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# Behavioural Change, example of Japan

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# Behavioural Change, example of Japan and China

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# IPCC WKGIII AR4 SPM

- **7. Changes in **lifestyle and behaviour patterns** can contribute to climate change mitigation across all sectors. Management practices can also have a positive role (*high agreement, medium evidence*) (SPM, p12).**
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# Behaviour Change

- This means changes of .....
  - Individual Action
  - Lifestyle Pattern
  - As a ...
  - Consumer
    - Changes of consumption pattern
  - Citizen
    - Support and participate in making decisions for environmental policies and movements
  - For this purpose, people need to know...
  - What is the climate change, why we need to build Low Carbon Society, how we can build it.
  - Both in developed and developing countries, such as Japan and China.
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# Defining Sustainable Lifestyles

## ■ Marrakech Task Force on Sustainable Lifestyles

### ■ Lifestyles

- is **a way we live our lives that allows us to fulfill our needs and aspirations**. They serve as “**social conversations**”, in which people **signal** their **social position and psychological aspirations** to others. Since many of the signals are mediated by goods, lifestyles are closely **linked to material and resource flows** in the society.

### ■ “Sustainable lifestyles

- are **patterns of action and consumption, used by people to affiliate and differentiate themselves from others**, which: meet basic needs, provide a better quality of life, minimise the use of natural resources and emissions of waste and pollutants over the lifecycle, and do not jeopardise the needs of future generations. Sustainable lifestyles should reflect specific cultural, natural, economic and social heritage of each society.

### ■ Sustainable consumption

- is related to the process of purchasing products and services, consuming and disposing, while sustainable lifestyles include a broader set of activities, such as interaction, leisure activities, sports and education, including, but not limited to, material consumption.

# Social Capital Theory

- **Social Capital** (reviewed by Tsujinaka, 2000):
  - Putnam (1993:167,2000:67) “Social capital here refers to features of social organizations, such as **trust**, **norms**, and **networks** that can improve the efficiency of society by facilitating coordinated actions.”
  - The World Bank, “social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society’s social interactions ... Social capital is not just the sum of the institutions that underpin a society – it is the **glue** that holds them together.” (web-site: <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALDEVELOPMENT/EXTTSOCIALCAPITAL/0,,contentMDK:20185164~menuPK:418217~pagePK:148956~piPK:216618~theSitePK:401015,0.html>)
  - The OECD (The Well-Being of Nations ,2001:41): “networks together with **shared norms, values and understandings** that facilitate co-operation within or among groups”

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How people **in JAPAN** understand the  
climate change issues?

Focus Group Interview

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# 【Before giving information】 Cognition map of Climate Change by participants of FGI

**Feb, 2008 survey=Blue**

Feb, 2006 =Black

Shared knowledge

Some referred

## Cause

?  
DK

likely CO<sub>2</sub>? logging?

Paved road =Decreasing soil land  
High buildings shut out winds from the sea

- CFCs
- emissions from vehicles
- smokes from China's factories
- seeking convenience
- dioxine

Hot air from  
Outdoor unit of air conditioner

Heat islands (male)  
■ heat island in urban area

**PROBLEM!**

**Mechanism**

- CO2 seems to be a cause, but why temperature rise?
- CFCs or CO2 deteriorate Ozone layer and ultra-violet light become stronger. Then sun beam comes more, that heat earth stronger than before.
- (a few talked) CO2 wrapped the earth, so that heat cannot go away.

No detailed understanding.  
Items connected directly GW.

**The word; Global Warming**

## Effects

■ same as the right  
■ melting ice on the Everest

Melting ice at the North & South pole

heat

■ White bear dies?

Sea level rise

- heat wave last summer
- unusual weather
- Tropic species coming
- desertification
- ecosystem destruction (Tropical fish in the Tokyo Bay)
- Tornado
- stronger typhoon coming
- photochemical smog
- solar activities

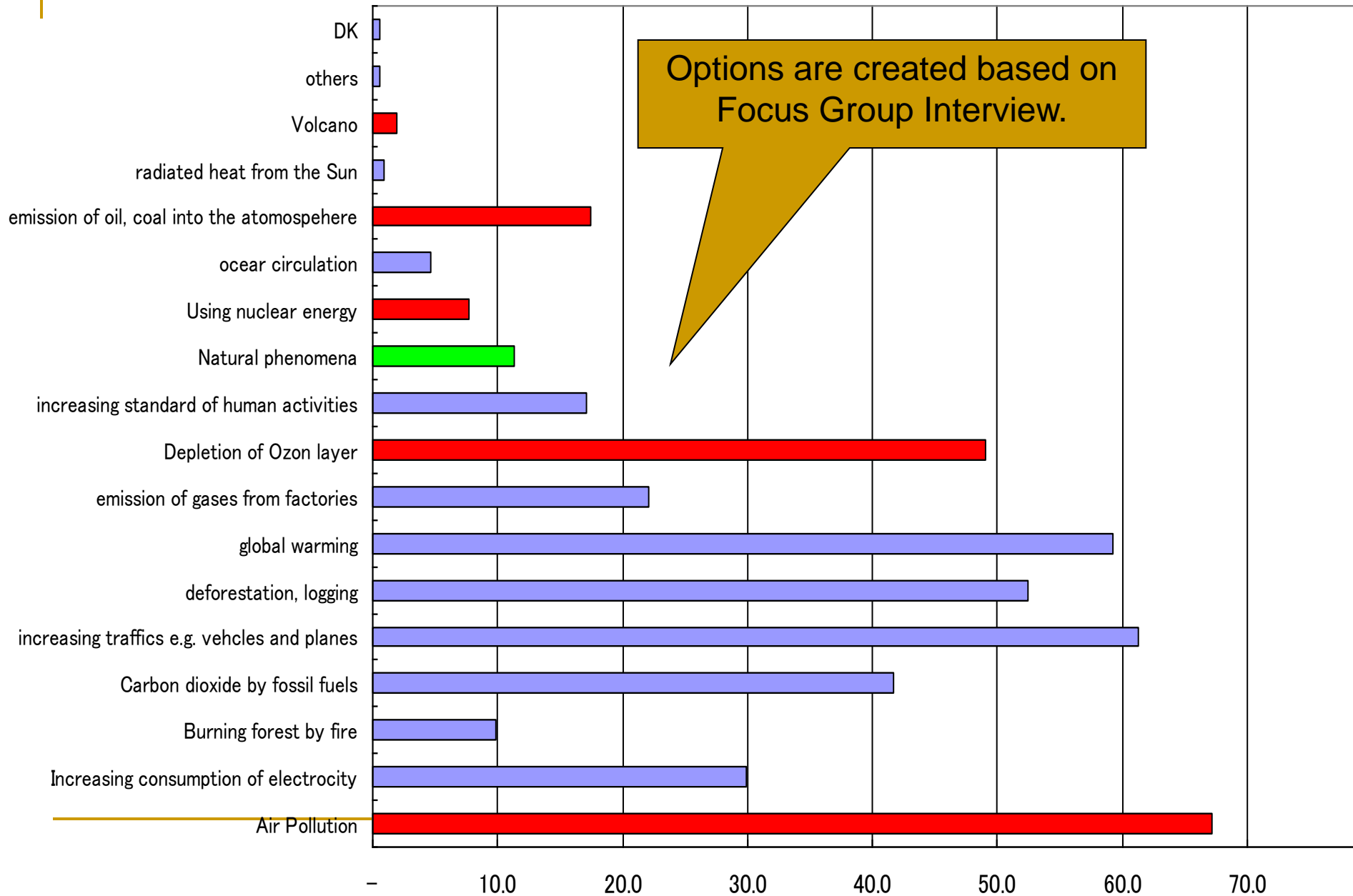
■ same as the right

Small island, Venice sink

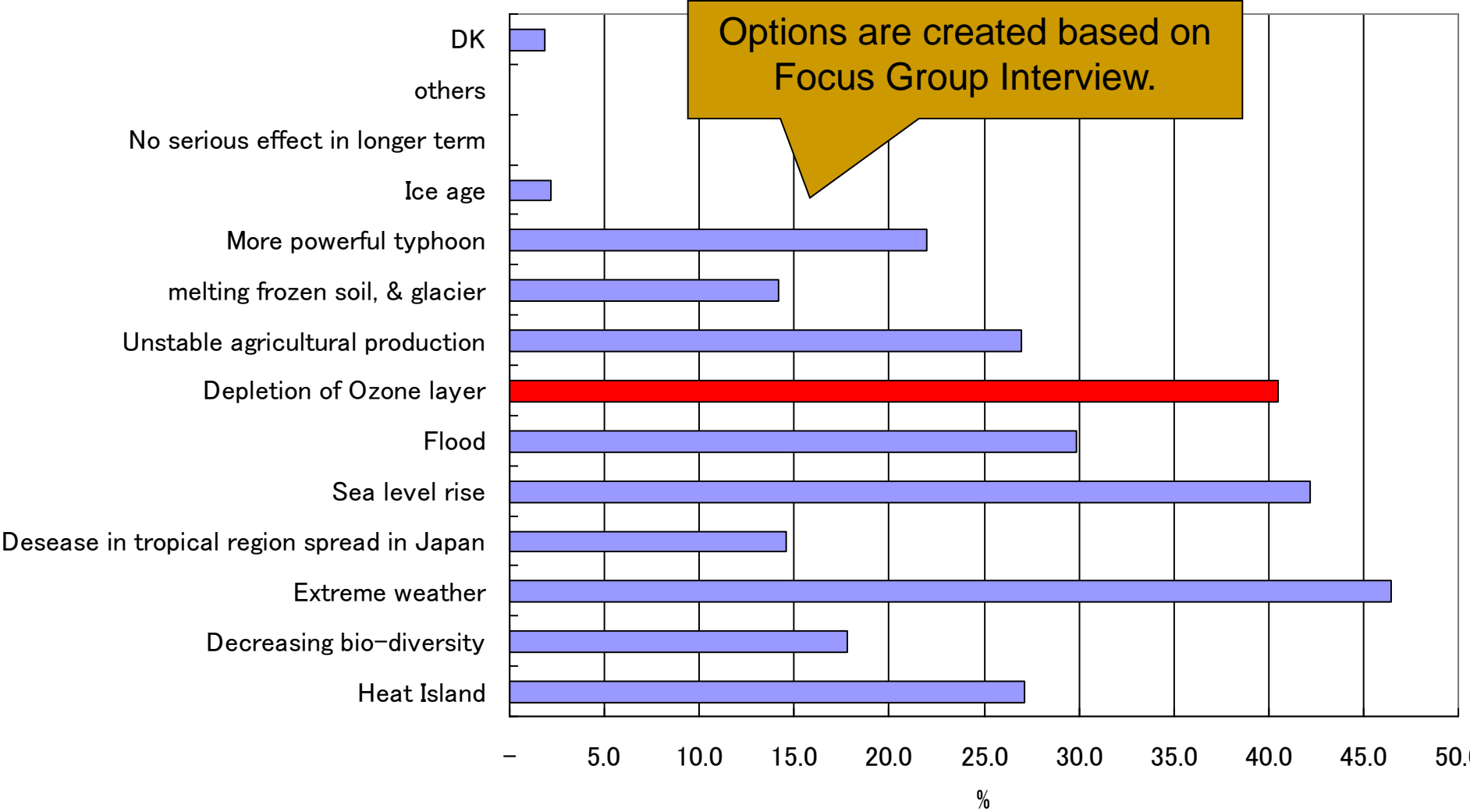


# What do you think are the causes of those changes?

(choose 5 among options)



What are the effect?(Choose 3)

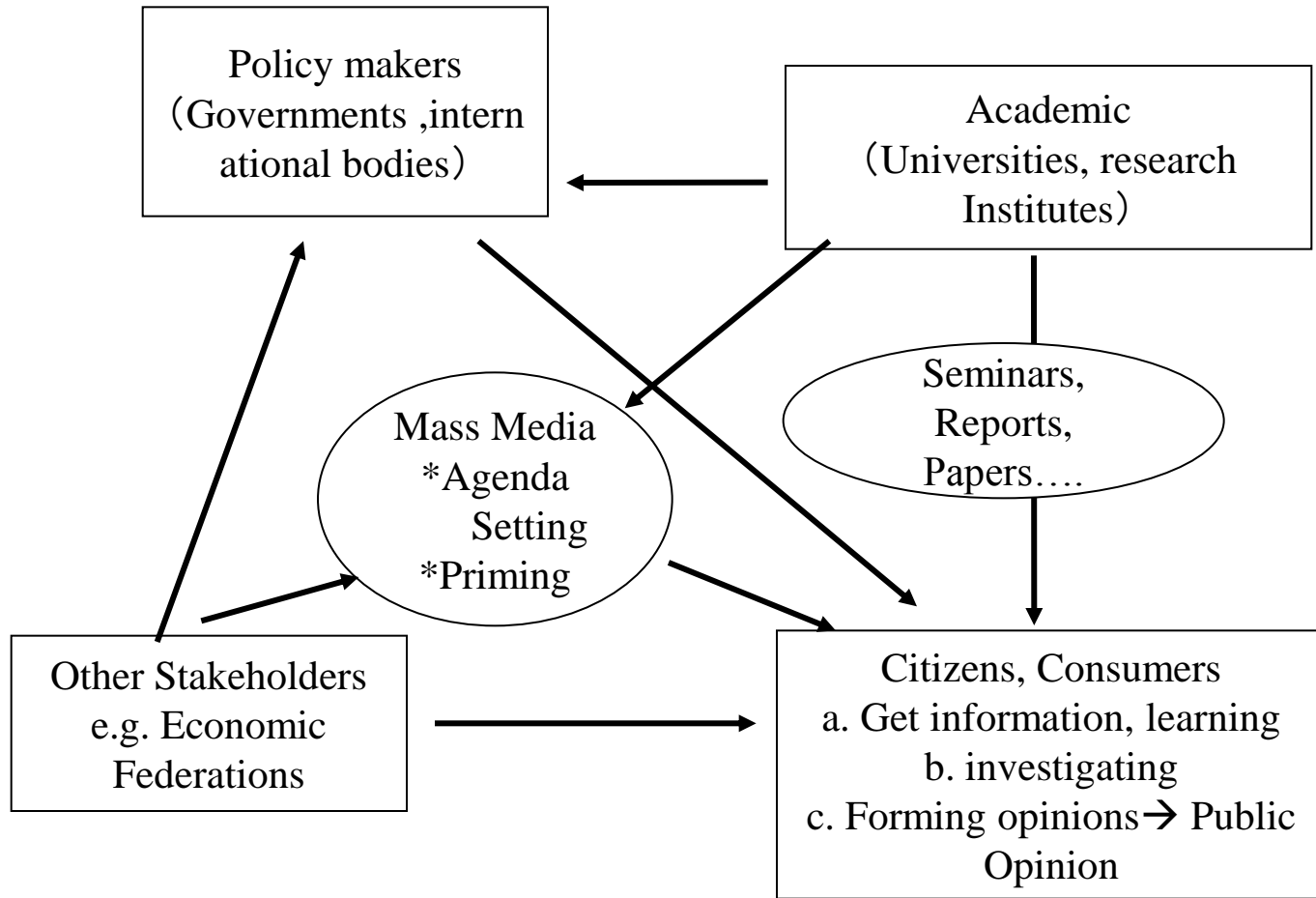


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Changes of public concern, mass media  
coverage *in JAPAN*

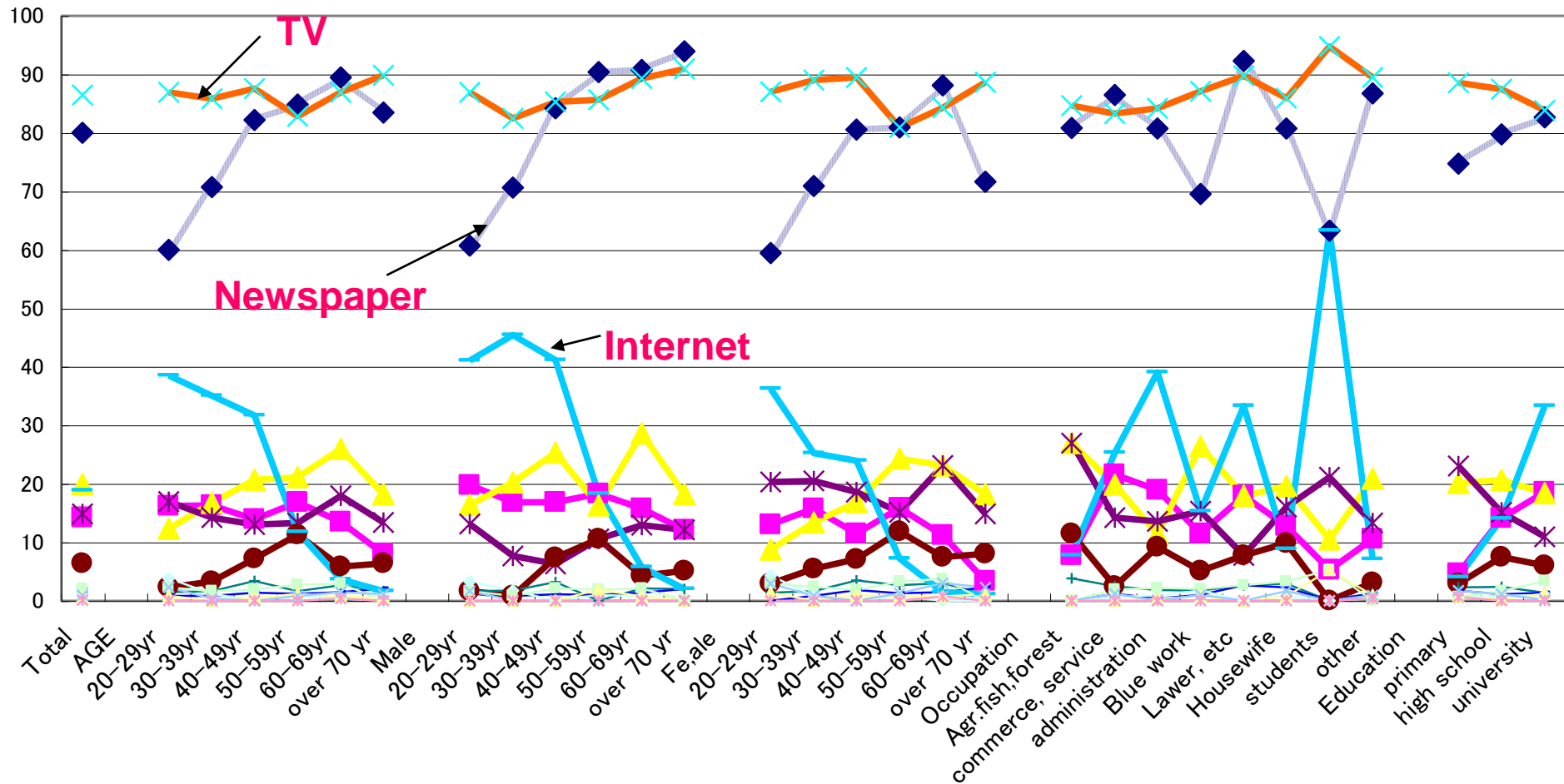
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# A public opinion forming model

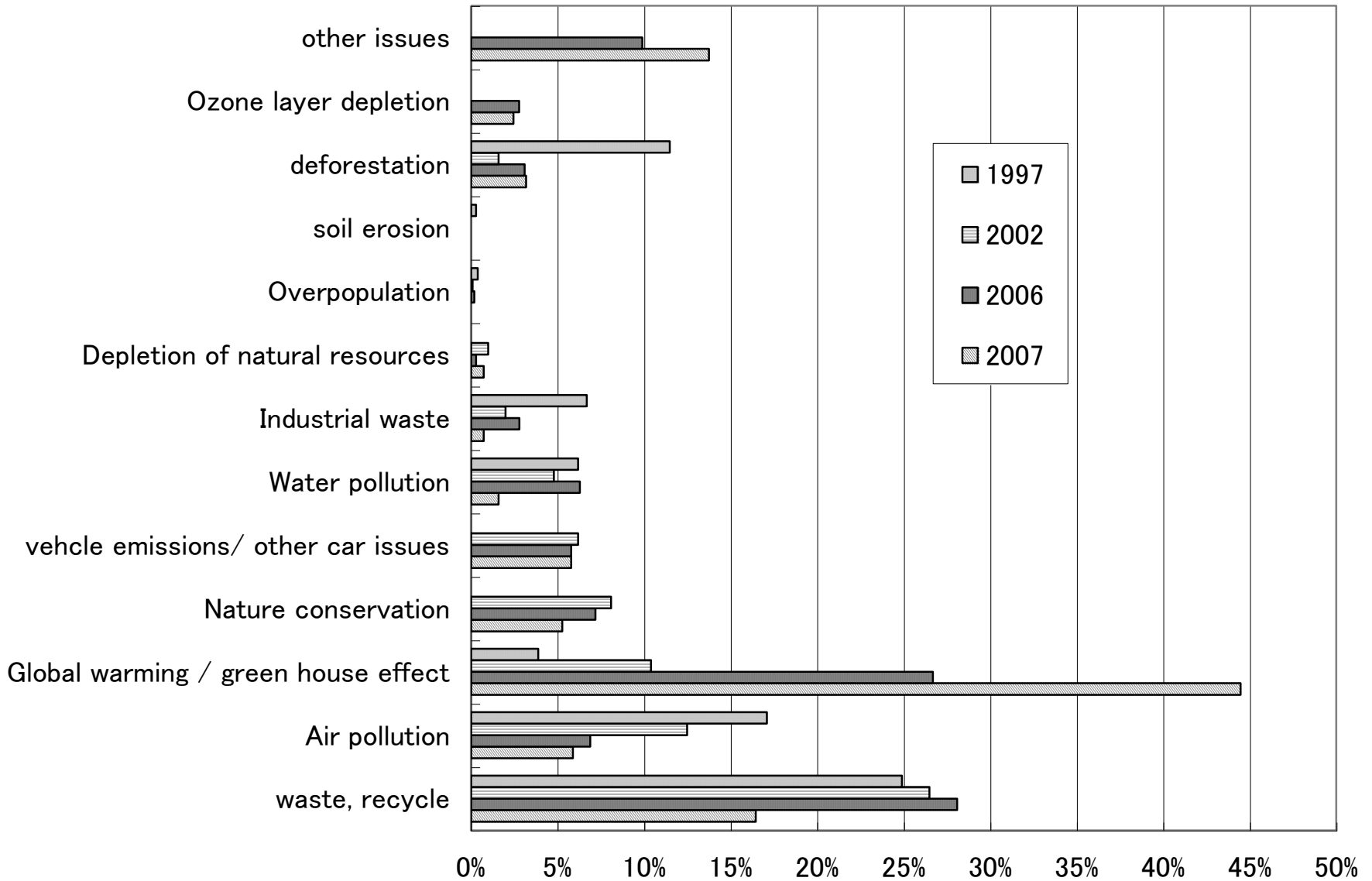


# Information sources for social issues including the environment (up to three options)

Jan, 2008, nation-wide, sample 2000, response 1301



- ◆ Newspaper
- ✕ TV
- + brochures by env. Org.
- ◆ Free paper
- ✕ no information
- Magazine
- \* family/friends
- + brochures by non-env. Org.
- seminar, lecture
- \* DK
- ▲ radio
- governments' leaflets
- Internet
- ▲ others



Changes in Public Perception on environmental issues:

The Japan's most serious environmental issues, 1997,2002,2006,2007

# Changes of public concern (world's issues)

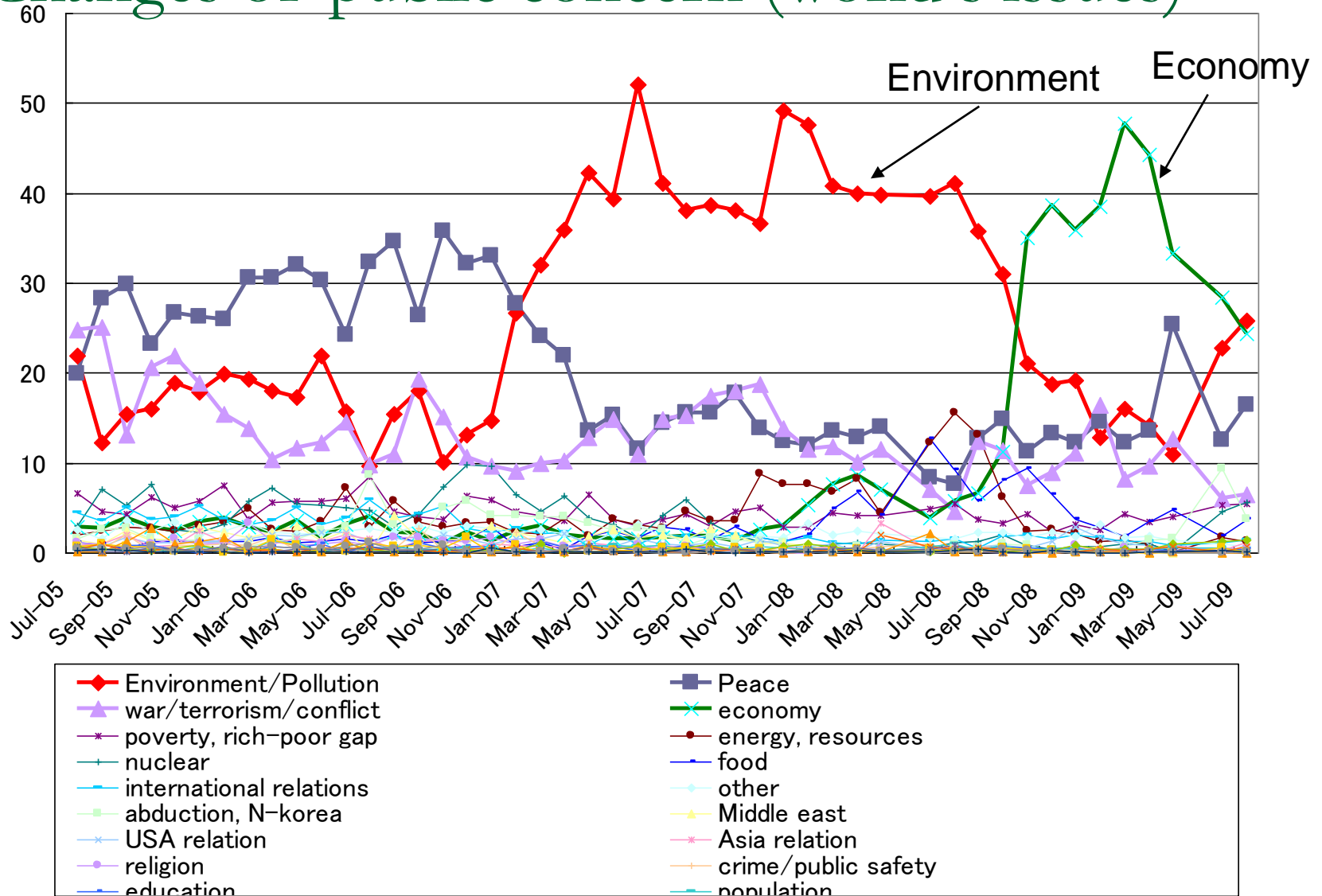
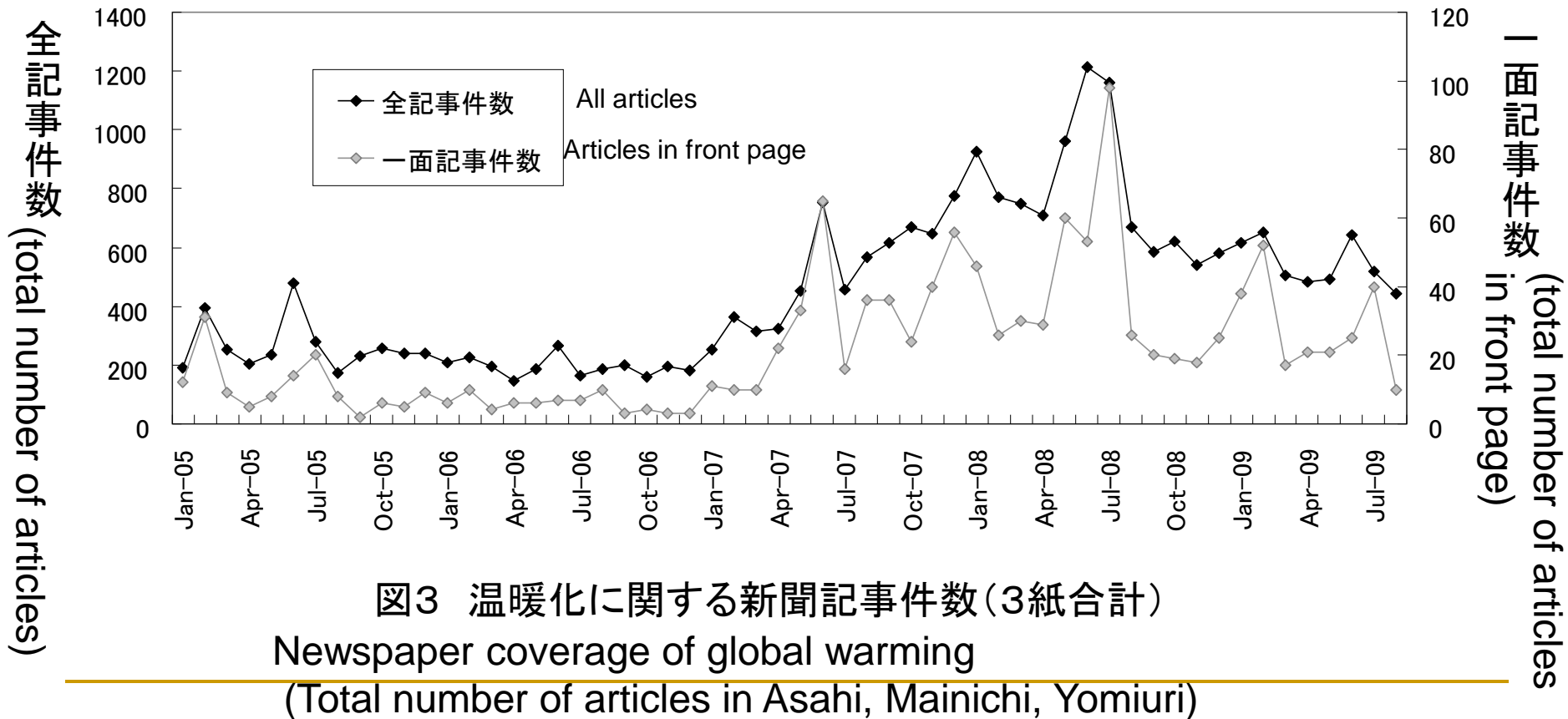


Fig.1 The World's most important issues, open answers from Japanese Public

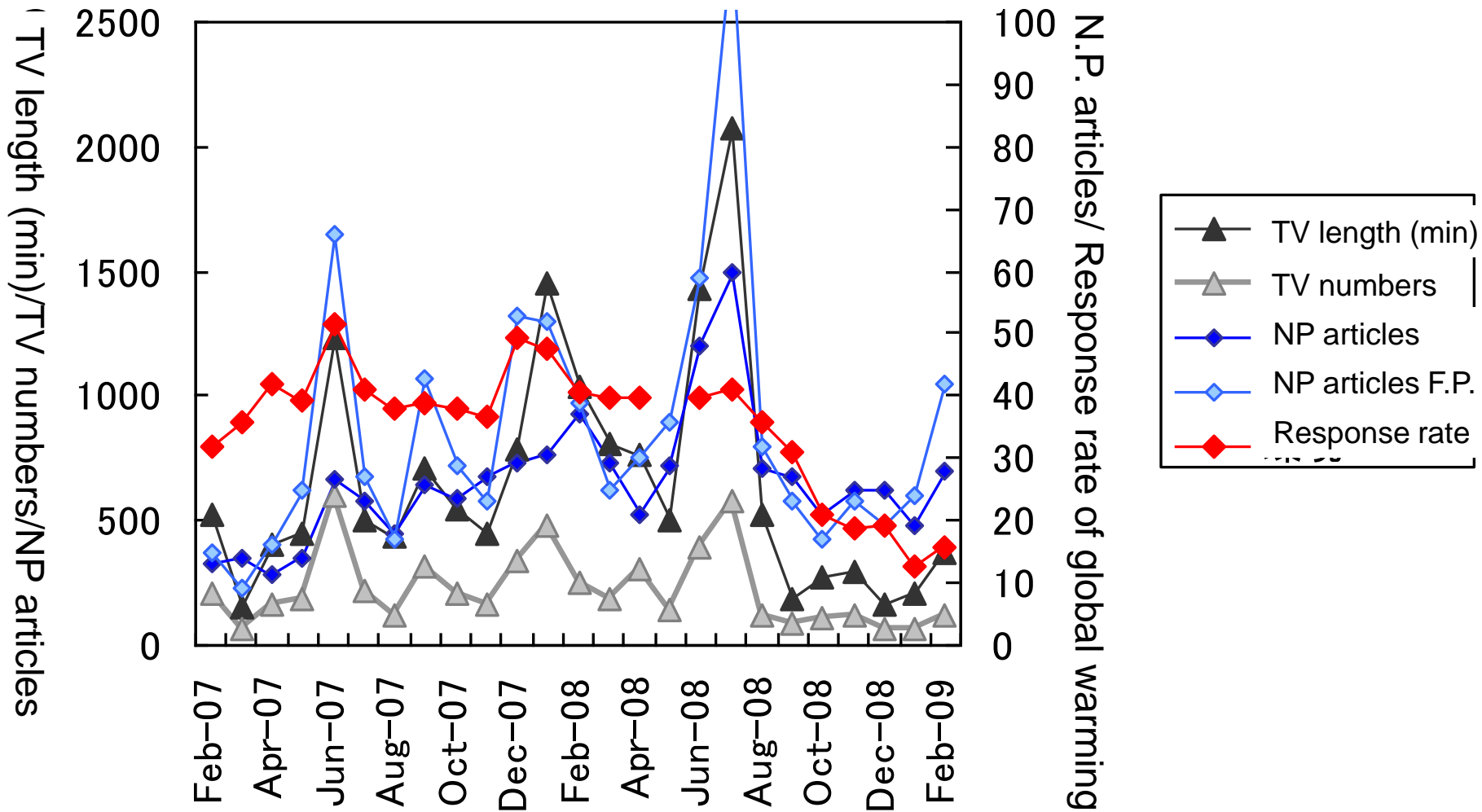
# Newspaper coverage of Climate Change & Global Warming





# Newspaper coverage of Climate Change, TV coverage and people's concern for C.C.

N=113



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# Comparison of China and Japan

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# Survey

- Surveys in Japan and China are carried out by NIES with Chinese counterparts .
    - Shengyang by Beijing University and Shengyang Statistical Office(2007)
    - Shanghai by China Eastern Law University (2005)
    - Hong Kong by Hong Kong City University(2006)
  - This project was supported by the Global Environmental Research , by the Ministry of the Environment, Japan.
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# Awareness

- Although actual monitoring data on air, water etc., shows opposite situation,
    - Shanghai and Shengyang people thought that their Environment is IMPROVING, AND WILL BE BETTER.
    - Japanese and Hong Kong people thought it is becoming worse.
-

Overall, would you say that the environment in our country has **improved** a lot, improved, remained the same , got worse, or got much worse?

(%)	become fairly better	become better	remain same	become somewhat worse	become fairly worse	DK	Total
Japan (N=1288)	3.1	19.8	22.2	31.6	20.7	2.6	100
Hong Kong (933)	4.9	21.3	11.8	32.6	29.2	0.2	100
Shanghai (1012)	16.0	52.3	16.0	12.0	1.6	2.0	100
Shenyang (1343)	49.0	46.6	2.5	1.2	0.1	0.4	100
<b>Total</b>	<b>19.8</b>	<b>35.2</b>	<b>12.9</b>	<b>18.5</b>	<b>12.2</b>	<b>1.3</b>	<b>100</b>

Then, would you say that the environment in our country **will be better or worse?**

(%)	become fairly better	become better	remain same	become somewhat worse	become fairly worse	DK	Total
Japan (N=1288)	2.3	17.8	30.7	24.7	19.6	4.9	100
Hong Kong (933)	3.3	31.1	14.9	34.2	12.6	3.6	100
Shanghai (1012)	12.0	58.1	13.2	8.3	1.4	6.1	100
Shenyang (1343)	42.4	51.7	2.2	0.5	0.1	2.8	100
<b>Total</b>	16.4	39.4	15.3	15.9	8.4	4.3	100

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# Responsibility for Today's Environment

- In all regions, people think developed countries are responsible.
  - But also, many think “both” are responsible.
-

Now thinking about the world, which do you think is more **responsible** for today's environmental problems in the world - industrialized countries, developing countries, or do you think they are both equally responsible?

(%)	developed	developing	both	others	DK	Total
<b>Japan (N=1288)</b>	48.2	7.5	38.8	5.4		100
<b>Hong Kong (933)</b>	36.5	11.1	50.8	0.1	1.4	100
<b>Shanghai (1012)</b>	44.6	12.1	38.2	0.2	3.4	100
<b>Shenyang (1343)</b>	37.8	15.6	33.4		12.8	100
<b>Total</b>	42.0	11.6	39.6	1.6	4.8	100



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# Perspectives of technology

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**a. Modern technology will solve environmental problems reasonably well:**

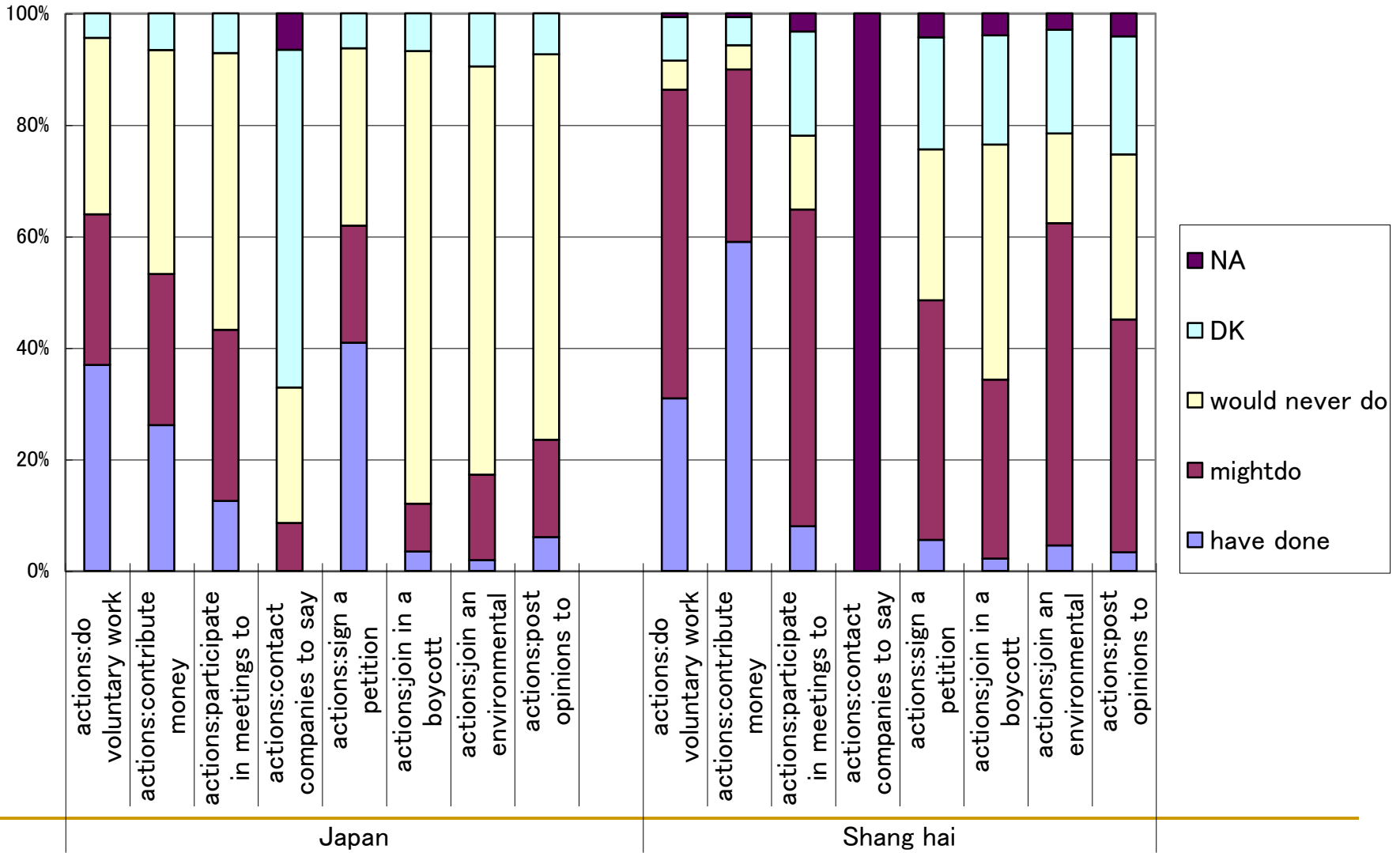
<b>(%)</b>	<b>Strongly agree</b>	<b>Somewhat agree</b>	<b>neither/nor agree</b>	<b>Somewhat disagree</b>	<b>Strongly disagree</b>	<b>DK</b>	<b>Total</b>
<b>Japan (N=1288)</b>	<b>12.0</b>	<b>34.6</b>	<b>15.0</b>	<b>20.3</b>	<b>11.2</b>	<b>6.8</b>	<b>100</b>
<b>Hong Kong (933)</b>	<b>2.8</b>	<b>22.4</b>	<b>14.6</b>	<b>51.8</b>	<b>7.1</b>	<b>1.4</b>	<b>100</b>
<b>Shanghai (1012)</b>	<b>16.8</b>	<b>51.1</b>	<b>22.0</b>	<b>4.3</b>	<b>1.0</b>	<b>3.7</b>	<b>100</b>
<b>Shenyang (1343)</b>	<b>26.6</b>	<b>44.5</b>	<b>11.8</b>	<b>10.4</b>	<b>1.0</b>	<b>5.7</b>	<b>100</b>
<b>Total</b>	<b>15.5</b>	<b>38.7</b>	<b>15.5</b>	<b>20.3</b>	<b>5.1</b>	<b>4.7</b>	<b>100</b>

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# Individual Actions

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# Political actions



# Political actions ;

Japan

## Japan

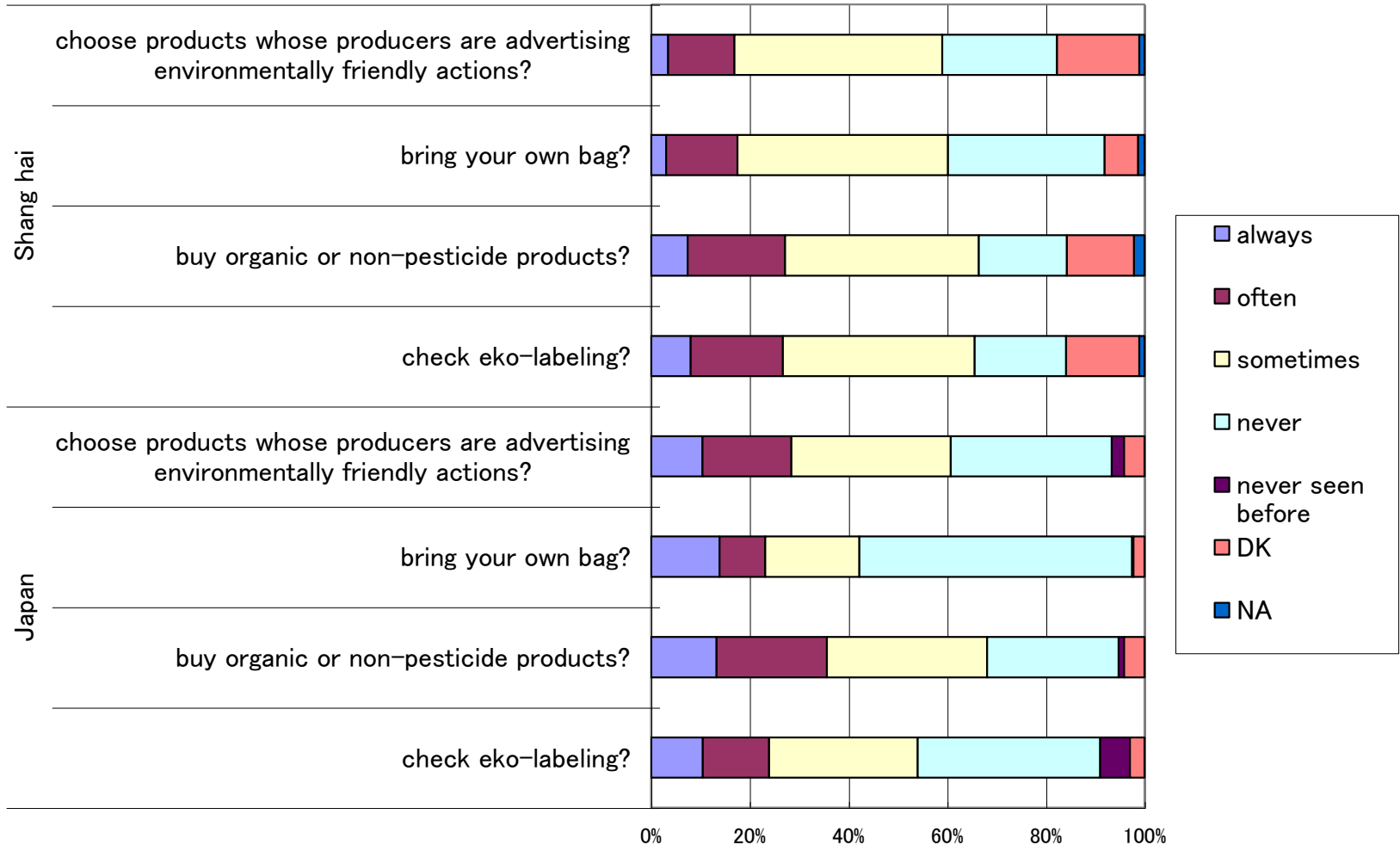
	do volunteer work	donation	join meeting	talk to government	talk to company	sign petition	join boycott	post opinion
Inf source TV(social issue)	(-)							
Inf source magazine(social issue)					(+)			
Inf source friend & family(Env issue)								
Inf source TV(Env issue)	(+)	(+)						
Inf source NP(Env issue)			(-)	(-)	(-)			(-)
Inf source radio(Env issue)				(+)				
Inf source Internet(Env issue)			(-)	(-)				
TV Science and Tech				(-)	(-)			
TV Sports					(-)			
TV movie				(-)	(-)			
NP international politics	(+)				(+)			
NP regional news					(+)	(+)	(+)	
NP special issues			(-)					
NP economy			(-)					
NP Domestic policy				(-)				
NP weather forecast					(+)			
NP sports								
NP readers opinion								
NP culture								(+)
NP medical								
NP all								
NP not read					(+)			
organ. part. level	(+)	(+)	(+)	(+)	(+)	(+)	(+)	(+)
do not have the right to say	(-)				(-)			
always prepare future risk								
purchase new information	(+)							(+)
buy things earliest								
children has to obey their parents							(-)	
most people can be trusted				(-)	(-)			
governmental officers do their best				(+)				
talk about envi	(+)	(+)	(+)	(+)	(+)			(+)
talk about politic				(+)	(+)	(+)		
people like me can do nothing				(-)	(-)			(+)
good politicians cannot do something								
modern technology will solve								
North-South Responsibility		(+)	(+)					
envi affect the health	(+)							
env vs economic growth								(+)
years of residence							(+-)	(+)
job					(+-)			
AGE					(-)	(-)	(-)	
house keeping comit. level								
gender(male)				(+)				(+)
constant	(-)	(-)	(+)	(+)	(+)	(-)	(-)	(+)

Shanghai

## Shanghai

	do volunteer work	join meeting	talk to government	sign petition	join boycott	post opinion
source TV(social issue)						
source magazine(social issue)						
source friend & family(Env issue)					(-)	
source TV(Env issue)						
source NP(Env issue)						
source radio(Env issue)						
source Internet(Env issue)					(+)	
Science and Tech		(+)				
Sports						
movie						
international politics						
regional news			(-)			
special issues						
economy						
Domestic policy			(-)			
weather forecast						
sports	(+)	(+)				
readers opinion	(+)					
culture						(+)
medical	(+)	(+)	(+)			
all		(+)		(+)		
NP not read						
organ. part. level	(+)	(+)	(+)	(+)	(+)	(+)
do not have the right to say		(+)	(+)			
always prepare future risk		(-)	(-)	(-)	(-)	
purchase new information	(+-)	(+-)		(+)	(+)	(+)
buy things earliest					(+)	(-)
children has to obey their parents						
most people can be trusted			(+)			
talk about envi	(+)					
talk about politic	(+)			(-)		(+)
people like me can do nothing						(+-)
good politicians cannot do something					(+)	(-)
governmental officers do their best						(+)
modern technology will solve						(+)
North-South Responsibility						
envi affect the health						
env vs economic growth						
years of residence		(+-)	(+-)		(+-)	(+-)
job						(+-)
AGE	(-)				(-)	
house keeping comit. level				(-)		
gender(male)						
constant	(-)	(-)	(+)	(-)	(-)	(-)

# Purchasing actions



# Purchasing actions: Result of Logit regression analysis at a glance

Japan	GC eco-mark	GC Food	bring bag	company ad	Shanghai	GC eco-mark	GC Food	bring bag	company ad
Inf source NP(social issue)		(+)	(+)		Inf source NP(social issue)	(+)	(+)	(+)	
Inf source radio(social issue)					Inf source radio(social issue)	(-)			(+)
Inf source Internet(Env issue)			(+)	(+)	Inf source Internet(Env issue)				
TV sports					TV sports				(-)
NP international politics					NP international politics				(+)
NP Domestic policy		(+)		(+)	NP Domestic policy				(+)
NP editors		(+)			NP editors				
NP spcial issues			(-)		NP spcial issues				
NP sports	(-)				NP sports		(-)		
NP all			(-)		NP all				
organ. part. level		(+)			organ. part. level	(+)	(+)	(+)	(+)
good politicians cannot do something		(+)			good politicians cannot do something			(+)	
governmental officers do their best					governmental officers do their best	(+)	(+)	(-)	(-)
other people are trying to help others	(+)				other people are trying to help others				(-)
poeple like me can do nothing					poeple like me can do nothing				(+)
purchase new information facilities			(+)	(+)	purchase new information facilities				
talk about envi	(+)	(+)	(+)	(+)	talk about envi				
talk about politic		(+)			talk about politic		(+)		
buy things earliest	(+)				buy things earliest	(-)			(-)
do not have the right to say something					do not have the right to say something				(+)
modern technology will solve				(+)	modern technology will solve				
children has to obey their parents	(+)				children has to obey their parents				(-)
env vs economic growth					env vs economic growth	(+)	(+)		(+)
env affect the healt	(-)	(+)	(+)	(+)	env affect the healt				
always prepare future risk					always prepare future risk		(+)	(+)	(-)
years of residence					years of residence		(+-)		(+-)
AGE	(+)				AGE	(+)			
house keeping comit. level		(+)			house keeping comit. level			(+)	
job			(+-)	(+-)	job				
Gender (male)			(-)	(-)	Gender (male)				
constant	(-)	(-)	(-)	(+)	constant	(-)	(+)	(+)	(+)

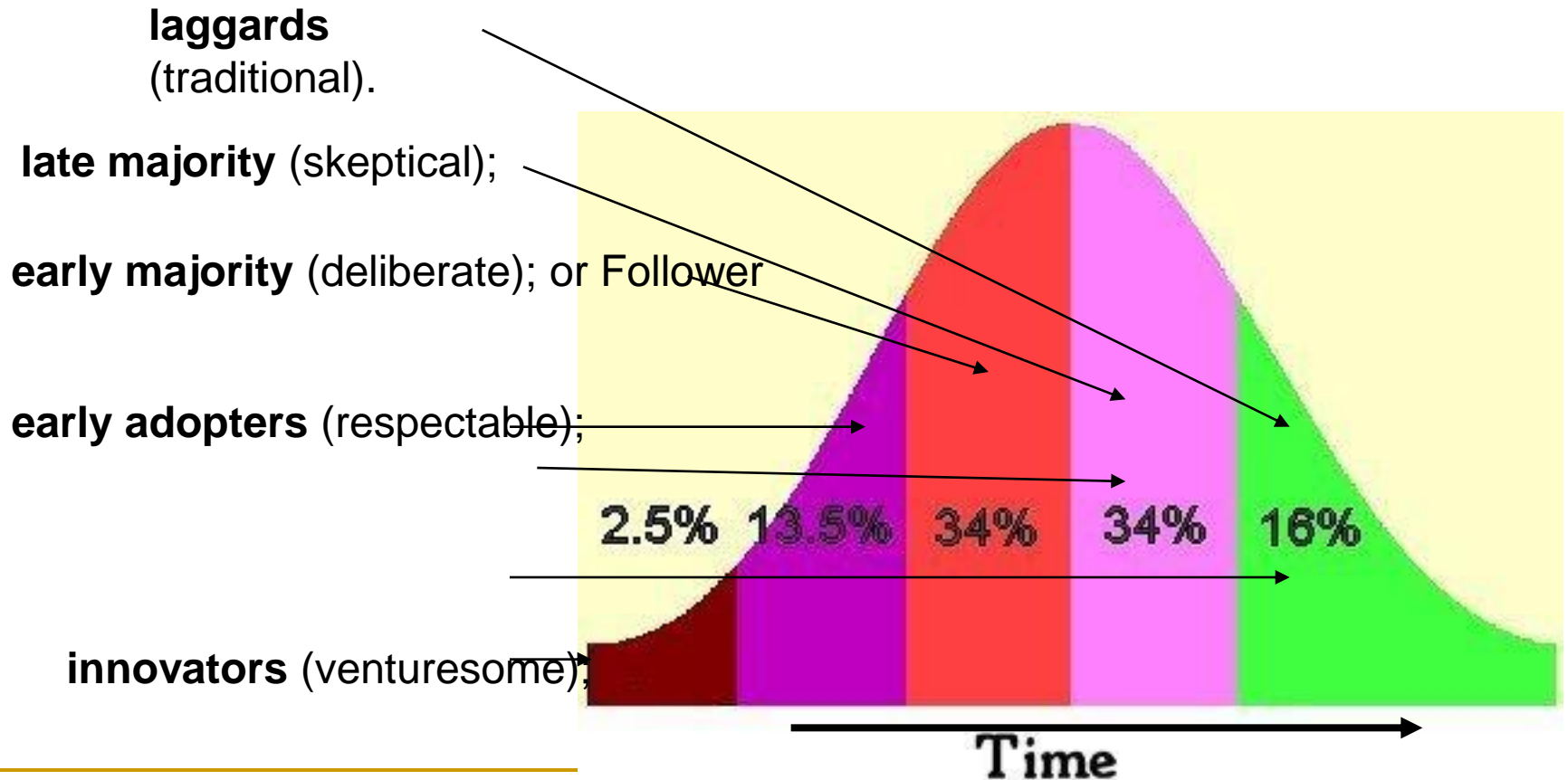
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# Promoting Sustainable Lifestyles? -Strategies

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# Theory of Diffusion of Innovations



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Thank you!

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