear village”, powerful conglomerate of government officials, industries and academia for nuclear power, stays unchanged.
- The current regulatory committee to oversee the nuclear policies and operation is headed by a well-known proponent for nukes.
- Little “real journalism” on mass media side and very weak alternative media

Real Challenges

- Now heated discussions and various speculations are going on over **re-start of nuclear power plants**.
- Maybe Sendai nuclear power plant will start its operation soon.
- Many nearby residents are concerned about not-effective “evacuation plan” which is a part of re-start plan made by power companies to be authorized by the regulatory committee soon.

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Future Changes

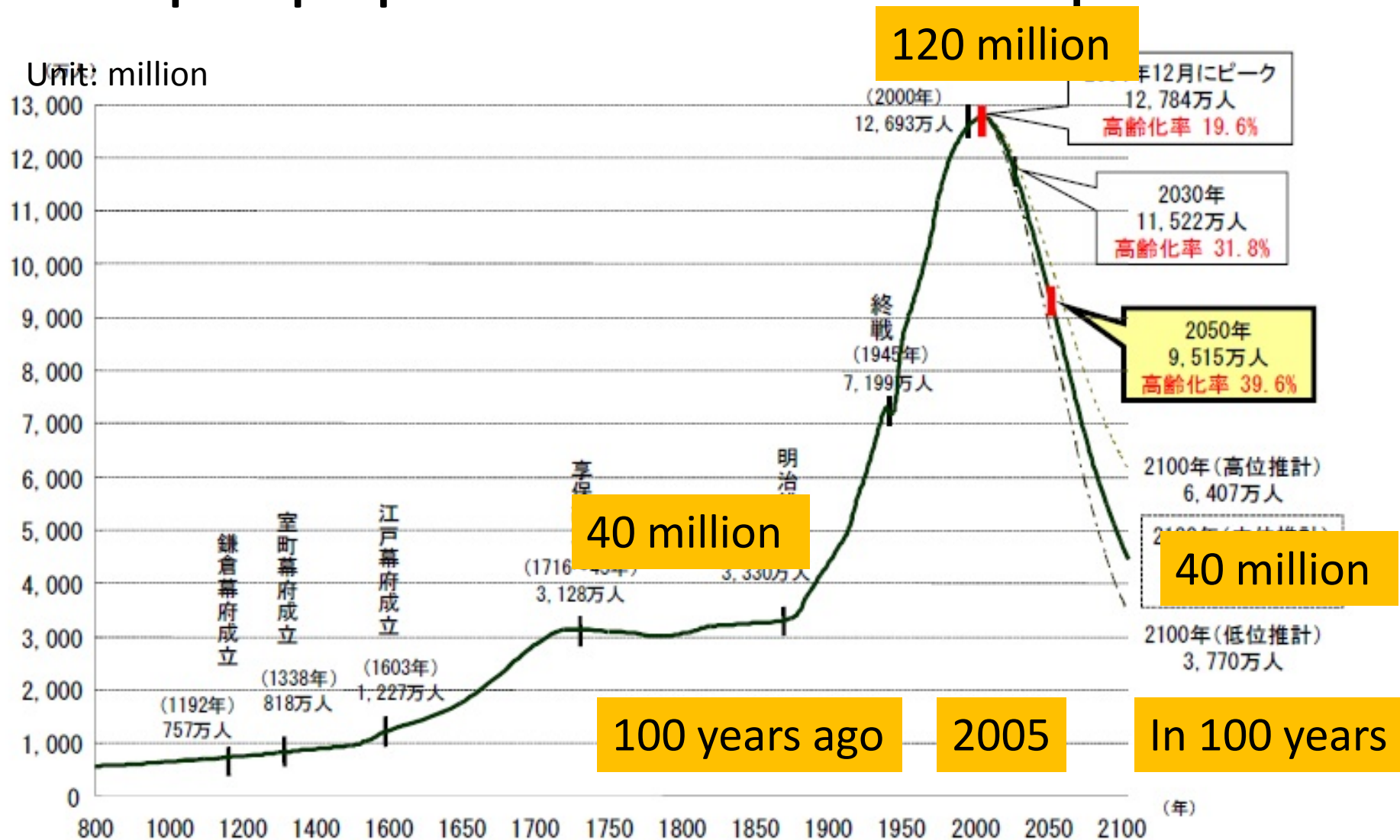
Global

- Effects of climate change
- Jobless growth due to outsourcing/ robotics

Japan

- Sharply declining population
- Rapidly aging society

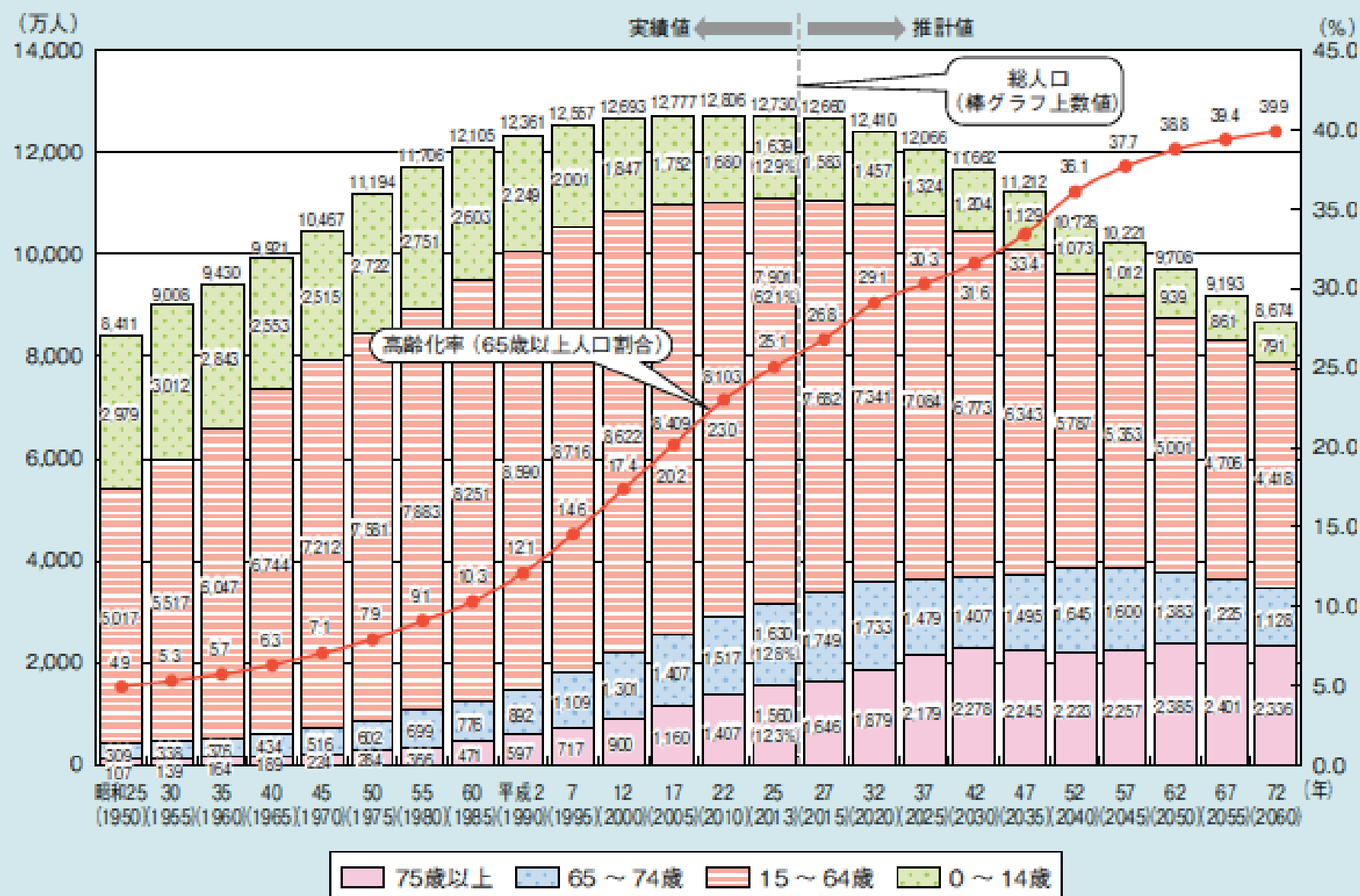
Rapid population decline in Japan



(出典)総務省「国勢調査報告」、同「人口推計年報」、同「平成12年及び17年国勢調査結果による補間推計人口」、国立社会保障・人口問題研究所「日本の将来推計人口(平成18年12月推計)」、国土庁「日本列島における人口分布の長期時系列分析」(1974年)をもとに、国土交通省国土計画局作成

図1-1-2

高齢化の推移と将来推計



資料：2010年までは総務省「国勢調査」、2013年は総務省「人口推計」（平成25年10月1日現在）、2015年以降は国立社会保障・人口問題研究所「日本の将来推計人口(平成24年1月推計)」の出生中位・死亡

(注) 1950年～2010年の総数は年齢不詳を含む。高齢化率の算出に

平成26年版高齢社会白書

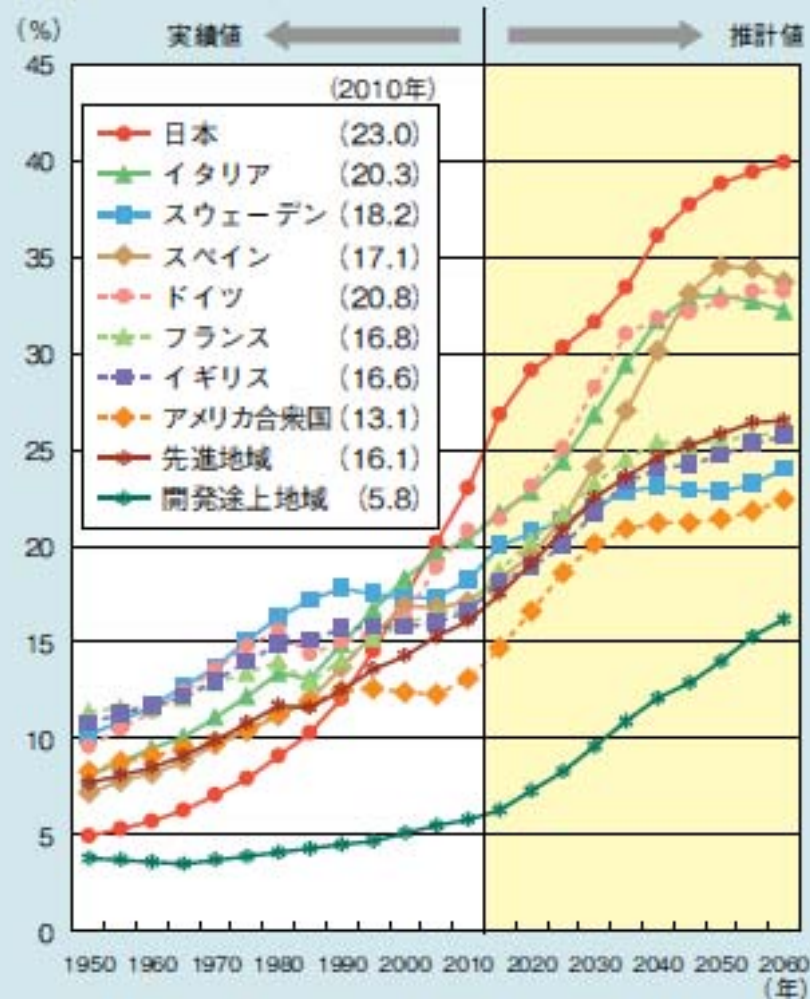
<http://www8.cao.go.jp/kourei/whitepaper/w-2014/gaiyou/pdf/1s1s.pdf>

People over 65 in Japan

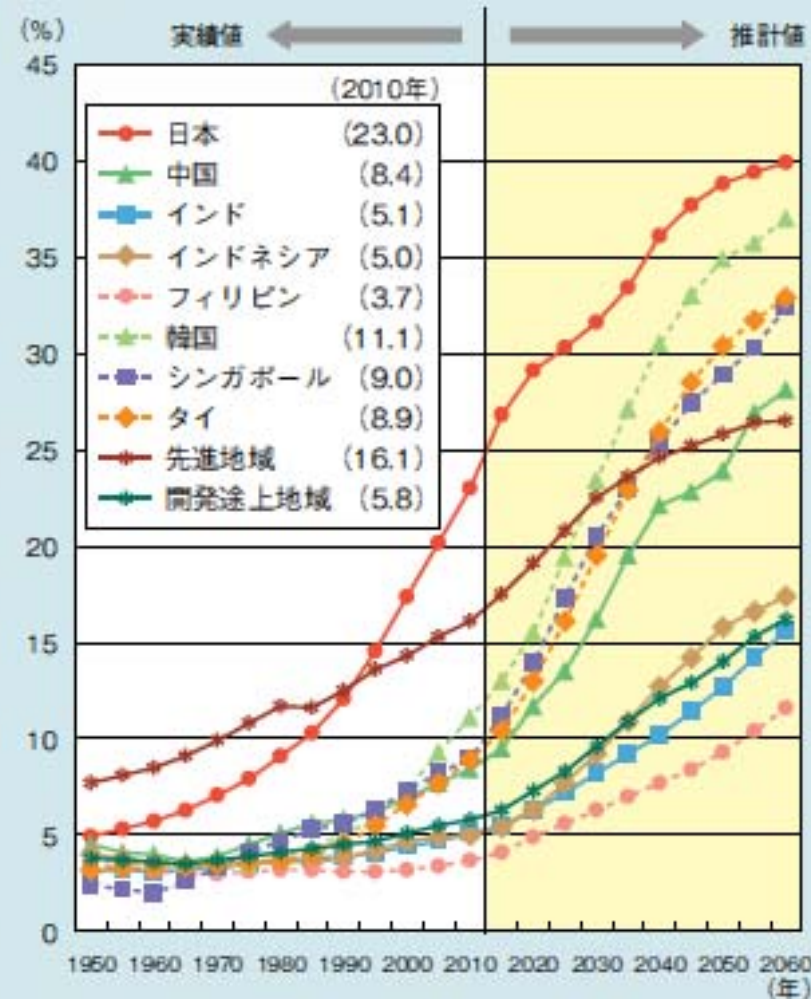
- Now: 1 out of 4
- 2035: 1 out of 3
- 2060: 2 out of 5
- Currently 2.57 workers support one senior citizen
- In 2060 1.19 workers should support one elderly person

図1-1-7 世界の高齢化率の推移

1. 欧米



2. アジア



資料：UN, World Population Prospects: The 2012 Revision

ただし日本は、2010年までは総務省「国勢調査」、2015年以降は国立社会保障・人口問題研究所「日本の将来推計人口（平成24年1月推計）」の出生中位・死亡中位仮定による推計結果による。

(注) 先進地域とは、北部アメリカ、日本、ヨーロッパ、オーストラリア及びニュージーランドからなる地域をいう。開発途上地域とは、アフリカ、アジア（日本を除く）、中南米、メラネシア、ミクロネシア及びポリネシアからなる地域をいう。

平成26年版高齢社会白書

<http://www8.cao.go.jp/kourei/whitepaper/w-2014/gaiyou/pdf/1s1s.pdf>

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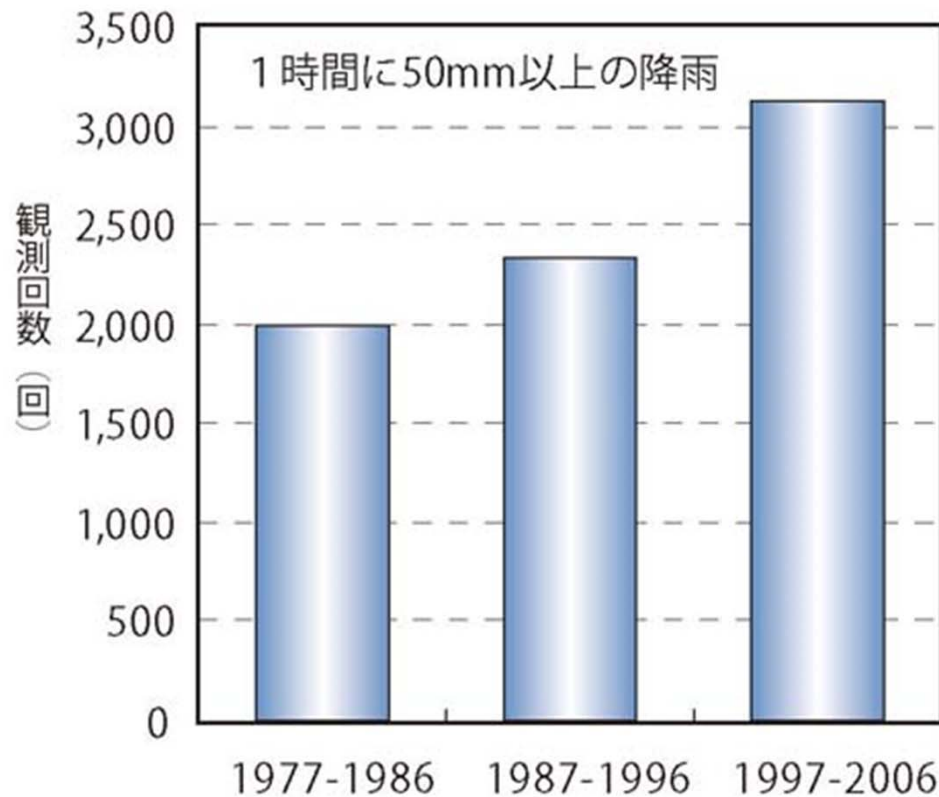
Stress: Climate change

Climate change

- More and severe floods
- Increasing deaths from heat stroke
- Unprecedented incidents of
breakbone fever

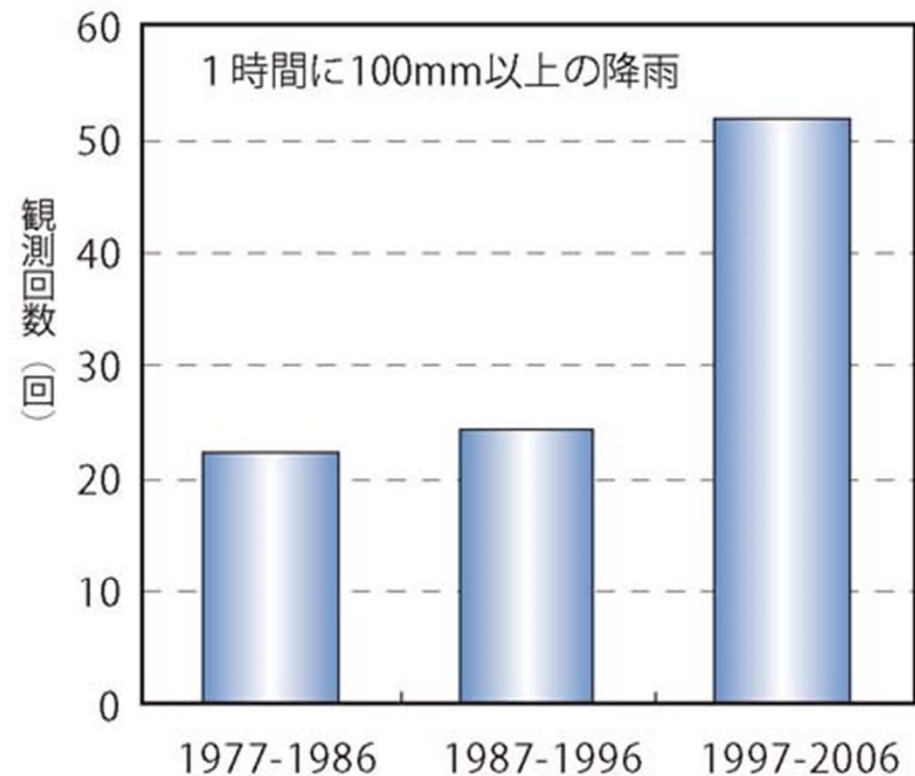
Increased severe rainfalls

1時間に50mm以上の
雨が観測された回数の推移



資料：気象庁データを用いて内閣府作成
(協力 国土交通省)

1時間に100mm以上の
雨が観測された回数の推移



資料：気象庁データを用いて内閣府作成
(協力 国土交通省)

日本での強い雨の観測回数の経年変化

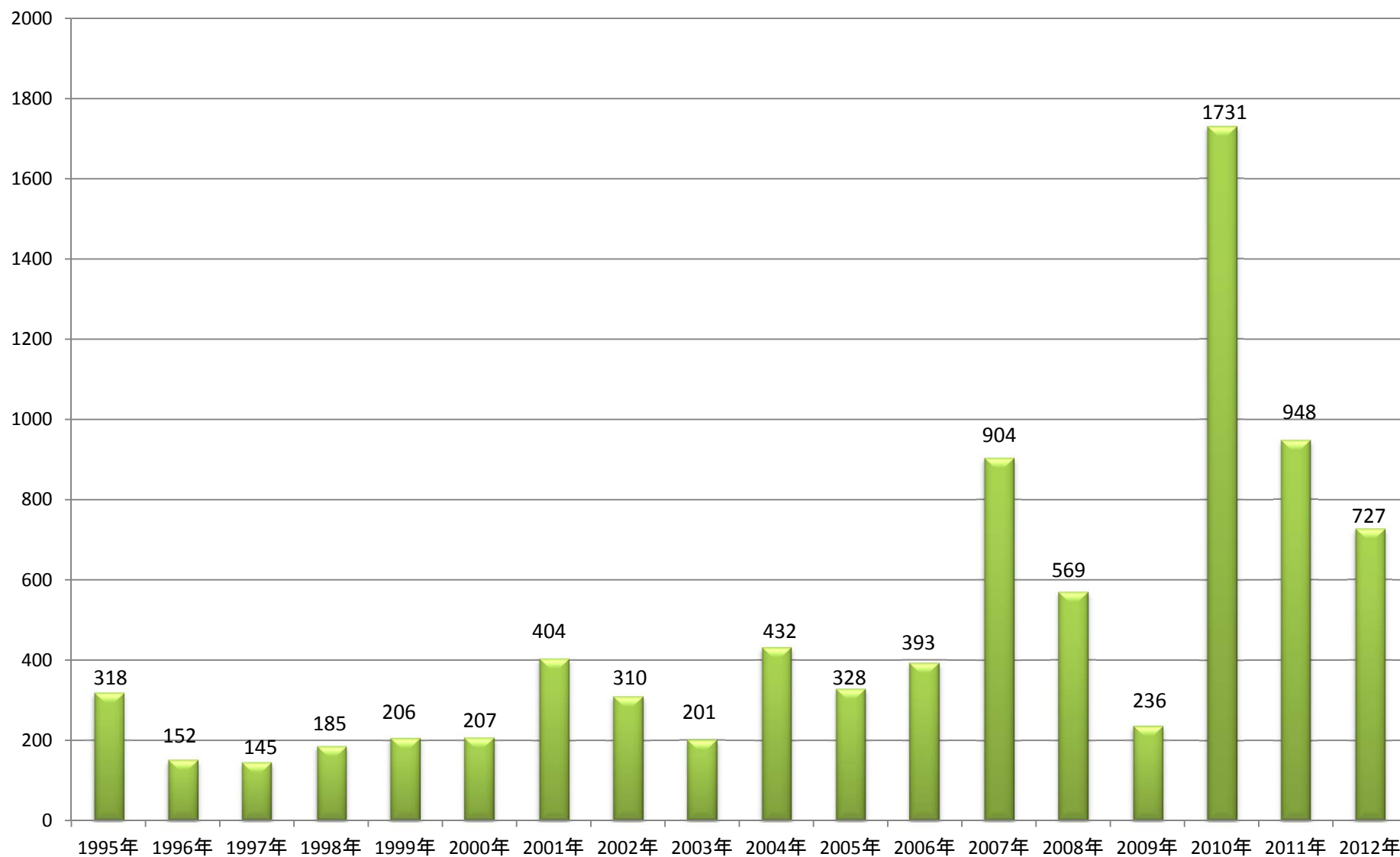
(内閣府, 2007)

Expected increase of floods

National research institute made projection of flood risk of Japan by climate change model for 2075-99

- Per day rainfall will be 1.2 to 1.3 times
- Peak water flow of rivers will be 1.5 times
- Flood potential of rivers will be 12 times

Death toll from heat stroke



出典:厚生労働省 人口動態調査

Stress: Population decline and aging society

- Maintaining
 - pension payment (20% reduction, 40% reduction without economic growth)
 - national land
 - local societies

More than 60 percent of the land area unpopulated by 2050

- 20 percent of inhabited blocks will be unpopulated, and in 60 percent of the blocks, the population will fall a half by 2050.
- The ratio of unpopulated blocks is expected to rise from the current 53 percent to 62 percent.

(by the Japanese Ministry of Land, Infrastructure, Transport and Tourism)

Half of municipalities in Japan “Municipalities at Risk of Vanishing”

- municipalities whose population of young women (aged 20 to 39) would decrease to less than half of the current level in 30 years
- 896 municipalities, 49.8 percent of the total
- One village is projected to have only eight women aged 20 to 39 by 2040.

(May 8, 2014 by the Japan Policy Council's (JPC's) study group on depopulation)

How to maintain functions of communities?

Workforce is decreasing too...

“newly defined working population” (age of 20-74) projection with birth rate unchanged

- 2012: 90 million
- 2060: 52 million
- 2100: 26 million

Stress: Obsession to growth

- Cutting labor cost -> unemployment, increasing non-regular workers
- Mental problems due to pressure
- Increasing gap between haves and not-haves
- Decaying social capital
- Social decline

Increasing non-regular workers (currently 1 out of 3)

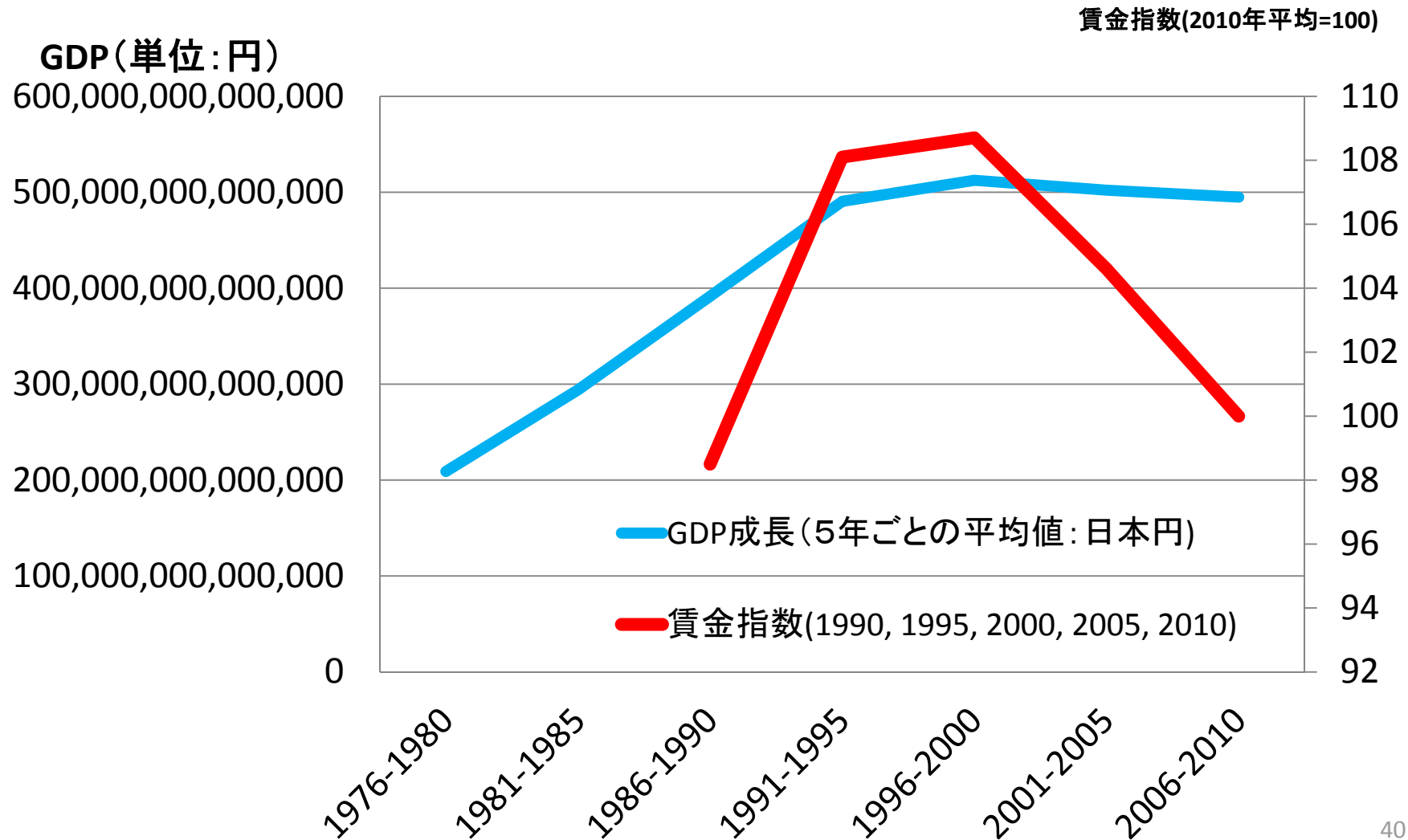
第3-1-2図 非正規雇用比率の推移

http://www5.cao.go.jp/j-j/wp/wp-je13/h05_hz030102.html

非正規雇用比率は上昇傾向



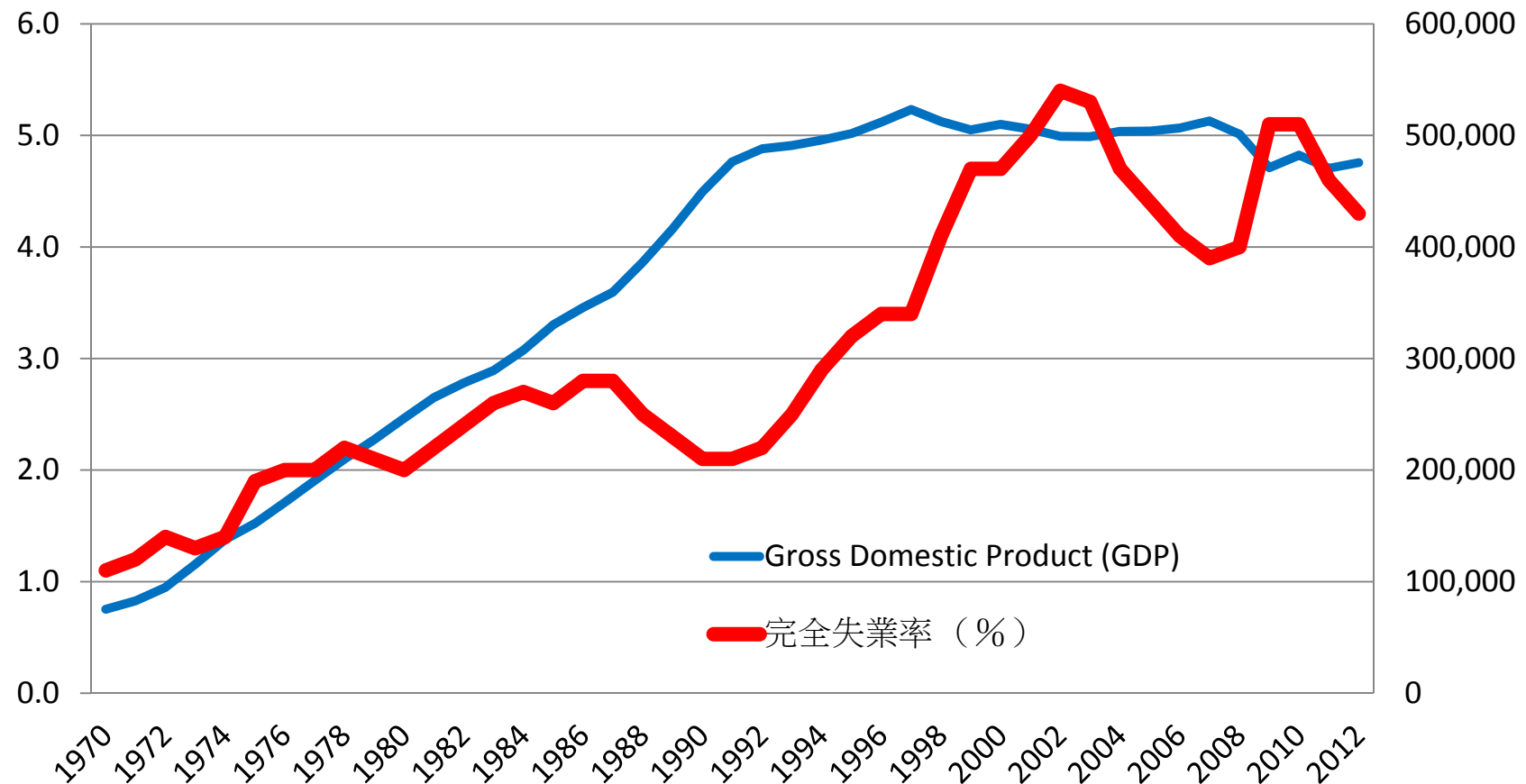
Falling wage index



Rising unemployment ratio

完全失業率(%)

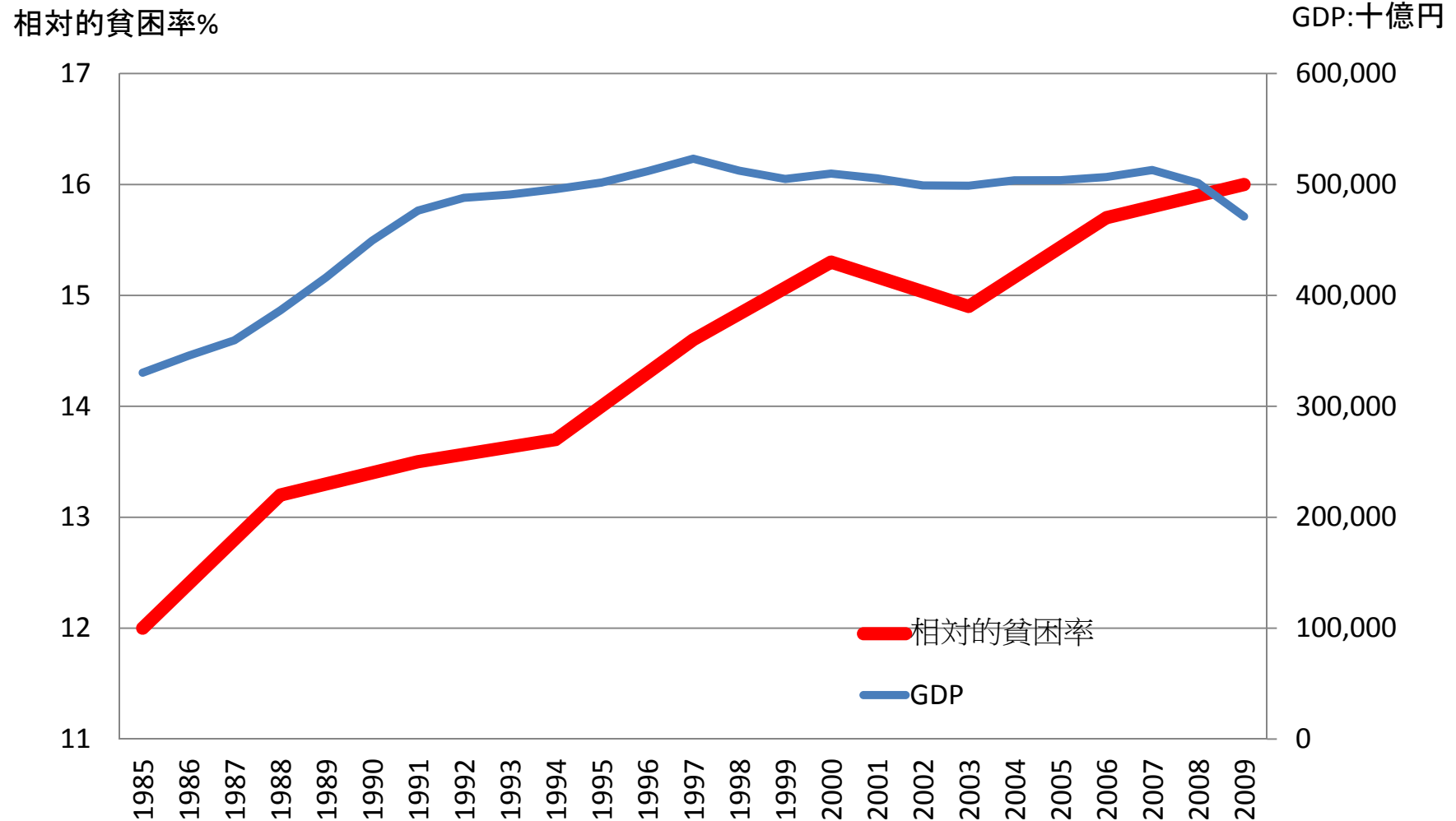
GDP:十億円



完全失業率: http://www.stat.go.jp/data/roudou/longtime/03roudou.htm#hyo_1

GDP: <http://unstats.un.org/unsd/snaama/dnIList.asp> より作成

Rising poverty ratio



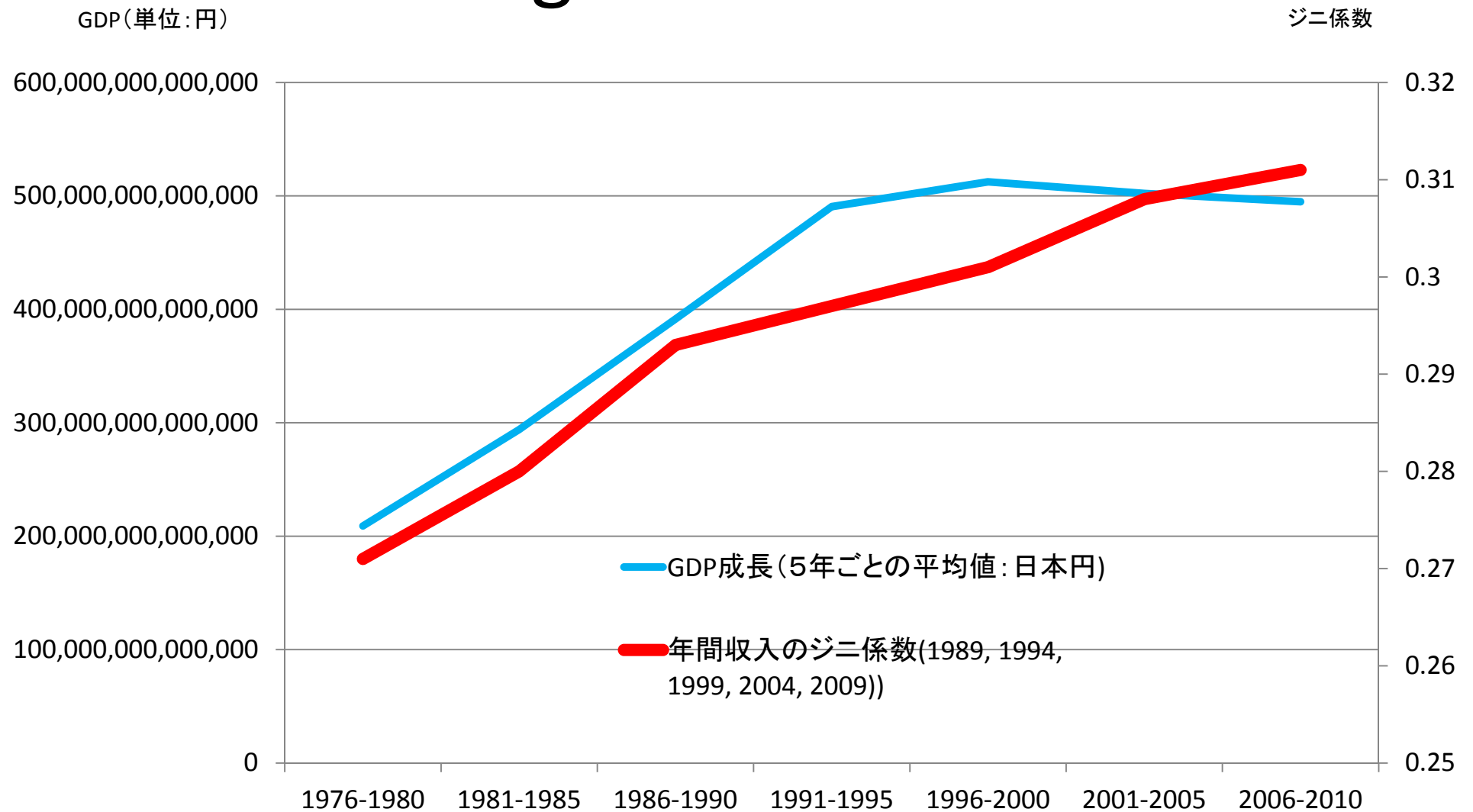
GDP: <http://unstats.un.org/unsd/snaama/dnlList.asp>
相対的失業率: 国民生活基礎調査

Poverty of children

- 2009: 14.2% (1 out of 7)
- 2012: 16.3% (1 out of 6)
- Japan is ranked 10th in 26 OECD countries (2009)

“Children in poverty”: children under 18 who live in household with less than half of average income

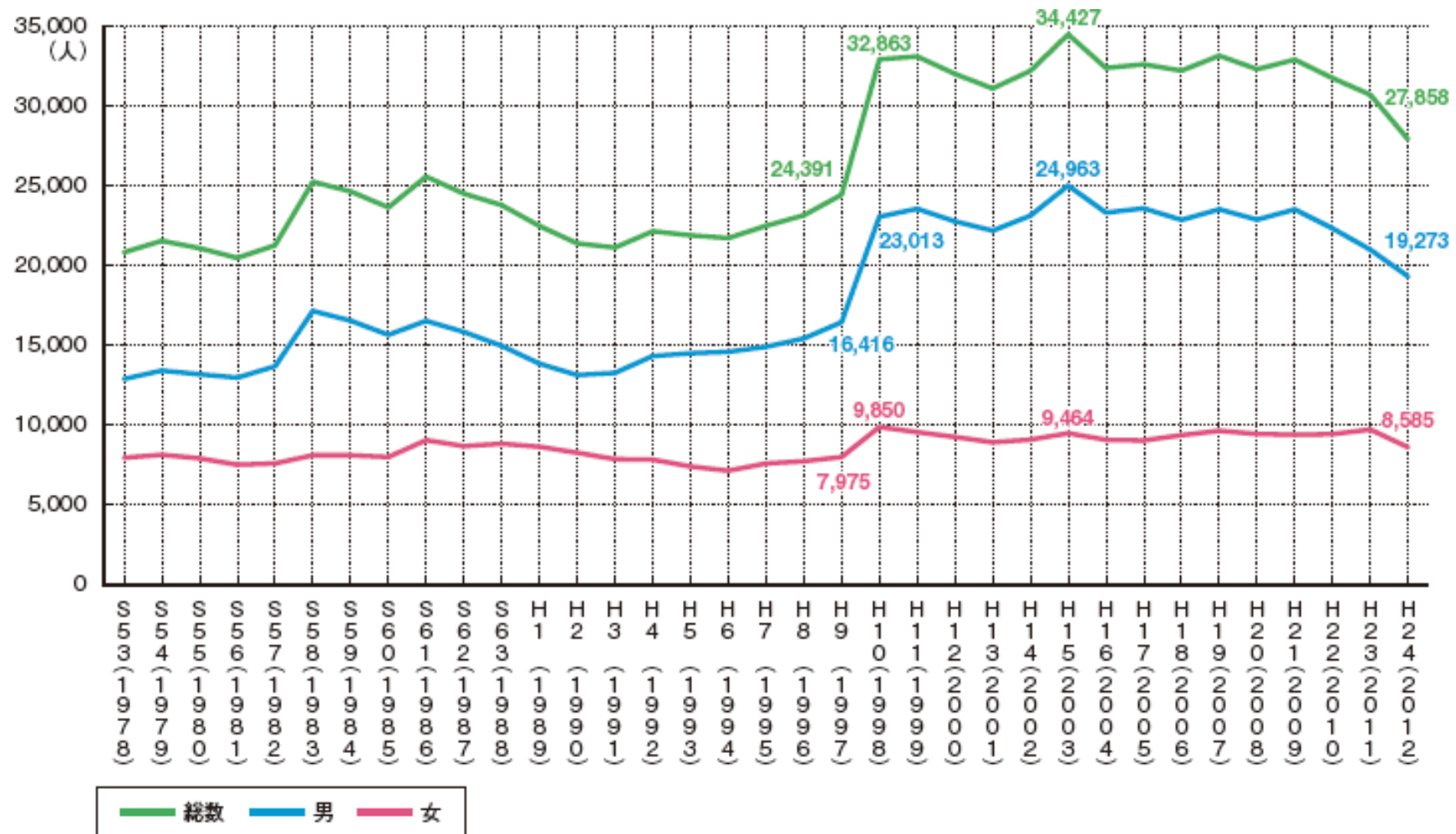
Rising Gini coefficient



<http://www.stat.go.jp/data/zensho/2009/keisu/yoyaku.htm>

<http://unstats.un.org/unsd/snaama/dnllist.asp>

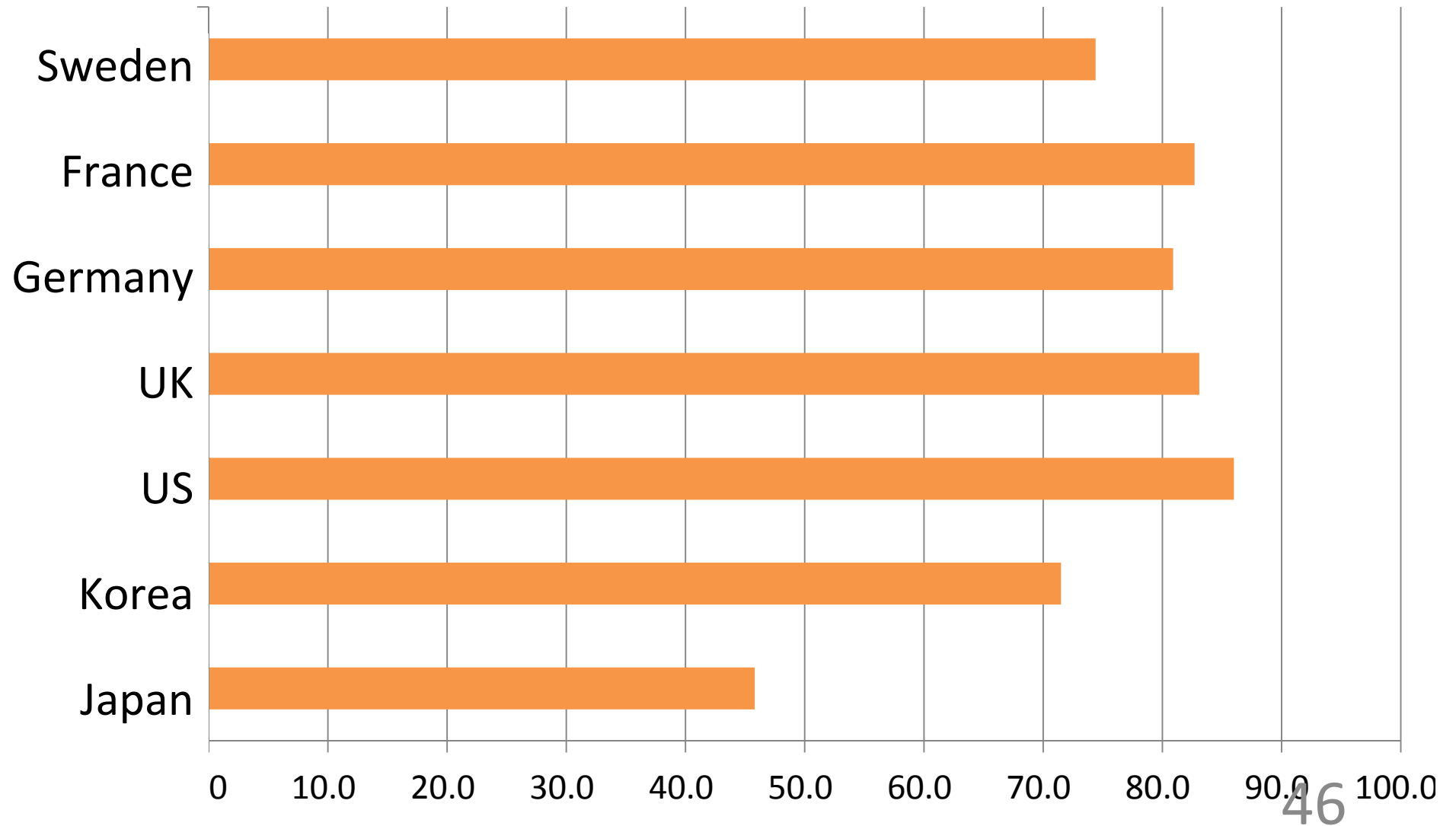
Number of suicides



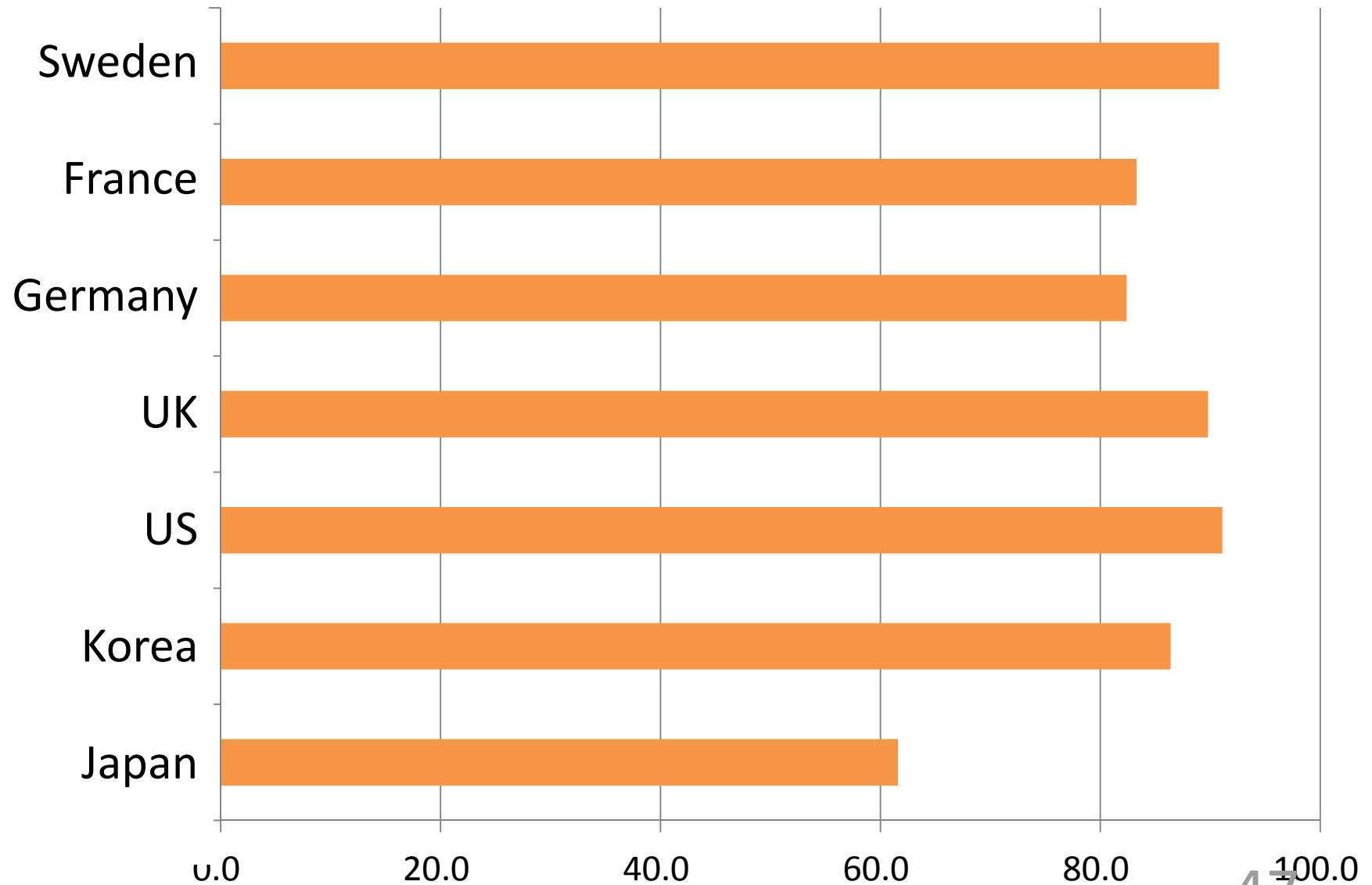
資料：警察庁「自殺統計」より内閣府作成

<http://www8.cao.go.jp/jisatsutaisaku/whitepaper/w-2013/html/honpen/chapter1-01.html>

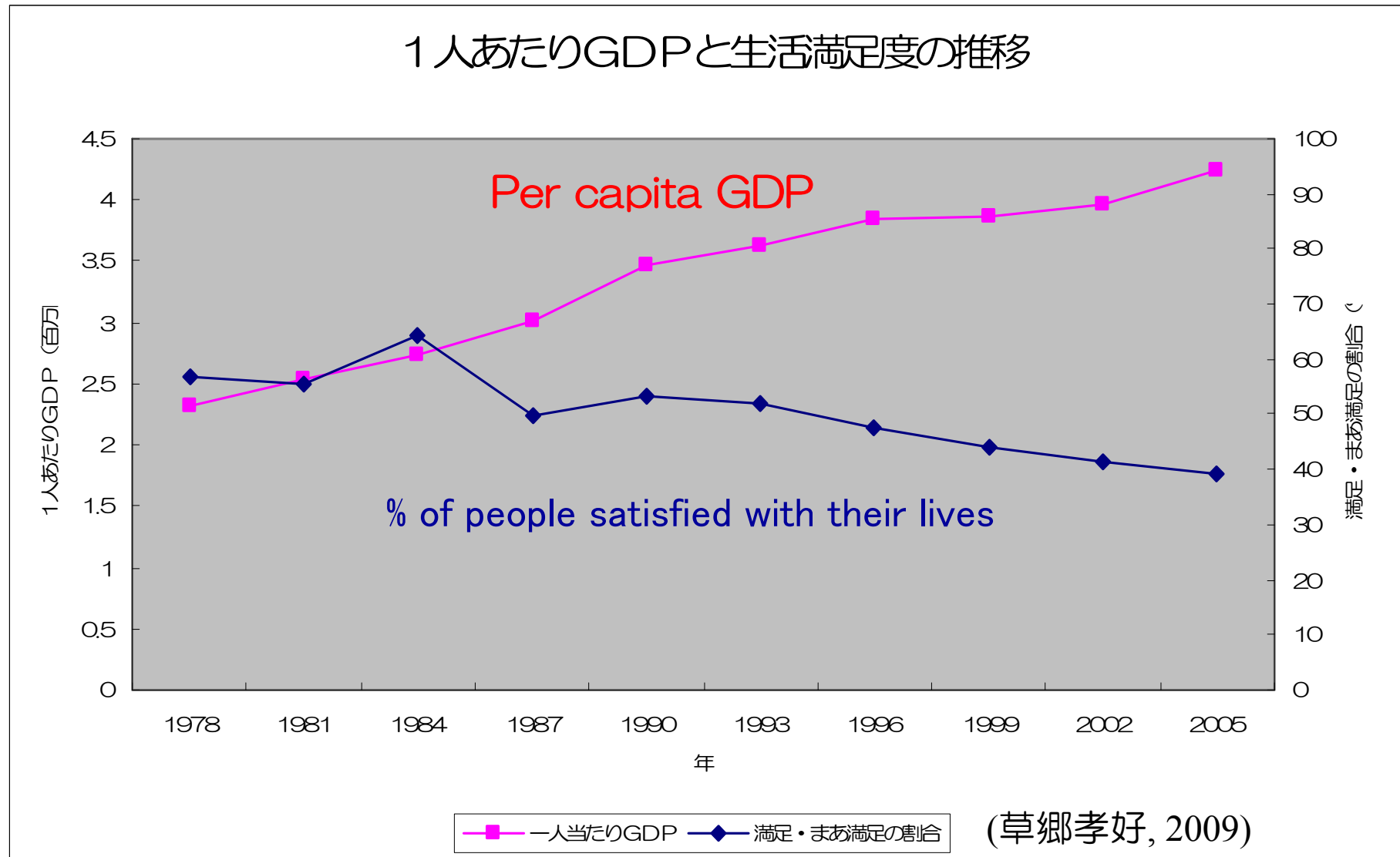
“Satisfied with myself”



“Having bright hope for future”



Sense of happiness in Japan



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Obstacles for coping at national government

- No long-term vision
(no institution, legitimacy, requirement...)
- No adaptive policy making/management
- Obsession to growth
- Obsession to nuclear capabilities
- Little resilience thinking (even for CC)
- No willingness for public consultation

Public consultation

- interviewed key persons for your national referendum on nuclear power
- the article well received, giving many Japanese an idea of what could be done
- one of the biggest weak points for us
- Our government has no experience (they need “precedent” to do something new!), no need, no requirement, no willingness and no tools/process for public consultation

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Transition to what?

Economy

- Steady-state economy
- Local economy
- New relationship between capitalists and workers
 - Workers' Coop

Values/lifestyles

- Happiness index
- Reestablishing social capital
- “Three D” trends
- Edo period

Toward steady-state economy

- Measure the carrying capacity
- Create system to limit the harvest within the carrying capacity
- Good examples in local areas, in particular fishery and forests
- Now isolated initiatives, needed to position as a model with helping frameworks, tools and processes for others to follow

Toward locally-based economies

- “locally produced, locally consumed” food and renewable energy (electricity market reforms needed)
- focusing local economies is the topic for one of the best-selling books (half million copies) in Japan
- a role model example of **Güssing**, which has replaced imported fossil fuel with locally produced renewable biomass energy while revitalizing local economy
- Indicators are needed like local multiplier index in order to reduce leakage of money to outside and foster circulation of money, jobs, materials and energy while enhancing happiness and social capital alongside


Toward not growth-oriented but well-being oriented society

- At national level, the previous administration was about to announce “Happiness index for Japan” but the Abe administration canceled the work
- Over 22 local governments in Japan using or preparing a "Happiness Index" to measure progress and engage people


Lifestyle/value changes

Three “De”


- "De-ownership" of one's living
 - From 'Owning' to 'Sharing'
- "De-materialization" of one's happiness
 - Seeking happiness from relationships with people and nature
 - People enjoy “candle-night” events, and participate in "Neighbors' Day"

A photograph showing a long, receding line of lit candles. Each candle is housed in a tall, cylindrical, light-colored paper holder. The candles are placed on a dark, flat surface, possibly a table or a ledge. The background is dark, with some blurred lights and structures visible in the distance. The overall atmosphere is warm and serene.

原宿・キャットストリートでのキャンドルナイト
照明デザイナーの面出薫氏と、美術大学生達によるキャンドルパフォーマンス



東京タワーのふもと、増上寺では
忌野清志郎さんや、ゴスペラーズ、小泉今日子さんらによるコンサートが行われました



広島・尾道市でのキャンドルナイト
昔ながらの古式にのっとったキャンドルの祭典が行われました

"De-monetization" of one's life

- "half-farmer, half-X,"
- farming to grow food for their family, while spending the rest of the time on what they want to do.
- "half-farmer, half-writer", "half-farmer, half-NGO member."
- Away from money-obsessed lifestyle

Toward “renewed tradition”

Edo period in Japan (265 years :1603 – 1867)

- closed to the world
- sustain by itself without depending on overseas
- a peaceful time, almost no domestic conflicts
- stable population at some 30 million
- estimated annual economic growth rate: about 0.4 percent

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http://www.flickr.com/photos/tonio_vega/3799556778/



Ryōan-ji Temple in Kyoto



I only know that I have enough.

He who knows enough is enough will always have enough

Sufficiency (“taru wo shiru” in Japanese= I know I have enough)

- Westerners who visited Japan at the end of the Edo Period left behind many writings praising the Japanese, saying “How polite and cheerful they are, and how happy they look.”

The background image is a landscape photograph with a strong blue color cast. It depicts a misty or foggy scene with several tall, dark evergreen trees in the mid-ground. In the foreground, there is a field of low-lying vegetation, possibly grass or small shrubs. The overall atmosphere is serene and somewhat somber due to the monochromatic blue palette.

Sustainable Japan and Fukushima

Can we create and show an alternative
path to survival and well-being?

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JFS

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Newsletter

October 22, 2013

The 'Miracle of Kamaishi': How 3,000 Students Survived March 11

Keywords: Disaster Prevention / Reduction Newsletter University / Research institute



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JFS Newsletter No.133 (September 2013)

rw.japanfs.org/en/news/civil_society.html

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