

Looking into a Sustainable Asia

Motoyuki Suzuki*

The Open University of Japan

Asian Commonality and Diversity

1. Climatology in Asian Countries

2. Human and Economic Development in Asian Countries

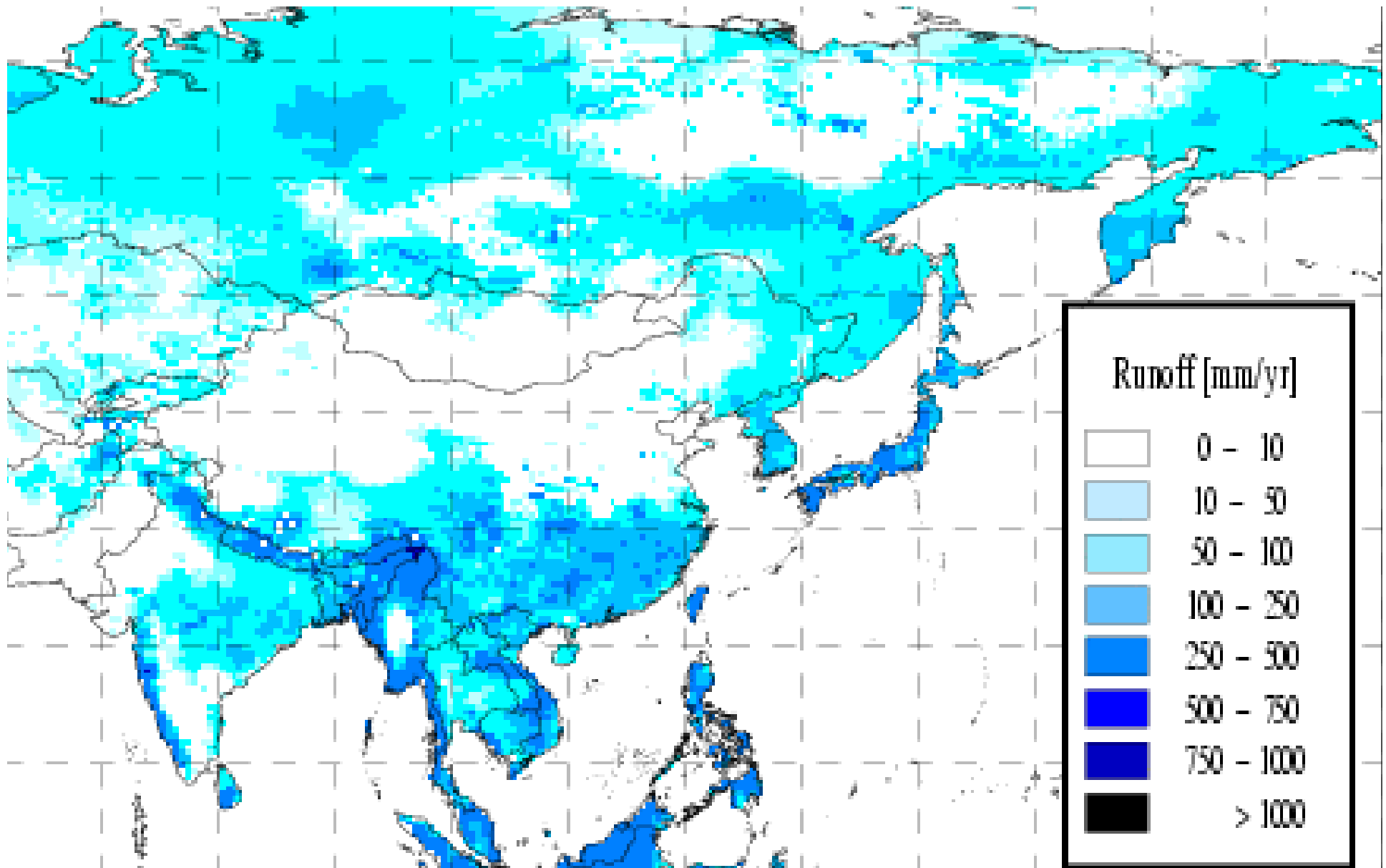
3. Environmental Issues and Cooperation in Asia for Sustainable Future

4. New Direction of DPJ Government

*United Nations University

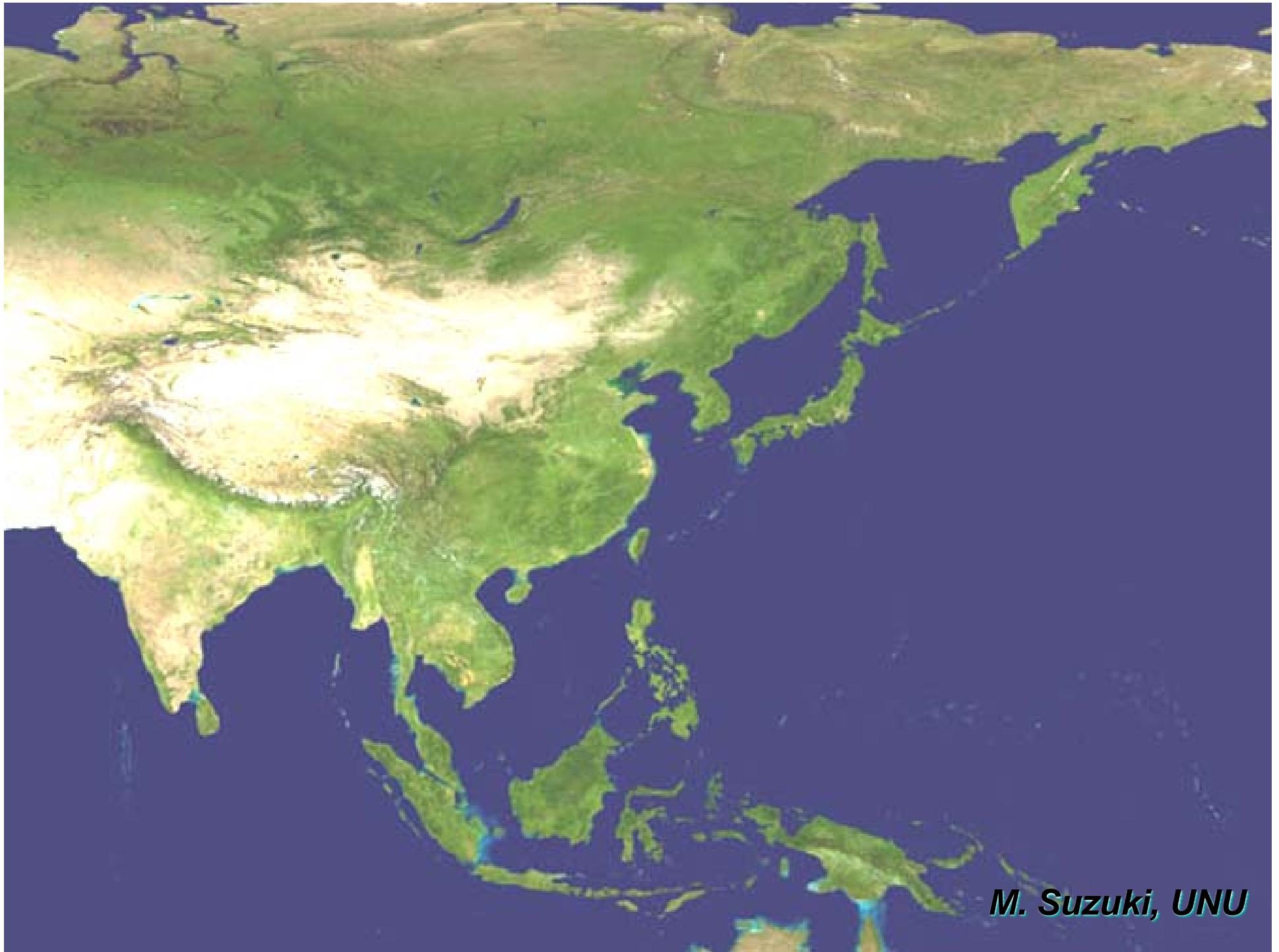
Background

- ✧ Globalization/down-sizing of the world---
Understanding of Finite Capacity (1990s)**
 - ✧ Collapse of the East-West structures (1989)**
 - ✧ Unification of economy systems, aggravation of worldwide competition in resources acquisition**
 - ✧ Progress of IT technologies (Late 1980s-)**
 - ✧ Common sharing of various information**
 - ✧ Understanding the mechanism and fragility of the earth system through global climate change events**
- ✧ The current generation is the first in the human history that really faced the limit of the earth.**

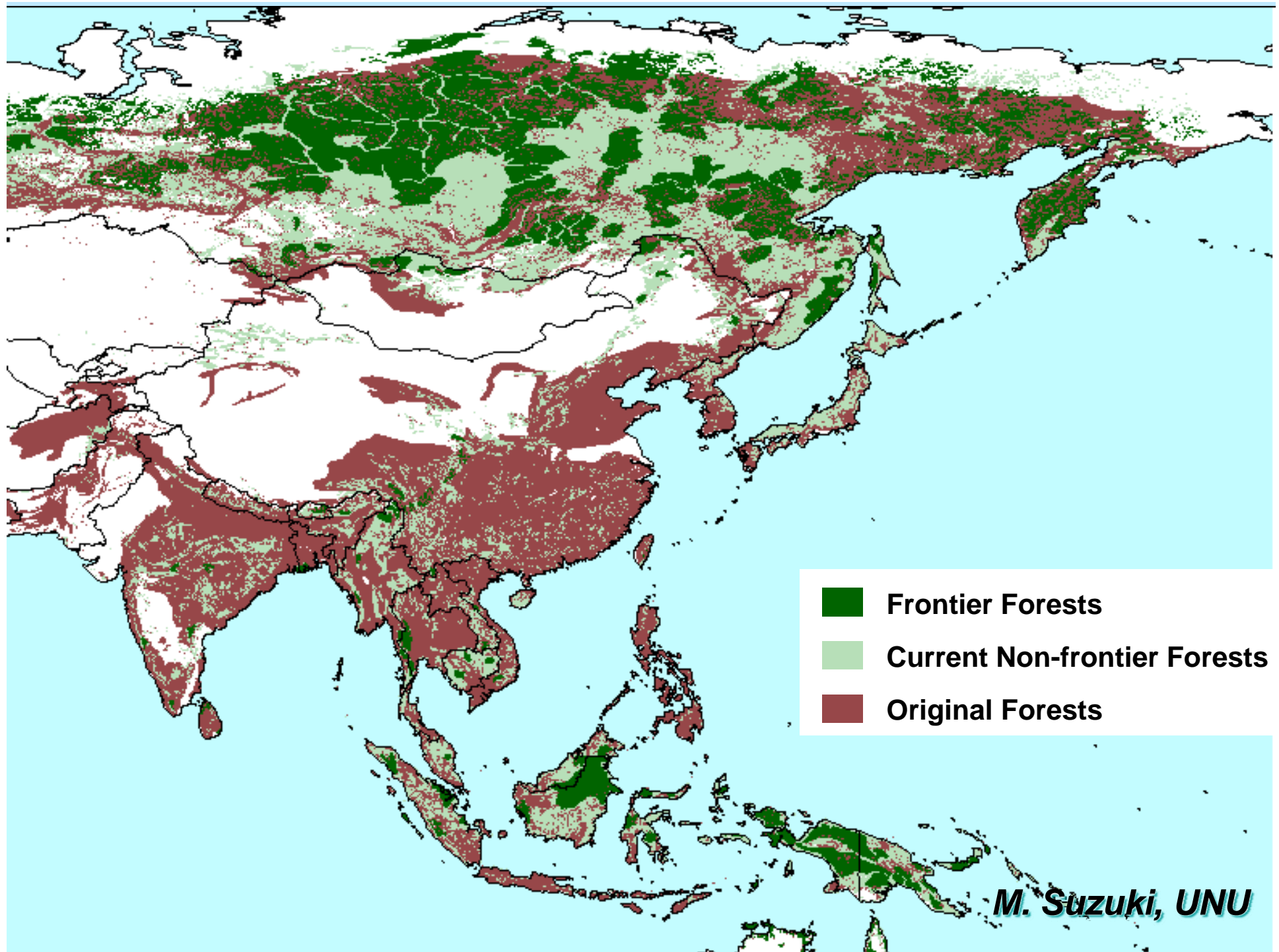


Monthly Precipitation

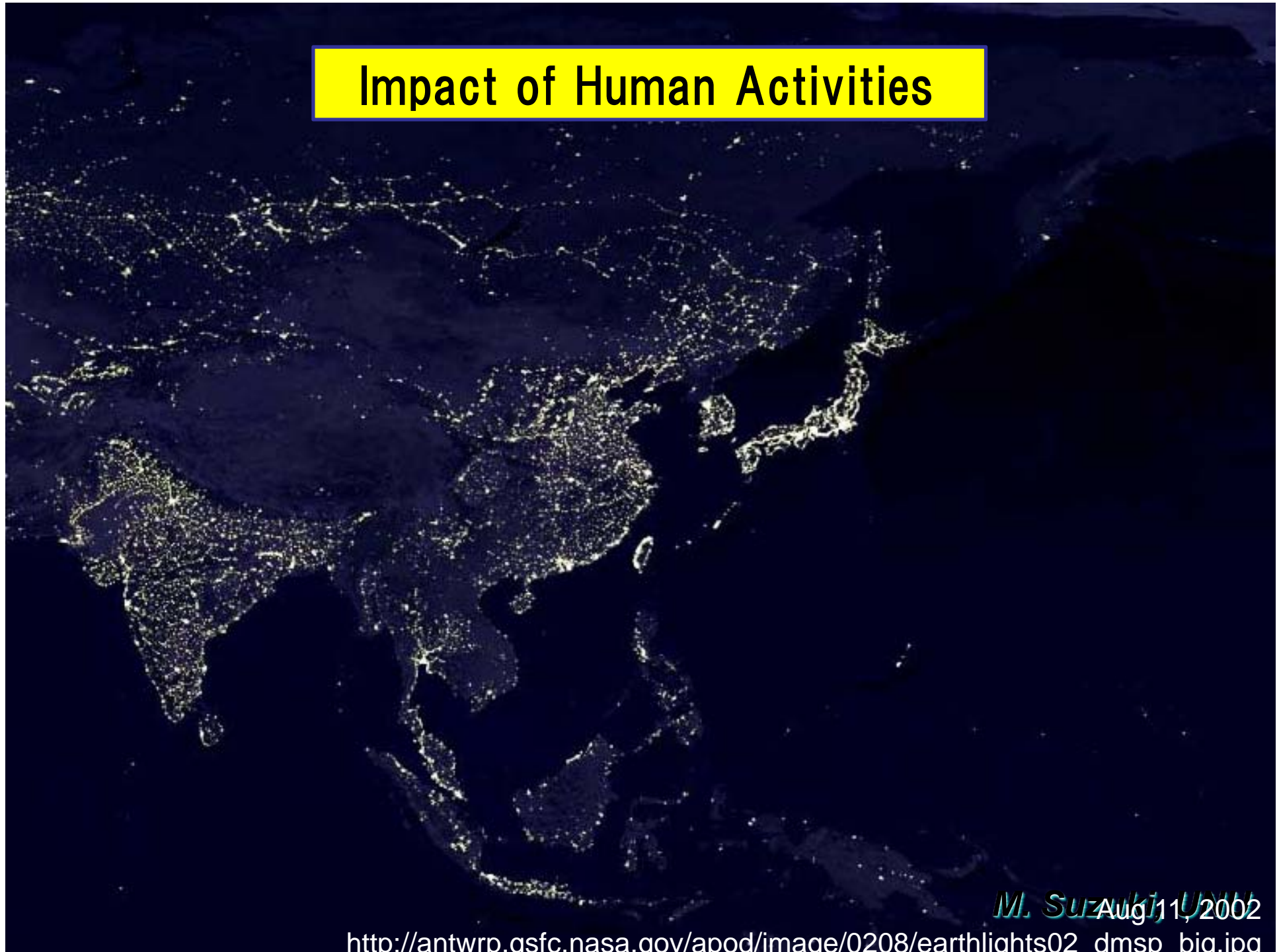
M. Suzuki, UNU



M. Suzuki, UNU



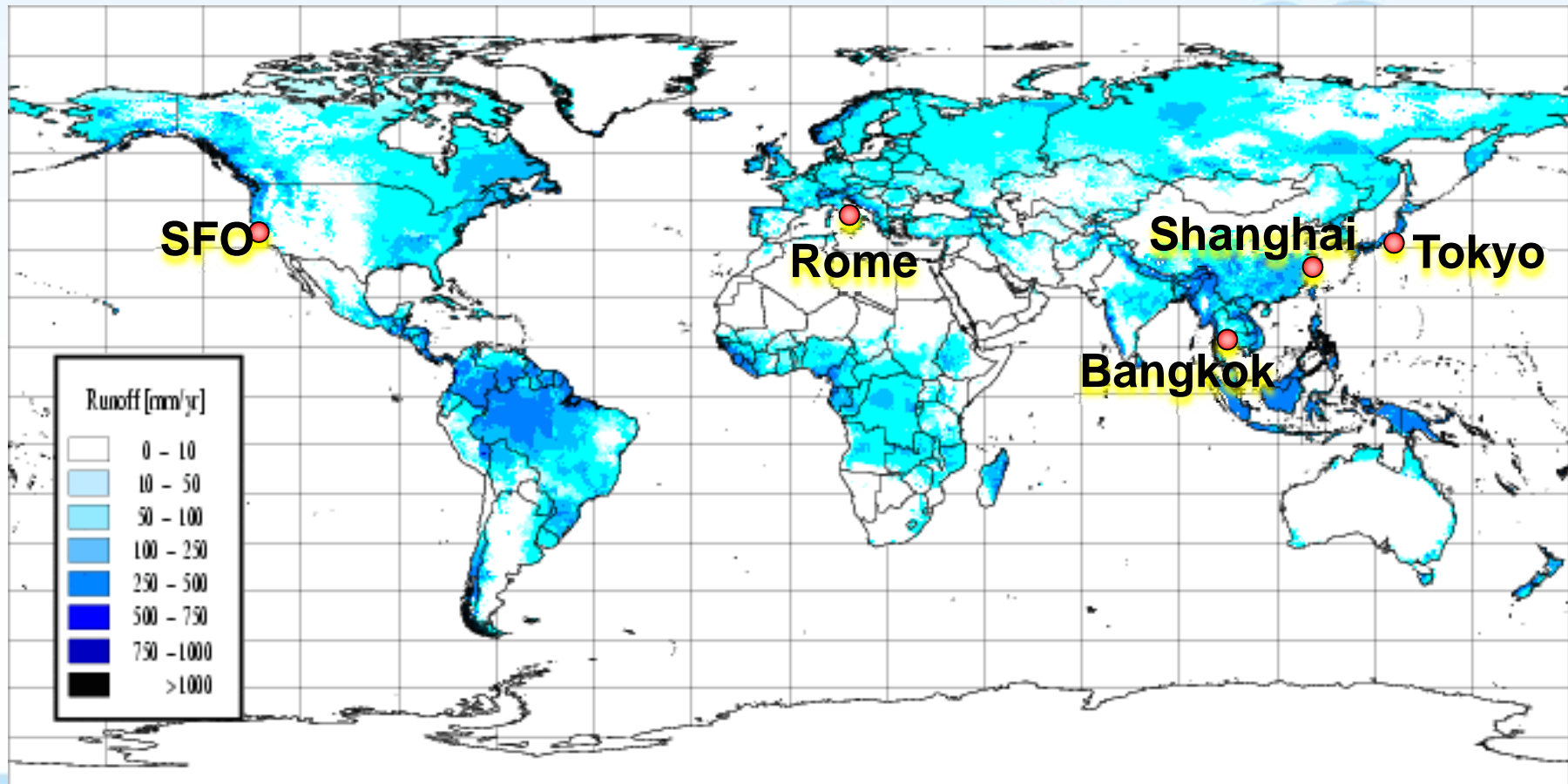
Impact of Human Activities



M. Suzuki, UNIV

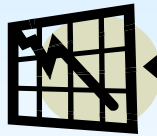
Aug 11, 2002
http://antwrp.gsfc.nasa.gov/apod/image/0208/earthlights02_dmsp_big.jpg

Annual Runoff in the World

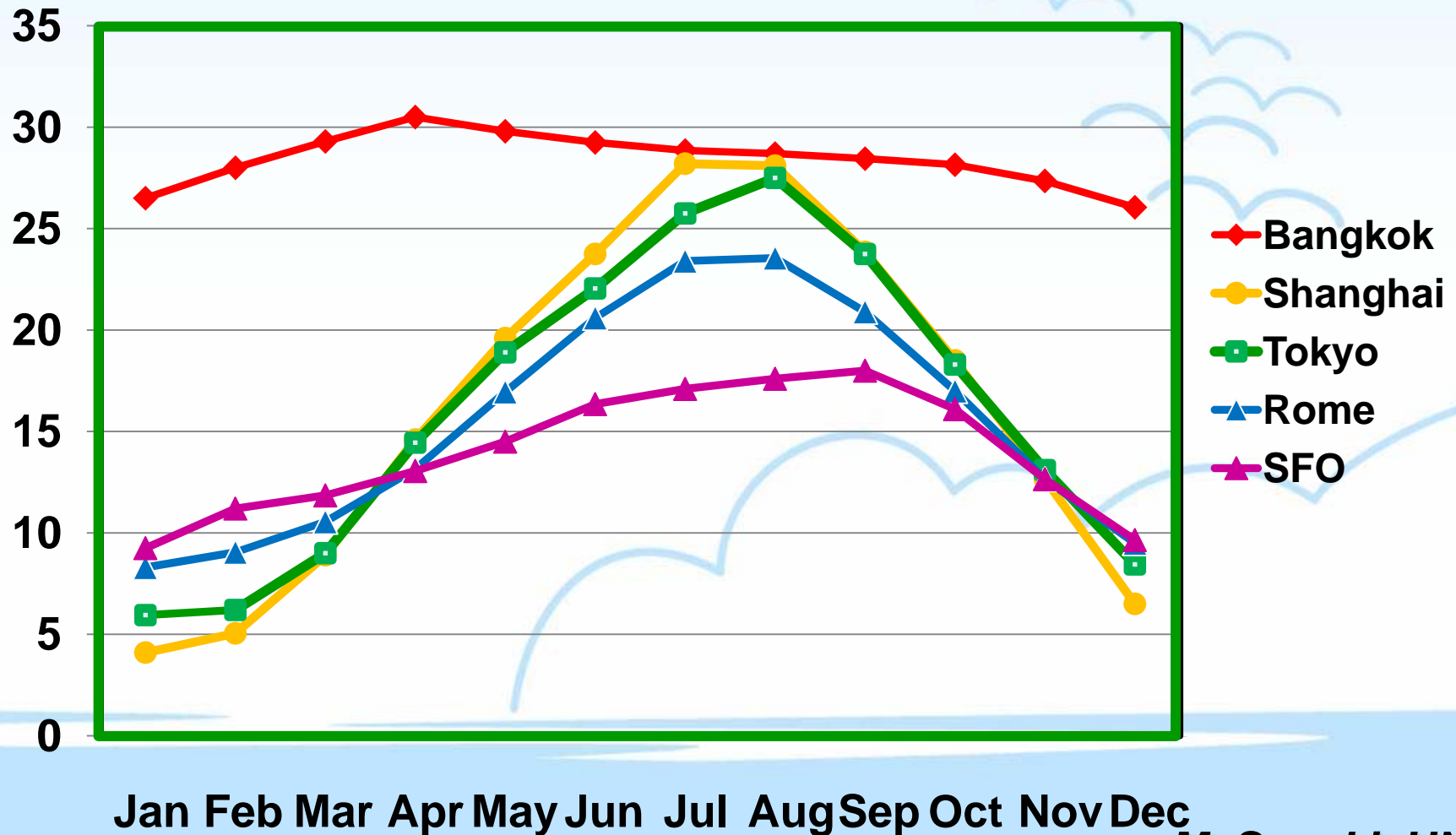


M. Suzuki, UNU

Monthly Averaged Temperature in Five Cities



Temperature (degC)

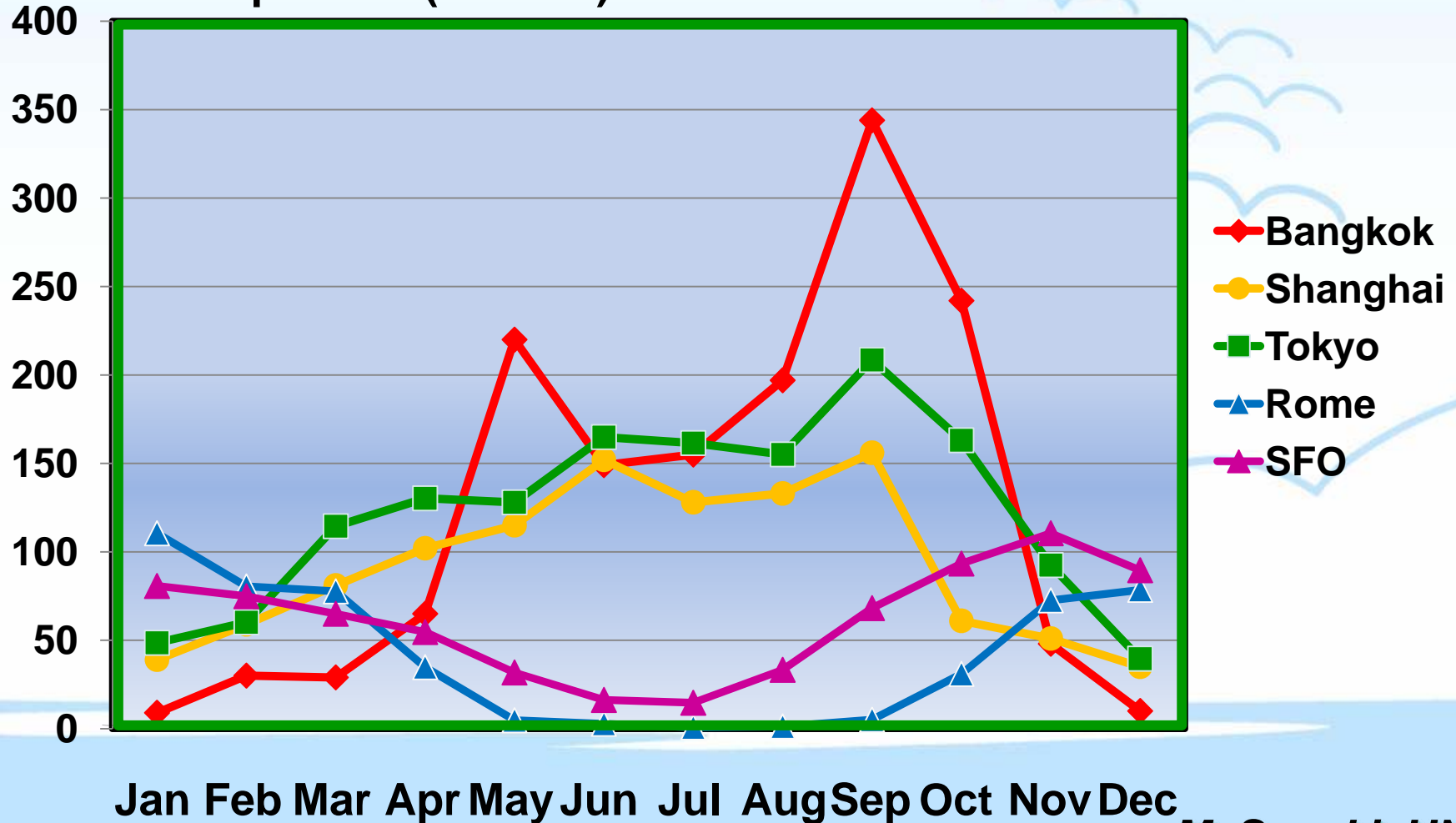


M. Suzuki, UNU



Monthly Averaged Precipitation in Five Cities

Precipitation (mm/mo)

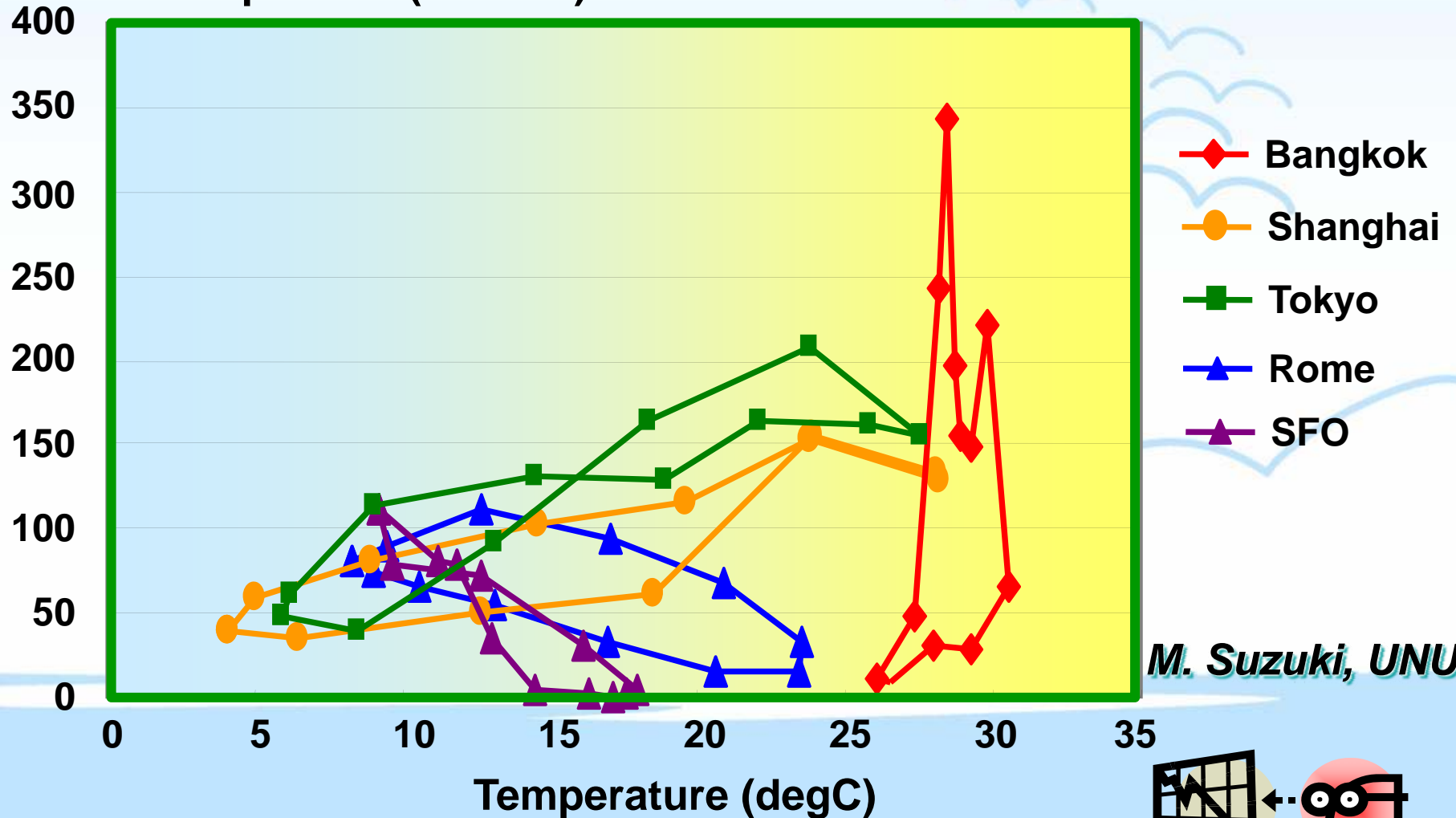


M. Suzuki, UNU

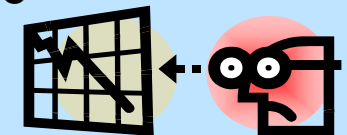


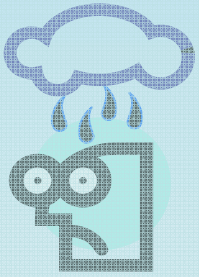
Monthly Temperature and Precipitation Relations

Precipitation (mm/mo)

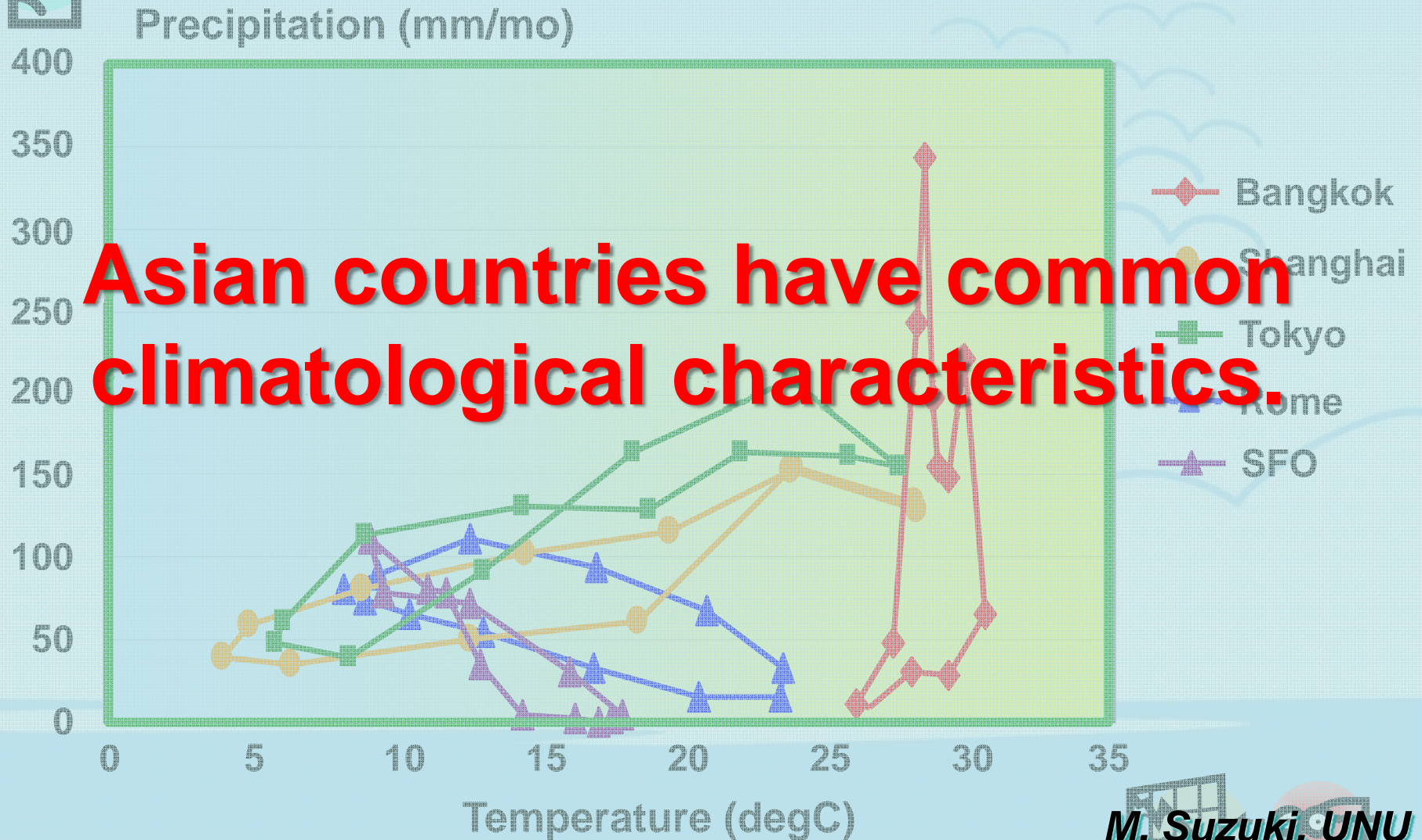


M. Suzuki, UNU





Monthly Temperature and Precipitation Relations



Global Population change

Population

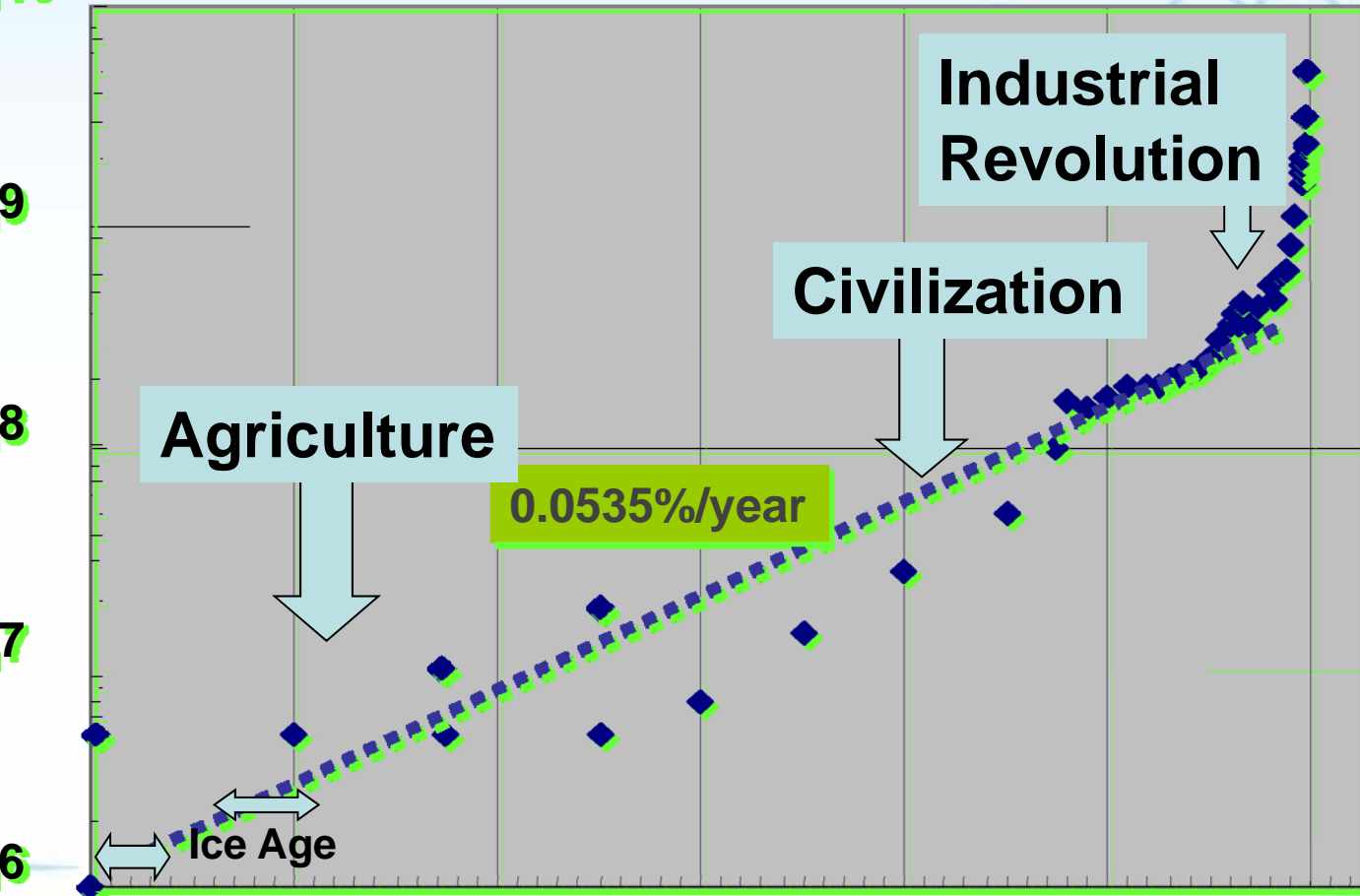
10^{10}

10^9

10^8

10^7

10^6



-10000

-6000

-2000

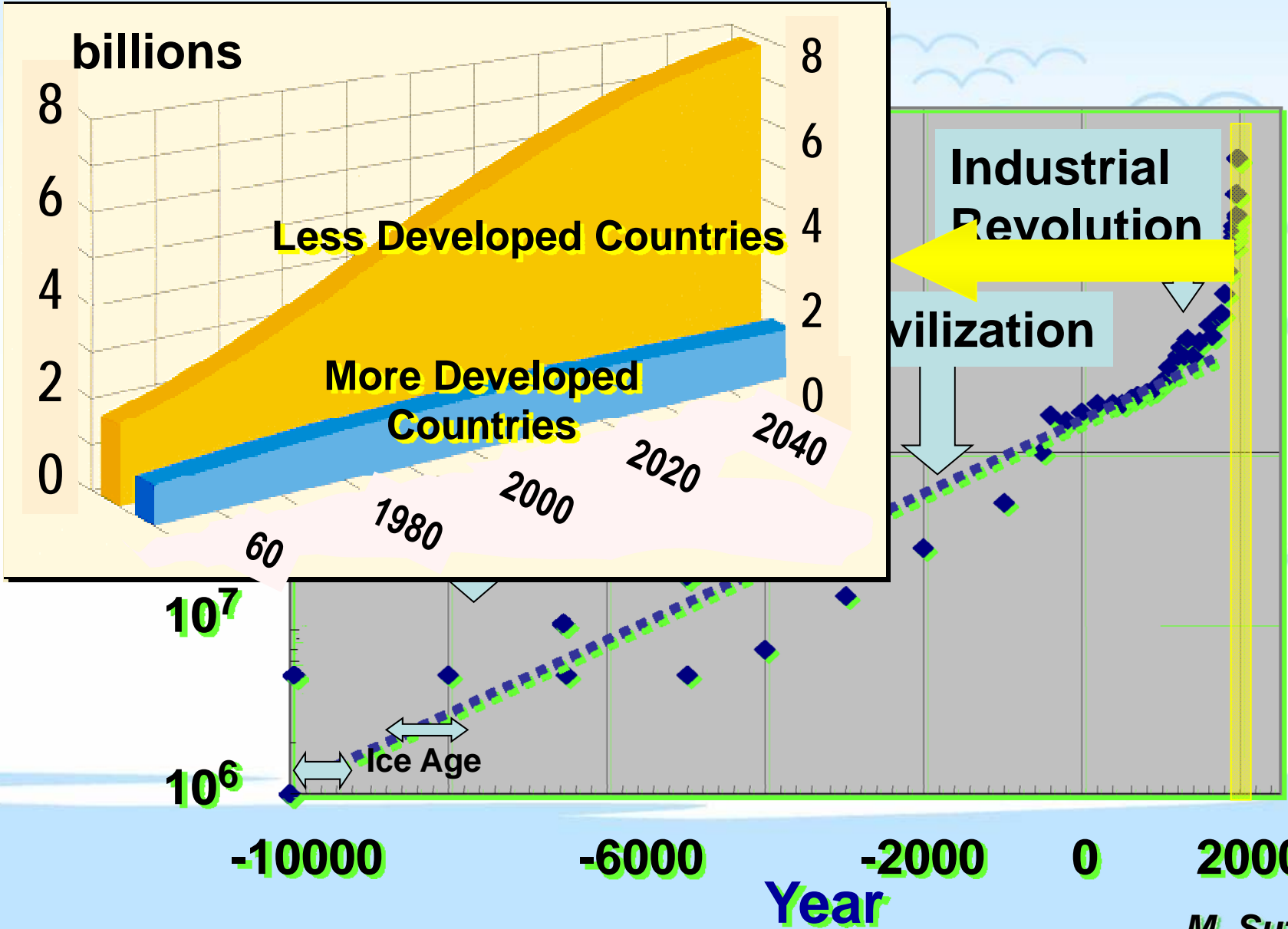
0

2000

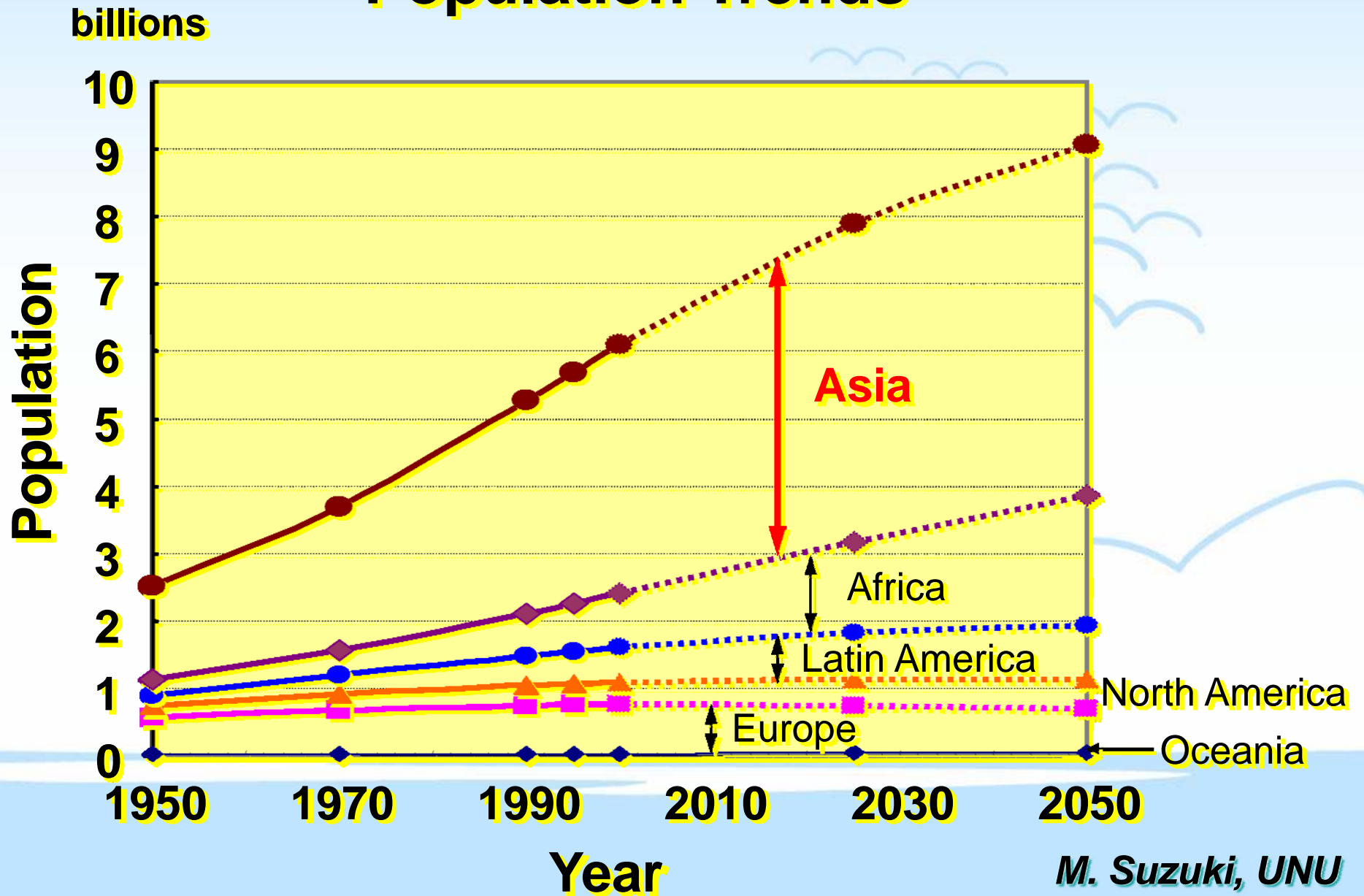
Year

M. Suzuki, UNU

Global Population change

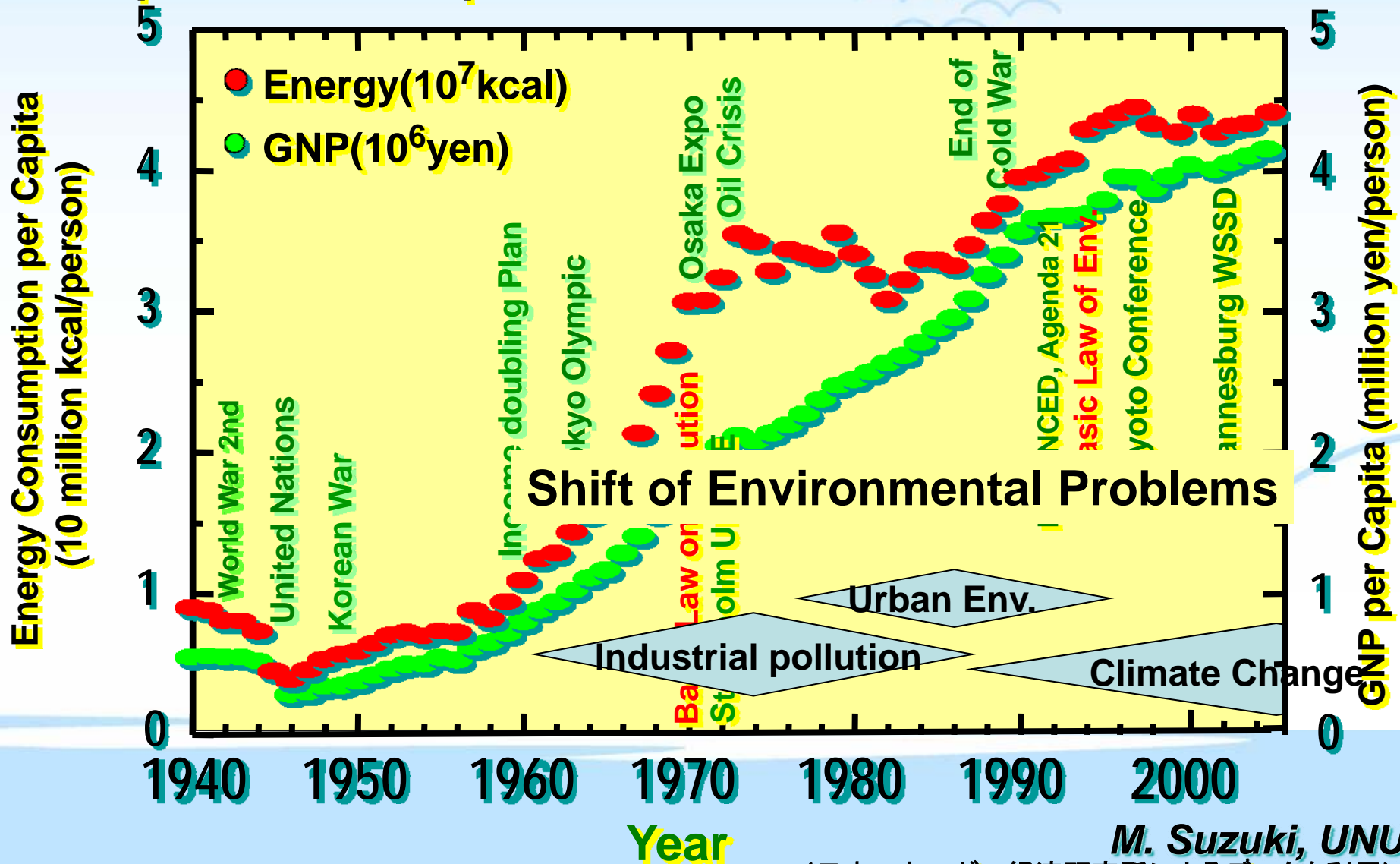


Population Trends

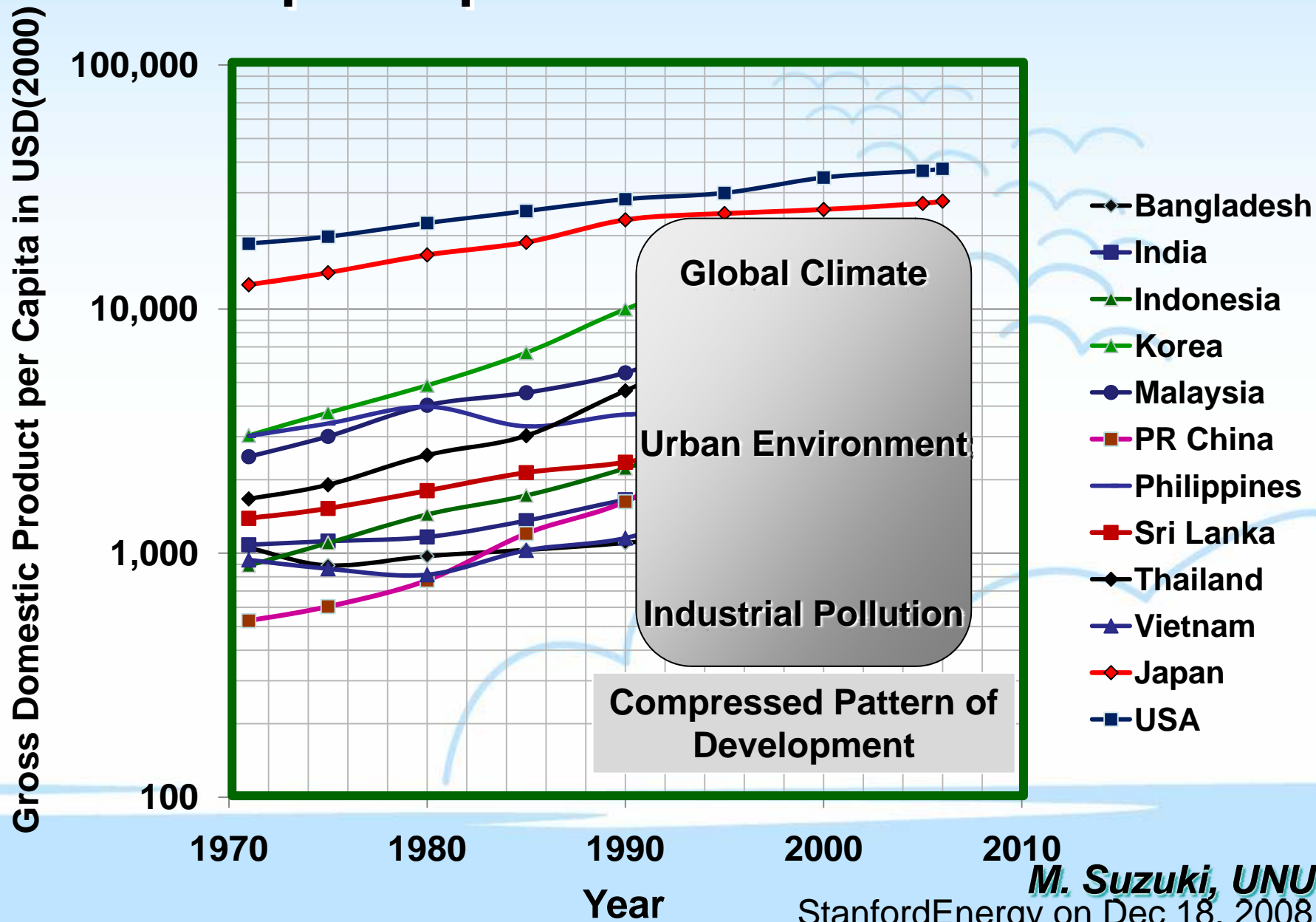


Trends of Japan Economy and Energy Consumption, 1940-2004:

Experience of Japan



GDP per Capita in Asian Countries

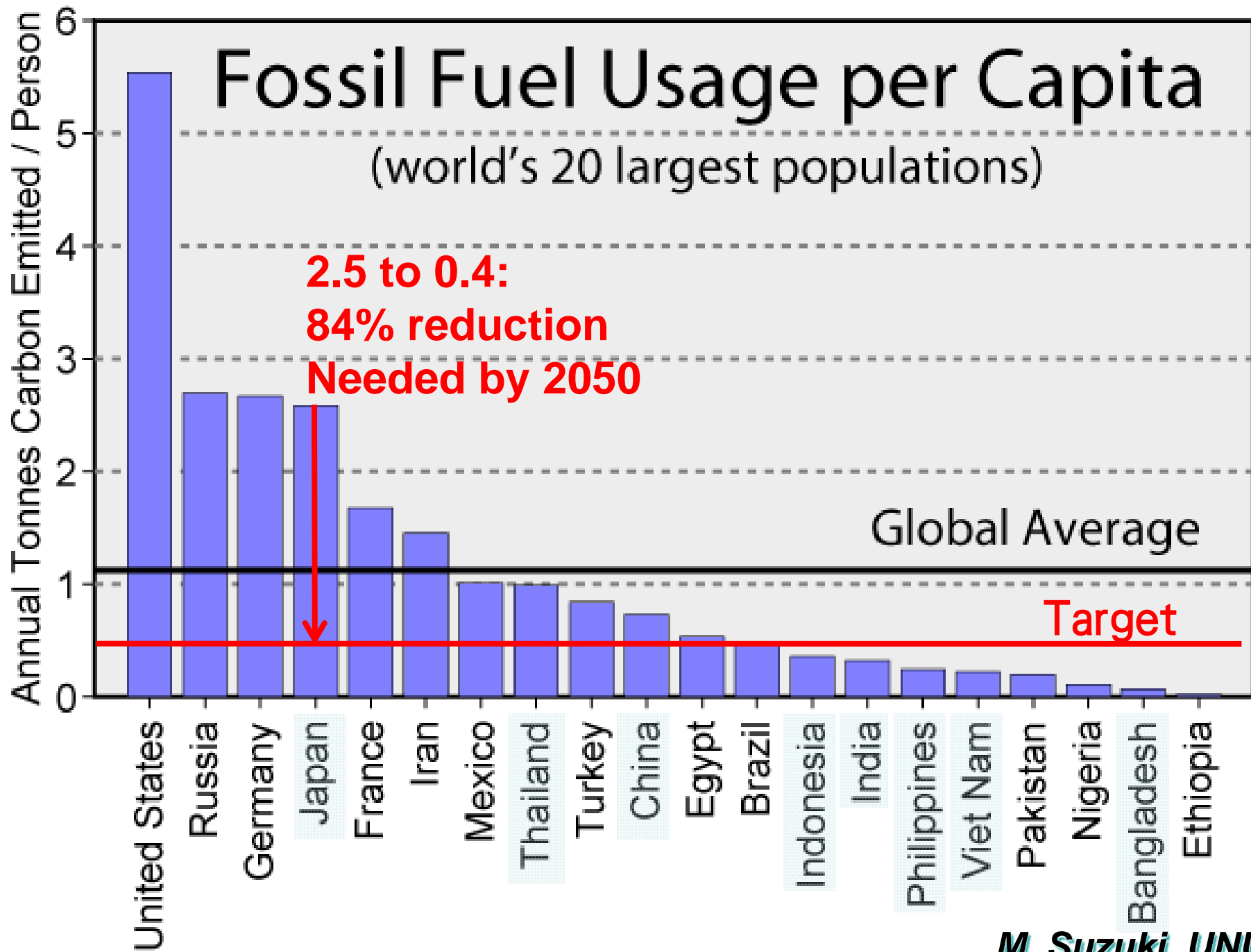


M. Suzuki, UNU

StanfordEnergy on Dec 18, 2008

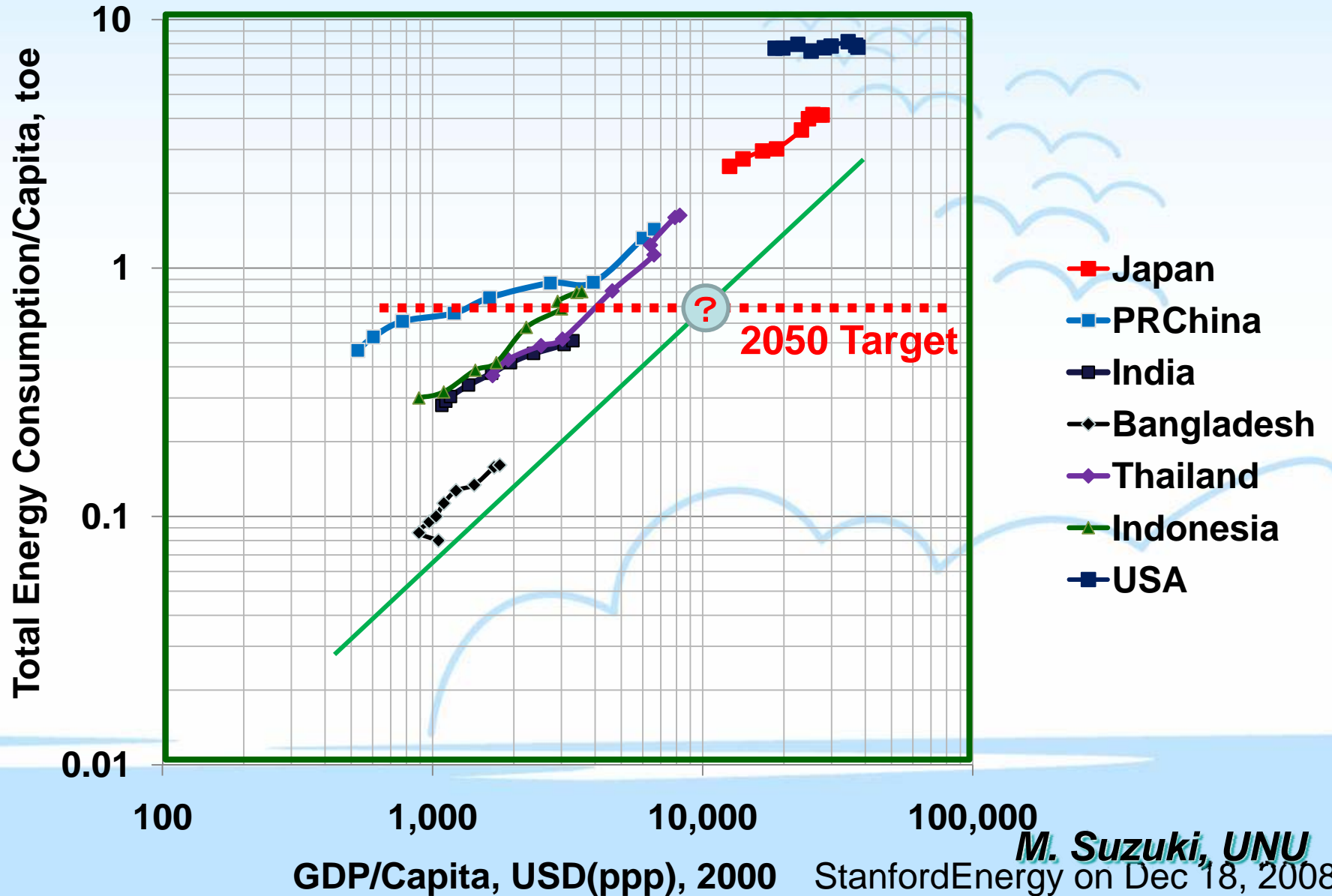
Fossil Fuel Usage per Capita

(world's 20 largest populations)



Change of Energy Consumption with GDP in Asian Countries

(points show 1971, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2006)

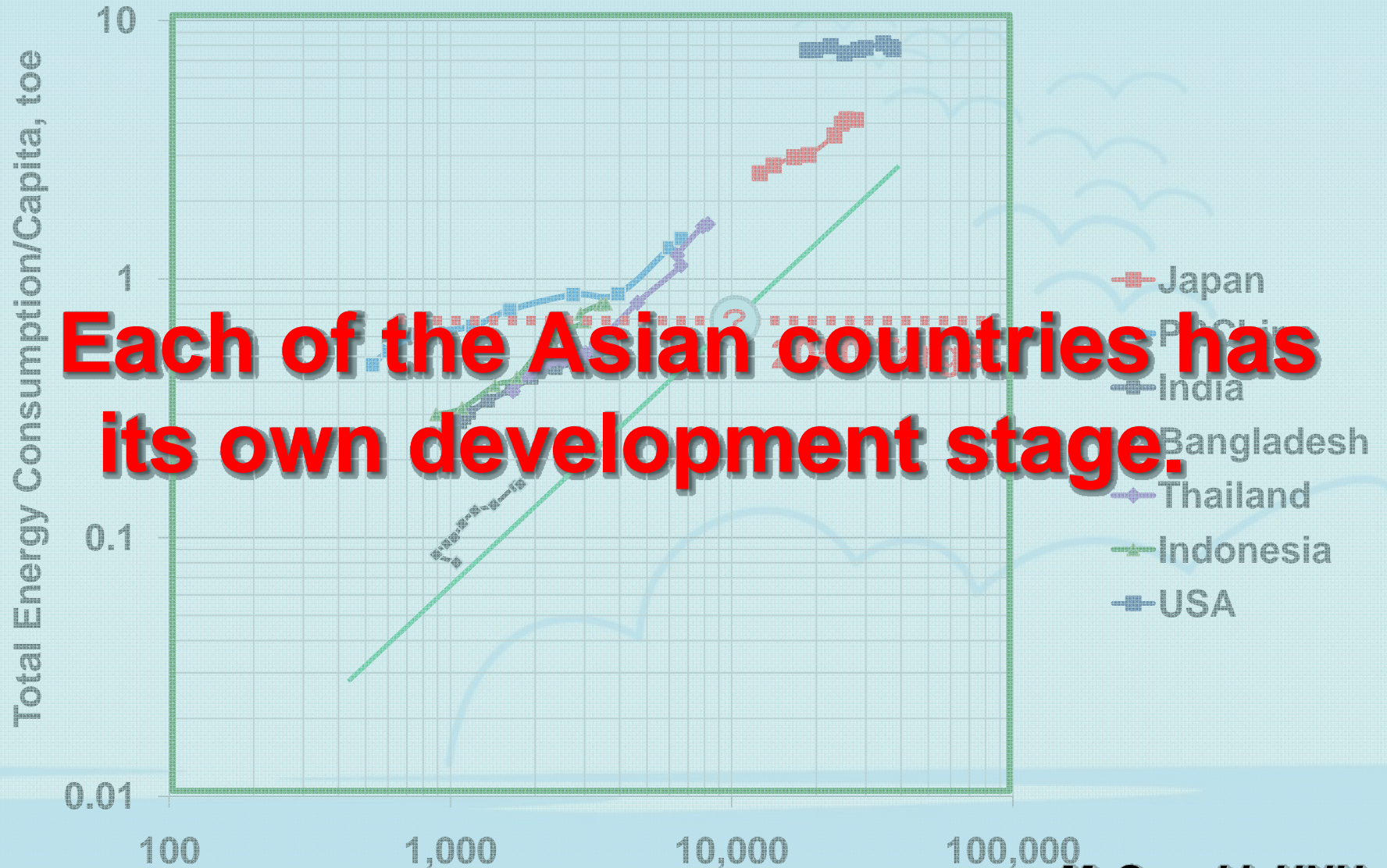


M. Suzuki, UNU

StanfordEnergy on Dec 18, 2008

Change of Energy Consumption with GDP in Asian Countries

(points show 1971, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2006)



Each of the Asian countries has its own development stage.

M. Suzuki, UNU

Common Environmental Issues and Cooperation in Asia

Water resources

- Increase of water demands for food production and industrial development
- Deterioration of water environment, EDCs

Red Tide/
Marine Litter

Air pollution

- Transboundary dust storms (yellow sand), acid rain, oxidants
- Atmospheric (Asian) brown cloud (ABC), Haze

Dust storm/
ABC

Deterioration of ecosystems

- Diminishing primary forests, illegal logging, forest fires
- Loss of biodiversity, invasive alien species
- Illegal mining

Forest fire/
mining

Global climate change

- CO₂ emissions
- Desertification, soil degradation

Soil
degradation

Solid wastes

- Needs for increasing resources productivity, 3R
- Hazardous wastes, cross-border transport

Garbage/
E-wastes

M. Suzuki, UNU

Address by Dr. Hatoyama, PM of Japan, at UNSCC



“The new Japanese government has set a very ambitious target for a greenhouse gas emissions reduction of 25% by 2020, if compared to the 1990 level. It has also made it clear that it is prepared to provide more financial and technical assistance to developing countries than in the past, in accordance with the progress of the international negotiations. This international commitment is premised on the formulation of a fair and effective international framework by all major economies and agreement on their ambitious targets.”

✿ (September 24, 2009)

M. Suzuki, UNU

Hatoyama Initiative

The Asahi World Environment Forum 2009 (September 7)

- ✿ “We aim to achieve that goal through political will, by mobilizing all policy steps required,”**
- ✿ “Japan's pledge to the international community hinges on an agreement on ambitious goals among all major economies,”**
- ✿ “Advanced nations should offer financial and technological assistance to developing countries that are working aggressively to reduce emissions by setting Nationally Appropriate Mitigation Action (NAMA) etc.,”**

M. Suzuki, UNU

Topics to share among members (1/2)

1. Environmental Commons

1. Increasing interactions and interdependency through trades/economic activities among countries within the region
2. Countries with common climatological/cultural conditions, i.e., strong effect of monsoon, rice cultures
3. Environmental resources/services to be shared within the area

2. Science and Technology for complex issues

1. Identification of sustainability technologies for specific conditions
2. Development of co-beneficial countermeasures

Topics to share among members (2/2)

3. Human/social development

1. Enhancement of environmental governance

1. Establishment of institutional/social systems

2. Enhancement of awareness for environmental degradation

2. Capacity development

1. Training/human development, empowerment

3. Arrangement of a common information-base

1. State of the arts in environmental problems

2. Technology, social measures

Final Remarks

- ◆ Sustainability development is one of the most significant missions within Asia.
- ◆ Environment/ecosystems should be considered as the Commons among member countries.
- ◆ Joint ownership of environment should become the base for formulating a future sustainability of Asian region.