Legal Approaches to Tackle Climate Change in Asian Countries

Naoyuki Sakumoto
Japan External Trade Organization

タイ・マプタプット工業団地

(出所) Bangkok Post 09.02.2010 “Thai PM looks to Japan for pollution solutions”
（http://www.thainewsland.com/a429259-thai-pm-looks-to-japan-for-pollution-solutions

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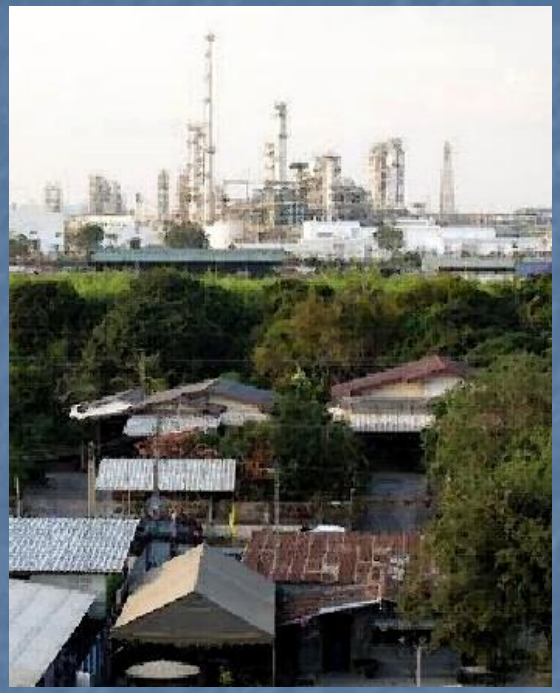
タイ･マプタプット（２）



(出所）Bangkok Post October 19, 2009
"Map Ta Phut closures a *wake up call* Time to move industry to *rural hinterland*"
（ｈttp://www.readbangkokpost.com/business/industries/map_ta_phut_closures_a_wake_up.php）

(出所）Bangkok Post October 21, 2009
"Cheap air pollution monitoring for Map Ta Phut: *Trace* source of *toxic chemical emissions* in real time"
(http://www.bing.com/images/search?q=Map+Ta+Phut&view=detail&id=27766D73C8F2B1B03C5B0419570ABDA6339DFD1B&first=1&FORM=IDFRIR)

カンボジア・廃棄物処分場

(出所)筆者撮影(2006. 8)

カンボジア廃棄物処分場

インドネシア・シドアルジョ火山泥

(出所)筆者撮影(2006. 8)

(出所)筆者撮影(2006. 8)

シドアルジョ住民避難キャンプ村

(出所)筆者撮影(2006. 8)

避難キャンプ村で日に2回、提供されていた弁当と飲料水

(出所)筆者撮影(2006. 8)

シドアルジョで救済を訴える住民ら

(出所)筆者撮影(2008.2)

「デモの垂れ幕には、生活の権利を侵害された、裁判官らはラピンド社の責任を免除するのかと」

インドネシア・チレボン漁港

(出所）筆者撮影（２００７.１１）

チレボン漁港の周辺

(出所）筆者撮影（２００７.１１）

インドネシア・ジャカルタ市内のチリウン川周辺民家

(出所）筆者撮影（２００９.２）

ジャカルタ郊外･ボゴール乾季時の川

(出所）筆者撮影（２００９.２）

ジャカルタ郊外・バンタールグバン廃棄物処分場（１）

(出所）筆者撮影（２００６.８）

バンタールグバン廃棄物処分場（２）

(出所）筆者撮影（２００６.８）

I. Introduction
II. International negotiations on climate change and developing countries
III. Available legal approaches to climate change in developing Asian countries
IV. Internationally supported approach
V. Domestic & sub-regional cooperation approach
VI. Conclusion

I. Introduction

Status of Global Warming and Asia

Global warming is prospected to cause irreversible huge environmental impacts to our planet.

- Anthropogenic carbon dioxide consumption, produced by the burning of fossil fuels such as coal and oil is assumed as the main cause of global warming.
- Presently, China became the world-largest CO2 emitter and India will follow this trend. China and India are highly populated and achieving rapid economic progress, but their environmental impacts are threatening the world climate situation.
- CO2 emission amount from Asian region already occupied 44% of the world total amount in 2010. It is predicted that total emission amount from Asia region will reach over 50% of the world total in the year of 2030(International Energy Outlook 2011).

- However, international negotiations on climate change sometimes become deadlocked. Effective solutions have not yet been found. Without the positive participation and implementation of reducing Co2 by developing countries and USA, it would be impossible to achieve the global CO2 mitigation target.

World CO2 emissions by region（MMton/CO2）

Region/Country	2007	2010	2020	2030
OECD Americas	7123	6693	6924	7431
United States	6022	5644	5777	6108
Other	1101	1049	1147	1323
OECD Europe	4413	4094	4147	4198
OECD Asia	2206	2074	2181	2253
Japan	1254	1090	1142	1110
South Korea	503	528	562	634
Australia/New Zealand	449	456	477	509
Total OECD	13742	12861	13252	13882
Non-OECD Europe and Eurasia	2790	2759	2767	2863
Non-OECD Asia	9416	11736	14475	18238
China	6257	8262	10128	12626
India	1367	1602	2056	2728
Other	1793	1872	2291	2884
Middle East	1479	1692	2019	2435
Africa	1016	1107	1311	1568
Central and South America	1085	1150	1386	1654
Total Non-OECD	15786	18445	21958	26758

(Source) EIA International Energy Outlook 2011, Sept. 2011.

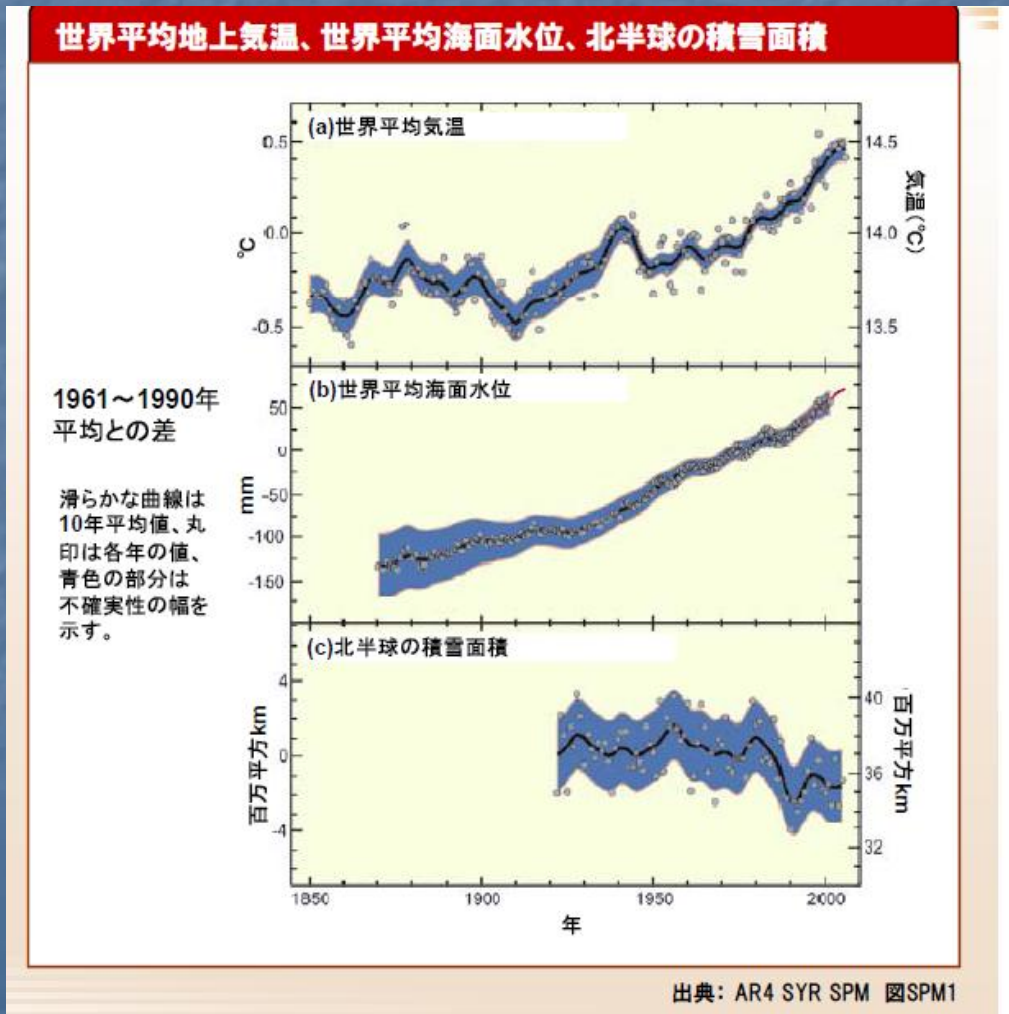
World annual average temperature rise, sea-level rise and snow covered area decrease(1961-1990)

World average temperature rise⇒

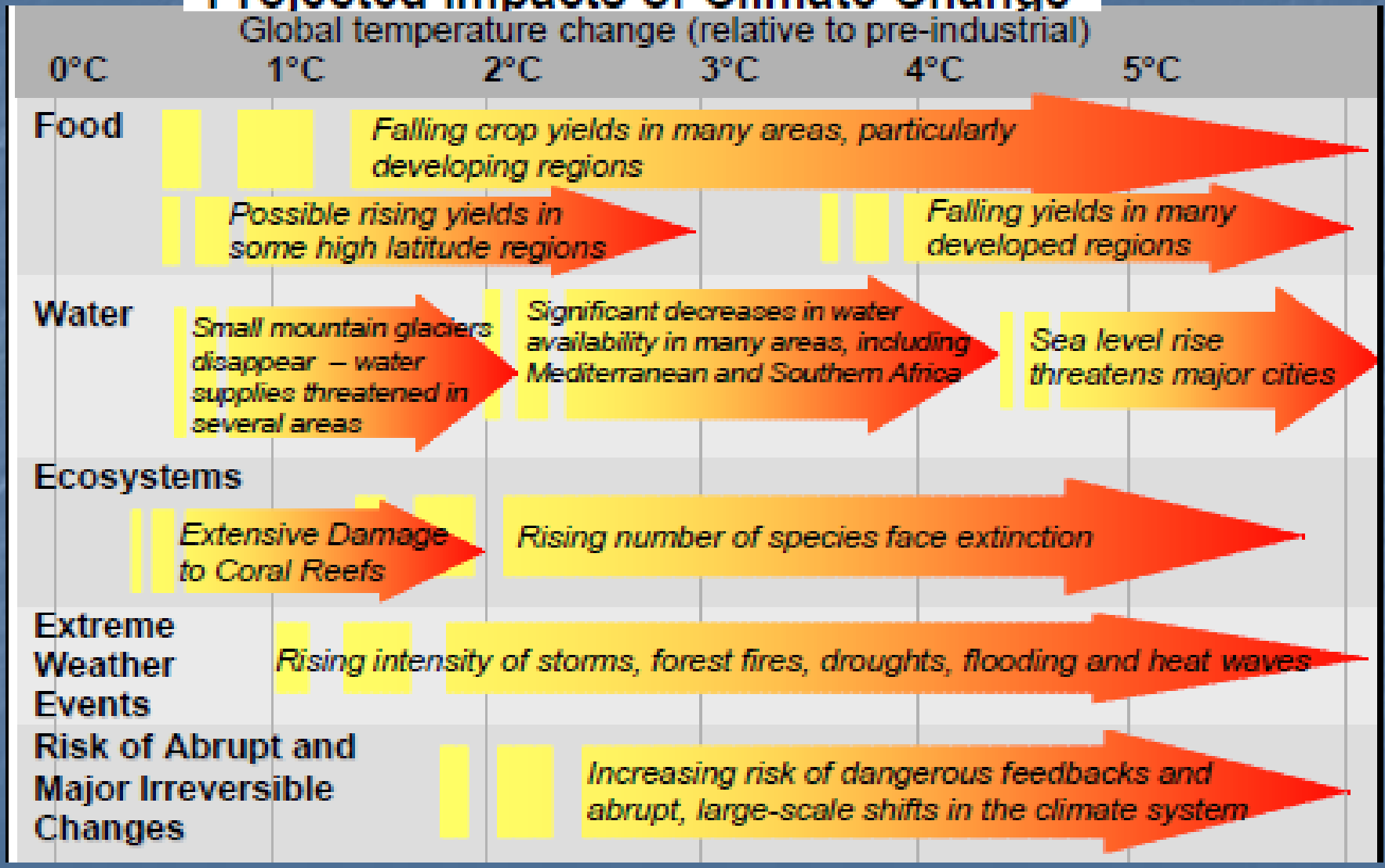
World average sea-level rise⇒

Decrease of snow covered area
In northern hemisphere⇒

IPCC Fourth Assessment Report



Projected Impacts of Climate Change



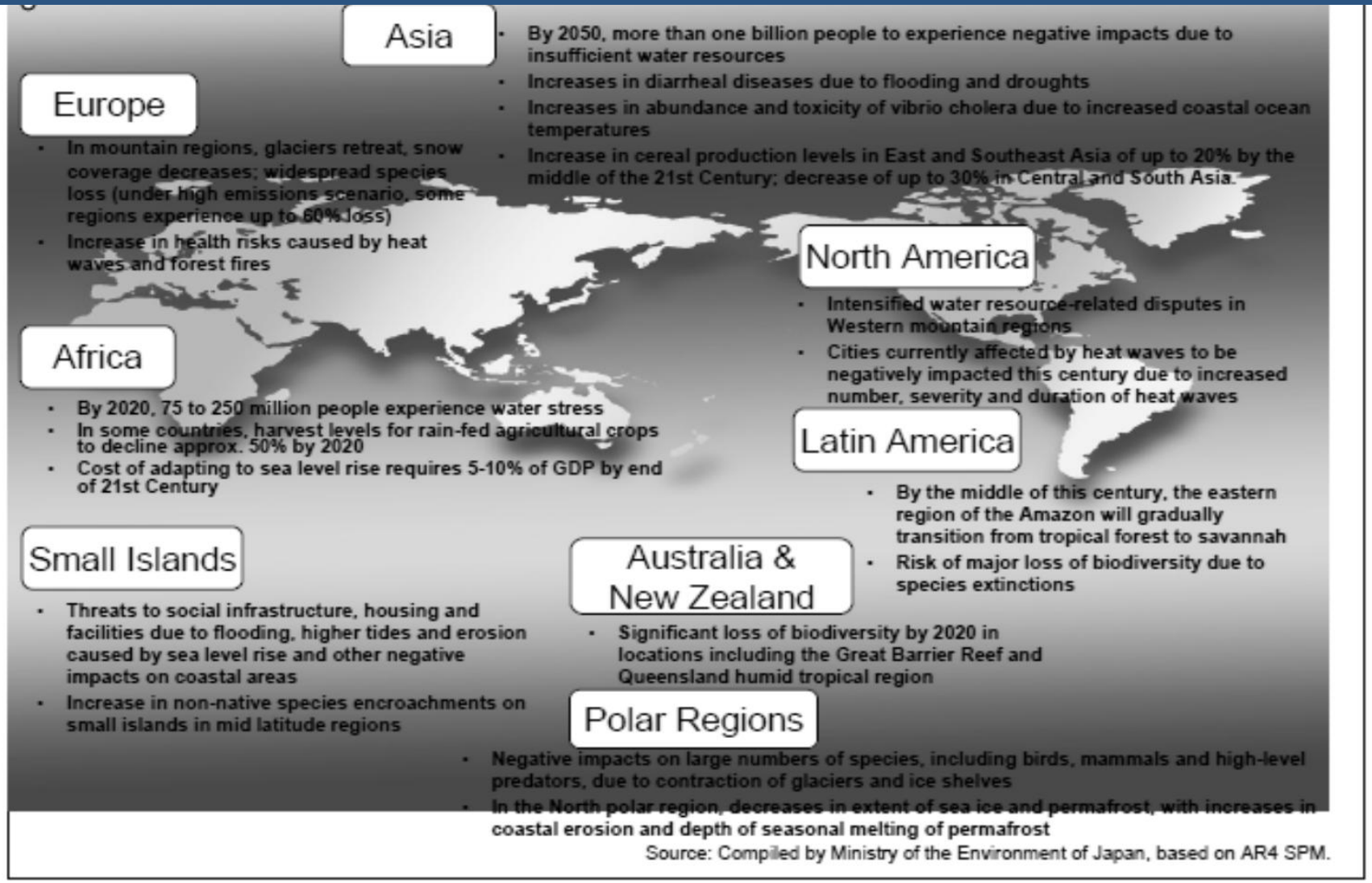
(Source) IPCC Fourth Assessment Report data processed by MOE, Japan

IPCC 4th Assessment Report: Outline of WG1 Report - II

Global warming is *very likely* due to increases in anthropogenic greenhouse gas concentration.

	Observed Changes	Projected Future Changes
Increase of CO_2	•Primary source of the increased CO_2 levels →Fossil fuel use, agriculture and land-use change •Atmospheric CO_2 levels: about 1.4 times pre-industrial About 280 ppm (pre-industrial)→379 ppm (2005) •Annual fossil CO_2 emissions: about 1.1 times over the 1990s 6.4 GtC/year (1990s)→7.2 GtC/year (2000-2005)	•CO_2 levels at the end of the 21st century: about 1.8 times to 4.5 times over pre-industrial levels (About 490 ppm ~ about 1,260 ppm)
Arctic Sea Ice	•Shrunk by 2.7% per decade, with larger decreases in summer of 7.4% per decade.	•Arctic late-summer sea ice disappears almost entirely by the latter part of the 21st century, in some projections.
Ocean Acidification	•Present decrease of 0.1 units since pre-industrial times	•Projected to decrease by between 0.14 and 0.35 units over the 21st century, adding to the present decrease.
Climate-Carbon Cycle Feedback		•Decrease in absorption of atmospheric CO_2 into land and ocean, as the climate system warms. Increase in unabsorbed CO_2 in the atmosphere.
Precipitation	•Precipitation changed in many regions. (1900-2005) •Increase: Eastern parts of North and South America, northern Europe and northern and central Asia. •Drying: the Sahel, the Mediterranean, and parts of southern Asia. •More intense and longer droughts in wider areas (tropics and subtropics). •The frequency of heavy precipitation events has increased over most land areas.	•The frequency of hot extremes, heat waves and heavy precipitation events →*Very likely* to increase •Precipitation •*Very likely* to increase in high latitudes •*Likely* to decrease in most subtropical regions
Others	•Typhoons and Hurricanes •No clear trend in the annual numbers •Suggested increases in intensity (since 1970) •Water vapor content in the air has increased since 1980 (land, ocean). •Permafrost •Temperatures at the top of the permafrost layer has risen by up to 3°C (Arctic, since the 1980s). •The maximum area covered by frozen ground in winter has decreased by about 7% (Northern Hemisphere, since 1900).	•Typhoons and Hurricanes •Annual decrease in number •Increase in intensity •Increase in peak wind speeds and precipitation

Regional Impacts



(Source) IPCC Fourth Assessment Report data processed by MOE, Japan.

Prospected Impacts to Asian Region

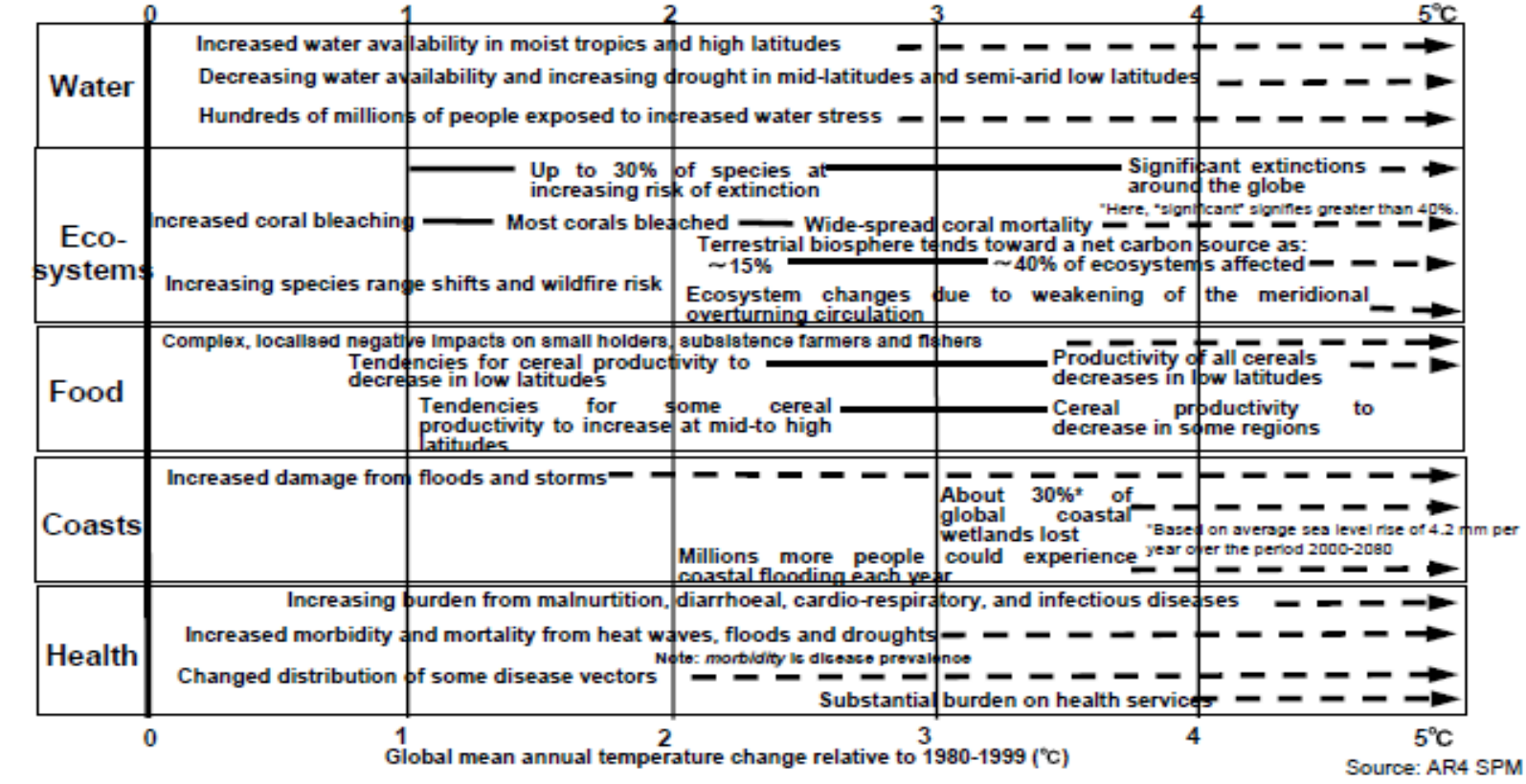
- By 2050, more than 1 billion people may have negative impacts due to insufficient water resource.
- Diarrhea disease may increase due to flooding and droughts.
- Toxicity of vibrio chorea may increase, due to the temperature rise of sea water.
- Cereal production in South and SE Asia may increase up to 20% by the middle of 21 century.

- One meter sea level rise in the Asia-Pacific region would force 75 to 150 million people to be displaced. Global prospect of sea-level rise is up to 16 centimeters (six inches) by 2030, and up to 50 centimeters by 2070.
- Low river delta areas of Bangladesh, India, Vietnam and China, as well as small Pacific islands would be flooded.
- Increased temperature and rainfall would expose millions of people to the infectious diseases of Dengue fever and chorea.
- Frequent flooding and intensification of tropical cyclones would increase the number of causalities and the destruction of natural resources.

(Source) IPCC Fourth Assessment Report data processed by MOE, Japan, and WB HP.

Future impacts projected in different sectors

Climate change is projected to have negative impacts on vulnerable sectors, even with a 0-1℃ rise in temperature.



IPCC Fourth Assessment Report

II. International negotiations on climate change and developing countries

Brief history of international negotiations on global climate

1992 United Nations Framework Convention on Climate Change /UNFCCC adopted

1994 UNFCCC took effect. Developed countries must reduce GHG emission to the level of 1990 yr level by 2ooo yr.

1997 Kyoto Protocol adopted(COP3)

2005 Kyoto Protocol took effect

2007 IPCC 4th Assessment Report

2007 Bali Action Program and BaliRoadmap(COP13)

2009 Copenhagen Accord(COP15)

2010 Cancun Agreements(COP16)

2012 Durban Platform for Enhanced Action(COP17)

2013 To be held at Qatar(COP18)

Recent developments of international negotiations on climate change

From Copenhagen Accord/COP15, to Cancun Agreement/ COP16, and to Durban Agreement/COP17, and the coming future

- **Copenhagen Accord was only taken note of by the conference parties. Because It was criticized by some developing countries that the decision making process was not transparent and non-democratic. Under the UNFCCC, consensus method was common as the decision making rule.**
- **Main discussion was directed to the 2nd commitment period of the Kyoto Protocol that starts from 2013.**

Cancun Agreement(COP16)(1)

- Much attention was paid to transparent decision making. Trust seemingly lost between parties have recovered. Decision-making process at Cacun was evaluated. No previously prepared paper by the Chairman was distributed.
- Two working groups on the long-term cooperative Action (AWG13) and the Kyoto Protocol(AWG15)were respectively held and 3 decisions were made. ① Long-term cooperative action under the Convention, ② the 2nd commitment of the Kyoto Protocol , and ③ on landuse / landuse change/ forestry, respectively.
- Preparation for the 2nd Kyoto commitment was argued and agreed. But, Japan, Canada, Russia were opposite. Setting emission targets itself was agreed but the target emission amount was sent to Durban Conf.
- It was agreed that instead of using QELROs (Quantified Emissions Limitation and Reduction Objectives: 5-year mean emission amount), target emission amount was adopted.

Cancun Agreement(COP16) (2)

Cancun conference provided a solid preparation basis for the Durban conference. What was agreed on is as the following;

- Emission Reduction: Term of emission reduction target /action of GHG was officially fixed for both developed and major developing countries. Internationally supported mitigation action must accept MRV (Measurement, Reporting and Verification).
- Large scale emission reduction to keep the temperature rise within 2℃ before 2050.
- Adaptation: Adaptation Committee will be set-up.
- Market Mechanism: Study of establishment on the new market mechanism under COP17.
- Financial Resource: Establishment of Green Climate Fund to support poor developing countries and the related transitional committee.
- Technology: Establishment of climate technology center

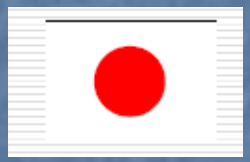
Results at UN Climate Summit in Durban(COP17)

- Green Climate Fund :Raising US$100 billion a year by 2020 to help poor nations fighting global warming
- Durban Platform: All countries shall sign a pact "with legal force" by 2015, which will become effective in 2020.
- Kyoto Protocol: The first commitment period set was to expire at the end of 2012, but the extension for the 2nd commitment period to 2017 was agreed.
- MRV: Strengthening the existing system of reporting and expert review to establish new mechanism for peer review of mitigation actions through measurement, reporting and verification.

Different interest Groups in global climate negotiations

EU has been warning the serious impacts of global climate issues and insists on drastic CO2 emission reduction.

USA has stressed scientific uncertainties on global climate and is negative in setting mitigation goal of CO2..



Japan, Russia and Canada did not join in the second Commitment of the Kyoto Protocol. Canada pulled out.

China and India condemn that developed countries have caused climate issues and criticize the lack of responsibilities of developed countries. BASIC (Brazil South Africa, India and China).

Small island countries are worried because climate issue may become a critical life or death matter (AOSIS).

Different socio-economic, environmental situations and different interest exist.

- Newly developing super economies (china & India): need more energy use and insists on more CO2 emission to support their economies and to alleviate domestic poverty (BASIC).
- LDC (Least developing countries) are poor economically and some included are extremely vulnerable to climate change.
- SIOSIS geographically vulnerable island countries are mostly located in the South Pacific and they have a potential to become submerged by the sea water rise.
- OECD country: Japan, Korea make efforts within their capacities to mitigate the world CO2 emission volume.

China as the biggest emitter of GHG and as an emerging new economic power (COP17 at Durban)

China's top negotiator Xie Zhenhua said;

"What needs to be pointed out is that developed country lacks political wills to reduce emissions and provide finance and technology transfer to support developing country. The lack of political wills is the main element that hinders cooperation on addressing climate change in the international community,"

Xie also said the nation is open to a legal framework after 2020 on the principles, based on five preconditions including an extension of the Kyoto Protocol and the principles of "common but differentiated responsibilities".

UNEP (COP17 at Durban)

"The Kyoto principles should not be lost, whether you call it a second commitment period, an extension or whatever is agreed, as long as it keeps the Kyoto Protocol alive, it would be good," said Achim Steiner, Executive Director, UNEP.

Tasks left for the coming negotiation of COP 18

- Establishment of the 2nd Kyoto commitment period and the implementation
- Negotiations under the Durban Platform
- Implementation of the Cancun Agreement

III. Available legal approaches to climate change in developing Asian countries

A. Internationally supported approach:

Non-legal binding cooperative approach under UNFCCC ⇒

Top-down decision-making approach at an international level is not always efficient and functional without local support. It will gradually be changed to a legal-binding and integrative approach under UNFCCC through consensus method. However, the decision-making process will stay basically as top- down.

B. Domestic & sub-regional cooperation approach: as a complementary tool to develop international framework. It is a slow but steady approach, however, bottom-up approach by locals/regions through well-mixed integrative environmental management measures will be supportive. .

IV. Internationally supported approach

Non-legal commitments by developing countries under UNFCCC (Art.4.1)

1. National inventories of anthropogenic emissions by sources and removals
2. National and regional programmes containing measures to mitigate climate change
3. Transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases
4. Sustainable management, conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases
5. Adaptation to the impacts of climate change
6. Climate change considerations into account, to the extent feasible
7. Scientific, technological, technical, socio-economic and other research
8. Full, open and prompt exchange of relevant scientific, technological, technical, socio-economic and legal information
9. Education, training and public awareness
10. Communication of the Conference of the Parties information related to implementation

Environmental principles adopted under UNFCCC(Art.3)

1. The basis of equity, common but differentiated responsibilities and respective capabilities
2. Specific needs and special circumstances of developing country Parties
3. Precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures
4. The Parties have a right to, and should, promote sustainable development.
5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties.

Supporting Measures to developing countries under UNFCCC

- MRV (**measurement, reporting and verification**)　Started discussion at Bali Roadmap and strengthening MRV was agreed through Copenhagen Accord and Cancun Agreement. Submission of National Report needed once in two years like developed countries. （途上国の行動の見える化）

- Adaptation, NAPAs (National Adaptation Programme of Action) 47 reports on urgently needed programmes from LDCs were submitted to UNFCCC for funding from GEF.)
- Mitigation （Formulation of low carbon development strategy/plan and the emission target , same with developed coutries)

- Green Climate Fund (GCF)　to support LDC

- Technology transfer (decided to establish Climate technology center)

- Market mechanism: CDM, Carbon trading, REDD+.

National Adaptation Programmes of Action : Index of projects by sector in Asia

NAPA by sector	Cross-sectoral projects(5)	FOOD SECURITY(9)	COASTAL ZONES /MARINE ECOSYSTEMS(8)	EARLY WARNING SYSTEM AND DISASTER MANAGEMENT9))	EDUCATION/CAPACITY BUILDING (4)	HEALTH (6)	INFRASTRUCTURE (7)	INSURANCE (1)	TERRESTRIAL ECOSYSTEMS (8)	TOURISM(4)	WATER RESOURCES(11)
	Bangladesh Maldives Samoa Solomon Islands	Bangladesh Cambodia Lao PDR Maldives Nepal Samoa Timor-Leste Tuvalu Vanuatu	Bangladesh Cambodia Kiribati Maldives Solomon Islands Tuvalu Vanuatu	Bhutan Cambodia Comoros Lao PDR Nepal Samoa Solomon Islands Timor-Leste Tuvalu	Bangladesh Lao PDR Nepal Timor-Leste	Cambodia Maldives Nepal Samoa Timor-Leste Tuvalu	Bangladesh Cambodia Maldives Samoa Solomon Islands Timor-Leste	Bangladesh	Afghanistan Bhutan Cambodia Lao PDR Nepal Samoa Timor – Leste Vanuatu	Samoa Solomon Islands Vanuatu	Afghanistan Bangladesh Bhutan Cambodia Lao PDR Maldives Nepal Samoa Timor Leste Tuvalu Vanuatu

Sectors are requested adaptation activities and projects by LDC.
（Source.UNFCC. National Adaptation Programmes of Action, 2011.11）

- Negotiation pattern is being varied. EU and LDC and AOSIS became one group to support the Kyoto Protocol and newly emerging big developing countries China and India were against this EU group. Japan, Russia and Canada will against the 2nd Kyoto commitment.

  Secondly, the change to a more legal binding framework under UNFCCC to every party was supported also by LDC.

- Does this means that the traditional pattern of understanding North-south issue may no longer be applicable to the Durban negotiation? It could be understood that developing countries are being differentiated in their responsibilities before such global common issues. Environmental interest, if any, is becoming a serious socio-political issue to every people and country.

- However, as Prof. Takamura* writes in her writing, general concern and doubt toward developing countries are increasing because some countries are inducing economic interest through CDM projects and other financial mechanisms. Many developing countries are sometimes criticized because of the lack in their efforts and incentives in implementing aided projects by international organizations.

+ Yukari Takamura "Sho-ene, ondanka-taisaku to kokusai-kyoryoku," Kiko-hendo wo meguru seisaku-shuhou to Kokusai-kyouryoku, Shojihomu, ２０１０.

Domestic & sub-regional development approach

Why such a need arises to look from domestic laws and policies about Asia ?

(1) Implementation of law and policy on climate change must be strictly based on domestic laws in respective country. However, lack of insufficient governance capacity is still outstanding almost all developing Asian countries. How can we expect strong and efficient enforcement in Asian countries?

(2) Negotiations at Durban were reportedly transparent and based on consensus. Decision making process by top-down but with favorable results can always be applicable to any global issue negotiation?

(3) Actually, developing countries will continue to receive money and technological assistance from developed countries. Rich countries including USA, Japan, China, India, and Canada were almost defeated or excluded from the negotiations. Does this spoil developing countries to make self-help efforts?

(4) Common, but differentiated responsibility principle was well examined or not.

(5) Regional approach on such global issues should be enhanced. Sub-regional decision-making process will assist the bottom-up process.

Climate change law and policy by country in Asia

List of major laws on climate change in Asian countries

China

- Climate Change Act(?) Under drafting

Korea

- Framework Act on Low Carbon and Green Growth (No.9931,2010)
- Enforcement Decree of the Framework Act on Low Carbon and Green Growth （Presidential Decree No.22124, ２０１０）

Philippines

- Climate Change Act of 2009 （REPUBLIC ACT NO. 9729、2009）
- Renewable Energy Act of 2008, RA 9315

Indonesia:

- .Environmental Protection and Management Act of 2009 (No.32/2009
- Energy Act No. 30/ 2007

Vietnam

- The Law on Environmental Protection of 2005
- Law on Electricity of 2004
- Decision of the PM on approving on National Program on saving and using energy efficiently, 2007

India

The Climate Change Bill (Indian Parliamentarian Kalikesh Narayan Singh Deo submitted) Apr. 2. 2012)

Climate change Law and policy in China

- Policy: China's national Climate Change Programme(2007)
  In No v .2009, China declared CO2 emission per unit of GDP as an appropriate technique to balance economic growth with controlling emissions. 40-45% CO2 reduction per GDP by 2020 compared with 2005.

- During the period of national five year development plan 2008-2012, Gov. declared ① to address climate change within the framework of SD, ②to follow the UNFCCC principle common but differentiated responsibilities, ③to place equal emphasis on mitigation and adaptation, ④to integrate climate change policy with other related policies, ⑤to rely on the advancement and innovation of science and technology, ⑥to participate in international cooperation. Under the 12th national five year development plan 2011-2015, 17% CO2 reduction goal was forcefully introduced and allotted to local Provincial level governments.

- As for sulfur dioxide, which causes acid rain, has also been a matter of focus. Some administrative rules have been regulated and big cities as Shanghai are introducing CO2 exchange market of ETSs.
- Under the said 12th national five year development plan, Gov. will arrange institutions for statistical data and its examination on the CO2 emission and gradually institutionalize ETSs.
- In Oct. 2011, NDRC (National Development Reform Committee) ordered major 7 local governments to formulate a policy on the reduction of total GHG amount including its goal of total CO2 reduction and the plan of CO2 emission distribution. (Among these, Guangdong Province, shanghai City, Peking are included.)/

Climate change law and policy in Korea

- In Aug. 2008, Low carbon Green Growth Policy was adopted as the new national vision for another 60 years. Based on this national policy, Basic Act on low carbon and green growth was enacted in Aug.2010. Art.46 of the Act introduced a new system to regulate total emission amount.

- Model project of emission trading scheme/ETS was implementated(2010-2012). Proponents were required to make a contract with the Min. of Environment for the project. Emission target is 1-2 percent reduction of GHG compared with the emitted amount in 2005-2007. Emission amount will be examined by a governmental organization (EMC) and also by a third party. Emission is traded at the Korean Trading Office (KRX).

- In Nov. 2010, Korea Gov. announced a bill on the climate change gas trading scheme. Prime Minister's Office submitted the revised bill to the Parliament in April 2012, in order to start the trading program from 2015.

Climate change law and policy in Indonesia

- **Indonesia is rich in natural resources and biodiversity, but very vulnerable to climate change. Most part of GHG emission is cause by the anthropogenic landuse change for commercial plantation usage and the forest fire.**
- **In 2010, Indonesia formulated the 2nd Crush Program 2010-2014, based on Presidential Decree No. 4. The 1st program 2006- 2009 focused on the development of small-medium sized coal plants, however, the succeeding 2nd program emphasizes the increase of renewable energy development such as geothermal energy (39%) and hydropower(12 %).**
- **Ministerial Regulation No. 24, 2010, introduced tax incentive measures to renewable energy businesses. Geothermal energy, wind power energy, biofuell energy, solar energy, hydropower, ocean current energy and ocean thermal energy.**
- **Indonesia expects the development of REDD plus projects by utilizing its abundant forest as the source of carbon sink. UNDP supports Indonesia with various climate change projects such as the policy recommendation to climate change programs, financial mechanism, and sustainable management of natural resources.**

Climate change law and policy in India

- The Gov. established Min. of Non-conventional Energy Sources in 1992 to promote alternative energy, and in 2006, changed its name to Min. of New & Renewable Energy. Formulation of long-term comprehensive save-energy policy plan was made.
- In 2001,the Energy Conservation Act was enacted and, under this Act, Energy Efficiency Bureau was established to implement save-energy policy in entire industrial sectors. It specified 15 sectors as the energy-consuming industries including aluminum, fertilizer, steel & works, cement, sugar, chemicals and so on. It also obligated certain energy-consuming factories to employ a qualified energy manager/an auditor, and submit their annual report on energy. Setup of energy fund at respective State and save-energy labeling system were introduced.
- Under Electric Act of 2003, co-generation system with renewable energy source was enhanced. The National Electricity Policy of 2005 stated that the non-conventional energy use was increased. India is enthusiastic in receiving CDM projects like China. India has continually opposed to the reduction of GHG, however, especially after the Bali Conference (COP13, 2007), it is said that India is changing its awareness.

Indonesian forestry related laws and regulations(1)

1. Presidential regulation Perpres No.3, 2012 on spatial planning of Kalimantan Island to protect biodiversity and keep at least 45 % of the tropical forest protected as a lung of the earth
2. Presidential regulation Perpres No.71, 2011 on conducting national Inventory of GHG
3. Ministerial regulation (Min .of Forestry) : Menhut-II No.67//2011: Guidelines on financial support to conserved village areas

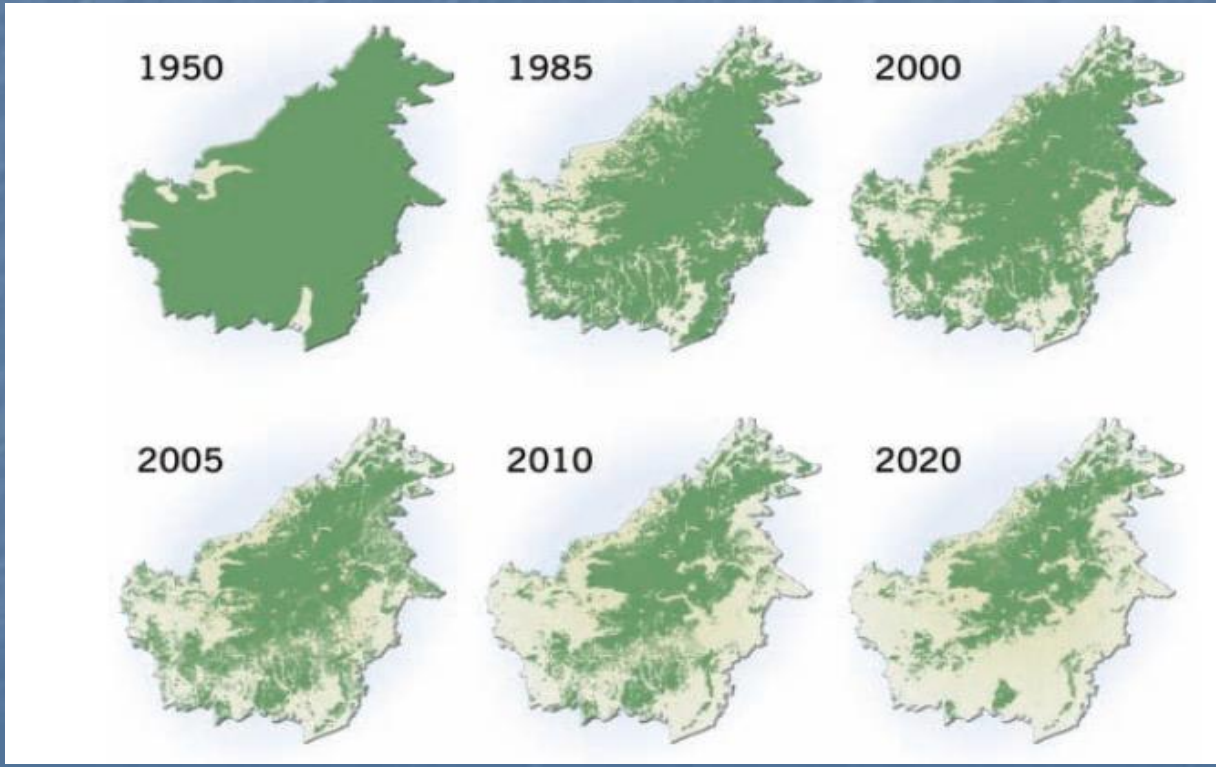
Indonesian forestry related laws and regulations(2)

4. Regulation of the Minister of Forestry No. (P30/MENHUT-II/2009) on Compliance scheme.

5. Regulation of the Minister of Forestry (P36/MENHUT-II/2009) on Voluntary scheme.

Different situation in Indonesia from others(1)

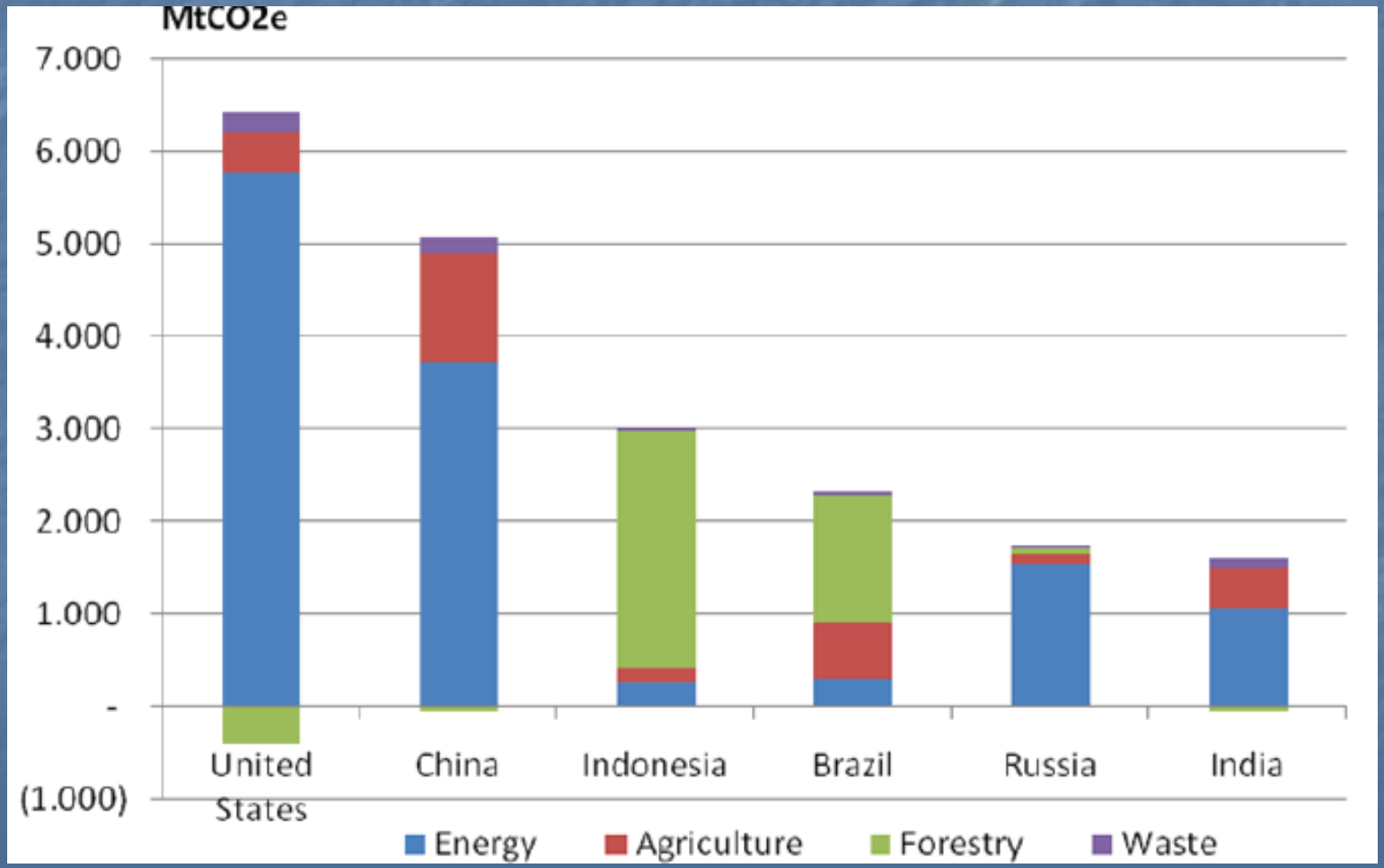
Extent of deforestation in Borneo 1950-2005, and projection towards 2020



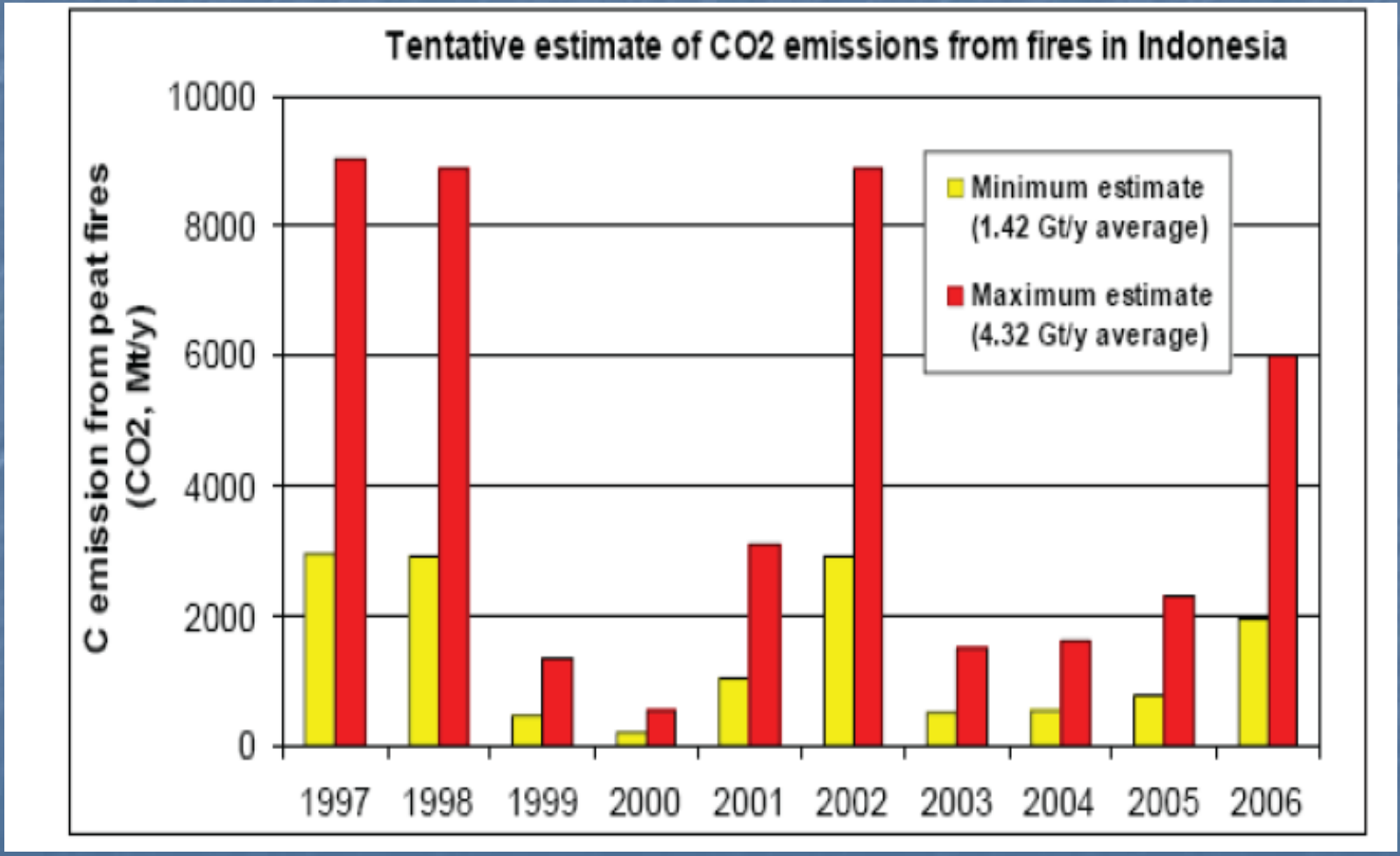
(UNEP/GRID-Arendal, 2007)

Indonesia (2)

The Comparison of GHG Emission



Indonesia(3)


Tentative estimate of CO2 emissions from fires in Indonesia
C emission from peat fires (CO2, Mt/y)
10000
8000
6000
4000
2000
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
Minimum estimate (1.42 Gt/y average)
Maximum estimate (4.32 Gt/y average)

Korea: Framework Act on Low Carbon and Green Growth (No.9931, 2010)

- Framework Act on Low Carbon and Green Growth aims to lay down a basis for low carbon and green growth. The Gov. must formulate national policies, taking into consideration of impacts to the economy, environment and climate change. The Gov. must encourage/ support local governments to apply measures for low carbon and green growth. Local Governments and business entities are responsible for climate change.
- The Gov. must establish/enforce national strategy for low carbon and green growth, as well as an action plan for central Gov. agencies and local gov'ts.
- The Green Growth Committee chaired by the President must be established. The Green Growth Task Force is established to assist the Committee.
- The Gov. must establish/ implement the basic energy policy and the plan on climate change. The Gov. introduces the Cap and Trade System.

Philippines：Climate Change Act of 2009 (REPUBLIC ACT NO. 9729, 2009) (1)

- **Vulnerability of the archipelagic Philippines and the local communities is** recognized. Cooperation with the global community is declared to solve climate change issues.
- Under this Act, the Climate Change Commission is created, which is an independent and autonomous departmental-level governmental body. The Commission is chaired by the President of the Philippines and is attached to the Office of the President..
- The Commission shall be the sole policy-making body of the government on the climate change and Climate Change Office is created to assist the Commission.

Philippines：Climate Change Act of 2009 (REPUBLIC ACT NO. 9729, 2009) (2)

- First of all, t he Commission ensures the mainstreaming of climate change in various development plans and programs. It also coordinates and synchronizes climate change programs of national government. It formulates a Framework Strategy on Climate Change to serve as the basis for a program on climate change.
- It can also recommend legislation, policies, strategies, programs on and appropriations for climate change adaptation and mitigation and other related activities.
- The Commission also formulates a National Climate Change Action Plan in accordance with the Framework.. Local Governments must formulate Local Climate Change Action Plan. Respective Government Agency must implement the framework strategy and program on climate change. It also provides for allocation funding for Climate Change activities.

Common features

- To organize a commission responsible for formulating national climate change policy under a strong leadership
- To formulate climate change policies both at national and local government levels
- To regulate roles and functions of the commission
- To specify responsible administrative organization and the assisting secretariat to the commission

Environmental laws in Asia have rapidly developed but why they are still stagnant ?

- Laws are mostly imported from developed countries, however, they are still at adaptation stages.
- Procedural and subsidiary regulations are not yet provided.
- Lack of applicability because of the lack of governance ability.
- Socio-economic and political systems look rapidly developing, However, they are not always the same with the developed countries.

Useful bottom-up measures for international decision-making process

- Different legal systems of different countries can be well harmonized and developed on global matters.
- Different env. policies and management measures can be mixed and developed for further application.
- Regional cooperation between neighboring countries can support democratic decision making process for regional and global common issues.

Mixture of various pollution management measures

Top-down or Bottom up? How can different measures be well categorized? (efficiency or effectiveness, or cost performance ?)

(1) Integrative & comprehensive policy measures: env. policy& plan, land use, zoning, designation of polluted area, EIA/SEA

(2)Regulatory measures: standards, inspection, sanction, env. Police

(3)Economic measures: tax, deposit, emission charge, CDM

(4)Participative & educational measures: env. Education, env. Information, public participation, consultation

Major sub-regional env. programs in Asia （1）

Sub-regional env. Programs	Yr./No. of member countries, organization	Programs	Regional agreement	Decisions and declarations for regional cooperation
ASOEN	ASEAN 10 countries, 1987, Secretariat in Jakarta, Haze Coordinating Center	ASEP I ～ III(78 ～ 82,83 ～ 87, 88 ～ 92),Strategic action program （ 94 ～ 98 ） ,Hanoi action program(99 ～ 04） ,Vientiane action program(04 -10)	ASEAN nature conservation agreement (85),ASEAN haze agreement （02）, ASEAN biodiversity center agreement （05） ,ASEAN Constitution(08)	Manila (81),Heritage parks （ 84 ） , Bangkok(84).Jakarta SD(87), Kuala Lumpur(90 ） , Singapore (92),Bandar Sri Begawan(94 ） , Haze action plan(97 ） ,Jakarta （ 97 ） ,biodiversity center(99 ） , Kotakinabaru(00), Heritage parks （ 03 ） ,Yangon SD （03） ,Sebu SD(06),ASEAN SD(07)
SACEP	South Asian 8 countries,1982,Colombo	Colombo declaration		Colombo （ 81 ） ,natural resources information center （ 90 ） ,Sea action program （95） ,Male transfronteer air pollution （98） ,Oil contingency plan （ 03 ） ,bio-diversity clearing house mechanism

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Major sub-regional env. programs in Asia （2）

SPREP	21 Pacific archipelagic countries/regions including 4 such countries as Australia & NZ.1993, Apia in Samoa	Strategic programs with 2 future tasks, action plan with 3 tasks; harmonized approach, partnership and etc.	South Pacific Natural resources and env. protection agreement （86）, Establishment of SPREP agreement(93),Waigami agreement (95),Apia agreement (76, but suspended in 06)	South pacific strategic env. cooperation program （ 04 ～ 13 ） ,South Pacific Action Program （ 05～09 ） ,and other many action programs
CAREC	nil	Caspian Sea env. program (CEP)	nil	Caspian Sea （ 95 ） ,Strategic regional cooperation program （ 05 ～ 07 ） ,establishment of Scientific information center (SIC)
NEASPEC	Northeast 6 Asian 6 countries, 1993, no secretariat office	Senior high officials meet annually to exchange information, capacity building, and monitoring to solve global and regional env. Issues.	nil	Training of air pollution prevention, data collection and etc.

(Source) Author.Ajiken World Trend No.132 (Sept., 2006) modified.

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Env. Rights provisions in Asian Constitutions

国名	Constitution	Env. rights	Env. obligations	Both rights & obligations	Information Disclosure related Acts
China	1982 Const.		○(Nation is responsible)		
Korea	1987 Const.			○	1996年情報公開法
RI	1945 Const.	○			2000年公衆参加と環境情報に関する環境管理庁長官令
PH	1986 Const.		○(Gov. responsible for policy making)		2000年固形廃棄物法他(情報公開規定有)
TH	1997 Const.	○(participation & suing rights)			1997年情報公開法
VT	1992 Const.		○(Gov.& individual are responsible)		
LA	1991Const.		○		
CA	1993 Const.			○	
Myanmar	1974 Const.		○		
India	1985年Const.		○(Gov.& individual are responsible)		1997年環境森林省通達 2005年情報公開法

Conclusion

(Advantages of bottom–up approach)

- Complementary support to an international decision making process.
- Participatory bottom-up decision making process from individual countries to global issues.
- Harmonization and coordination of different environmental interest through regional cooperation on the environment.

Thank you very much.