



# New Network of IWRM for Asia

- Network of Asian River Basin Organizations -

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\* Water plays various roles.

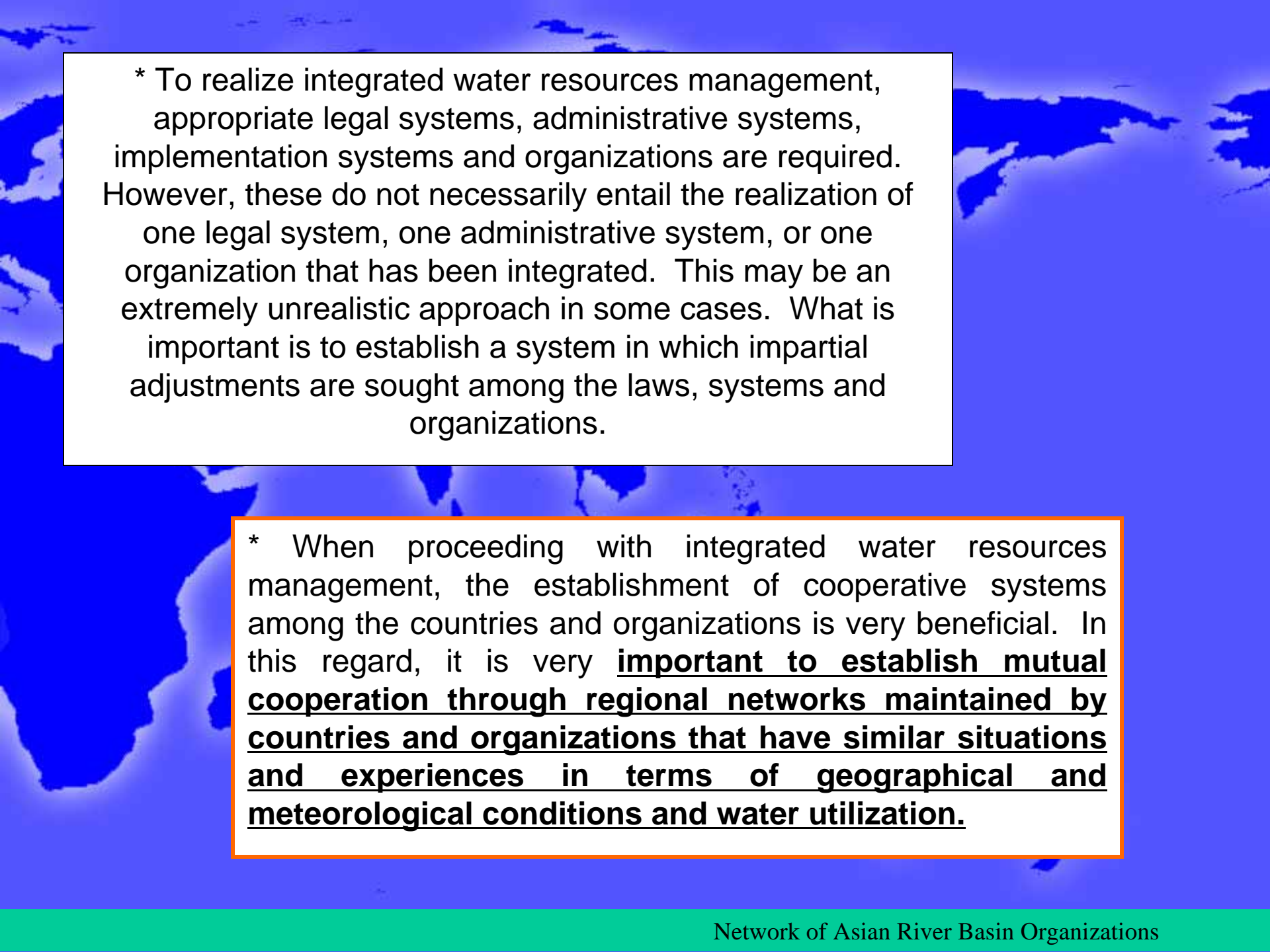
Water is an indispensable resource for people to live and develop, and at the same time it is an important element that constitutes the environment of the area.

At present, serious and complex problems concerning water have occurred worldwide, and in order to solve them, it is required that integrated water resources management be established that considers all the factors on water resources at the integrated and comprehensive point of view.

\* Integrated water resources management is not to devise one plan, but is a process in which an effort is made from an integrated perspective aiming at better water resources management.

\* Each country or region has its own geographical and meteorological features, a history of water use, regional cultures and customs, and various value judgment exists that is based on these. Also, each country or region has a different situation of economic development. If the real situation and value judgment of each country or region are not respected, it is difficult to establish effective and appropriate integrated water resources management.

\* Hence, appropriate integrated water resources management is not to be determined by only one rule & standard, let alone by forcing the systems of other countries upon the country. Integrated water resources management should be established based on the characteristic of the country or region.

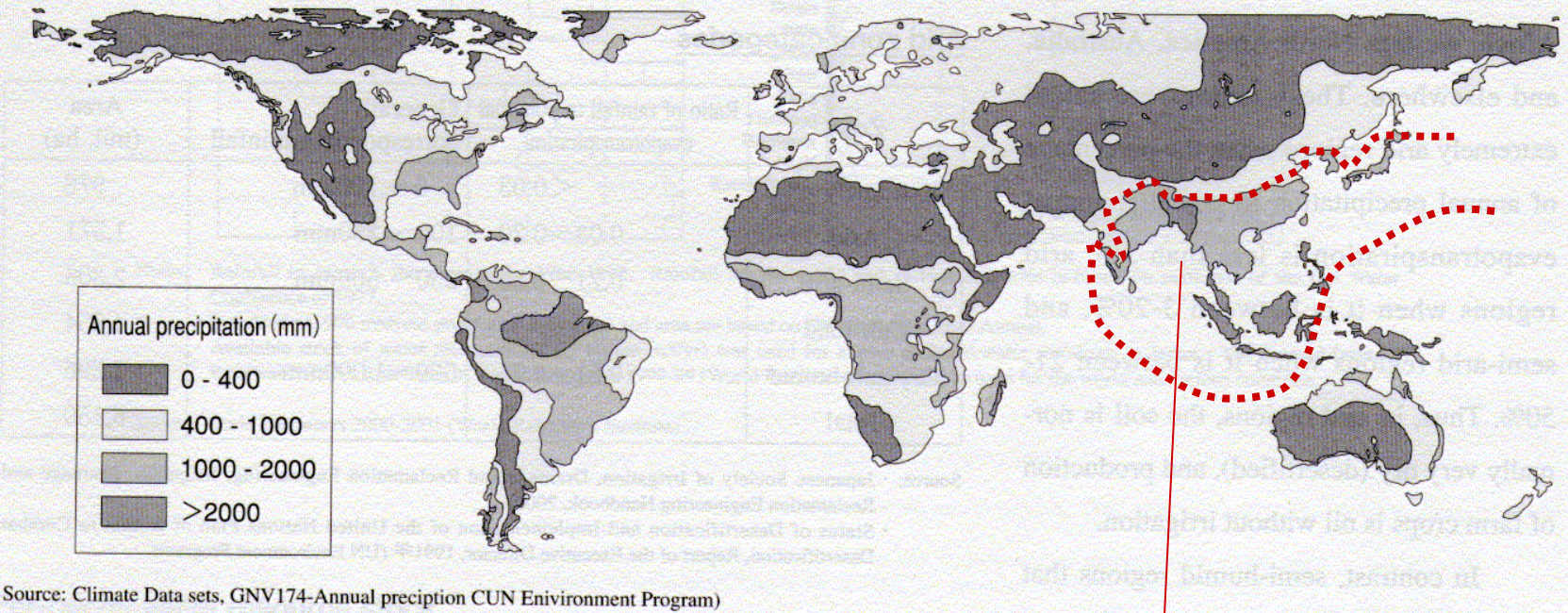


\* To realize integrated water resources management, appropriate legal systems, administrative systems, implementation systems and organizations are required. However, these do not necessarily entail the realization of one legal system, one administrative system, or one organization that has been integrated. This may be an extremely unrealistic approach in some cases. What is important is to establish a system in which impartial adjustments are sought among the laws, systems and organizations.

\* When proceeding with integrated water resources management, the establishment of cooperative systems among the countries and organizations is very beneficial. In this regard, it is very **important to establish mutual cooperation through regional networks maintained by countries and organizations that have similar situations and experiences in terms of geographical and meteorological conditions and water utilization.**

# Asia Monsoon Region

Global distribution of annual precipitation

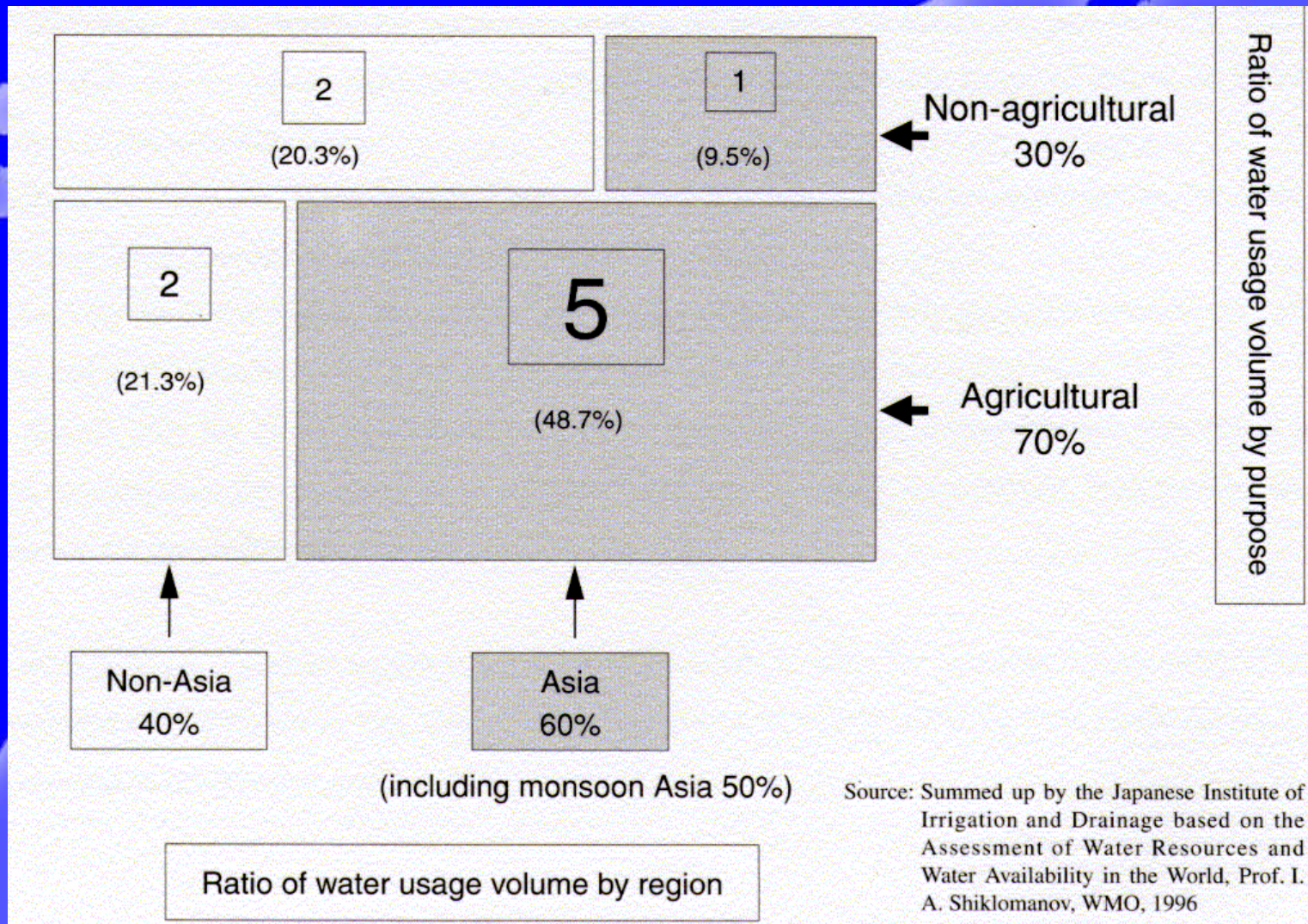


**Japan, the Korean peninsula, China(except the western interior, the Yellow river basin, and surrounding areas), all of Southeast Asia(the Indochina peninsula and the island nations), Nepal, Bhutan, Bangladesh, Sri Lanka, and areas east of the Deccan Plateau plus southwestern coastal regions of India**

# General Features of Water Resources in the Asian Monsoon Region

- The Asian Monsoon Region is characterized by
  - High precipitation compared with the global annual average of 1,000 mm, under the influence of seasonal winds
  - Distinct wet and dry seasons in a year
  - Day-by-day fluctuation of precipitation
- Leads to
  - Rice paddy farming
  - High irrigation rate

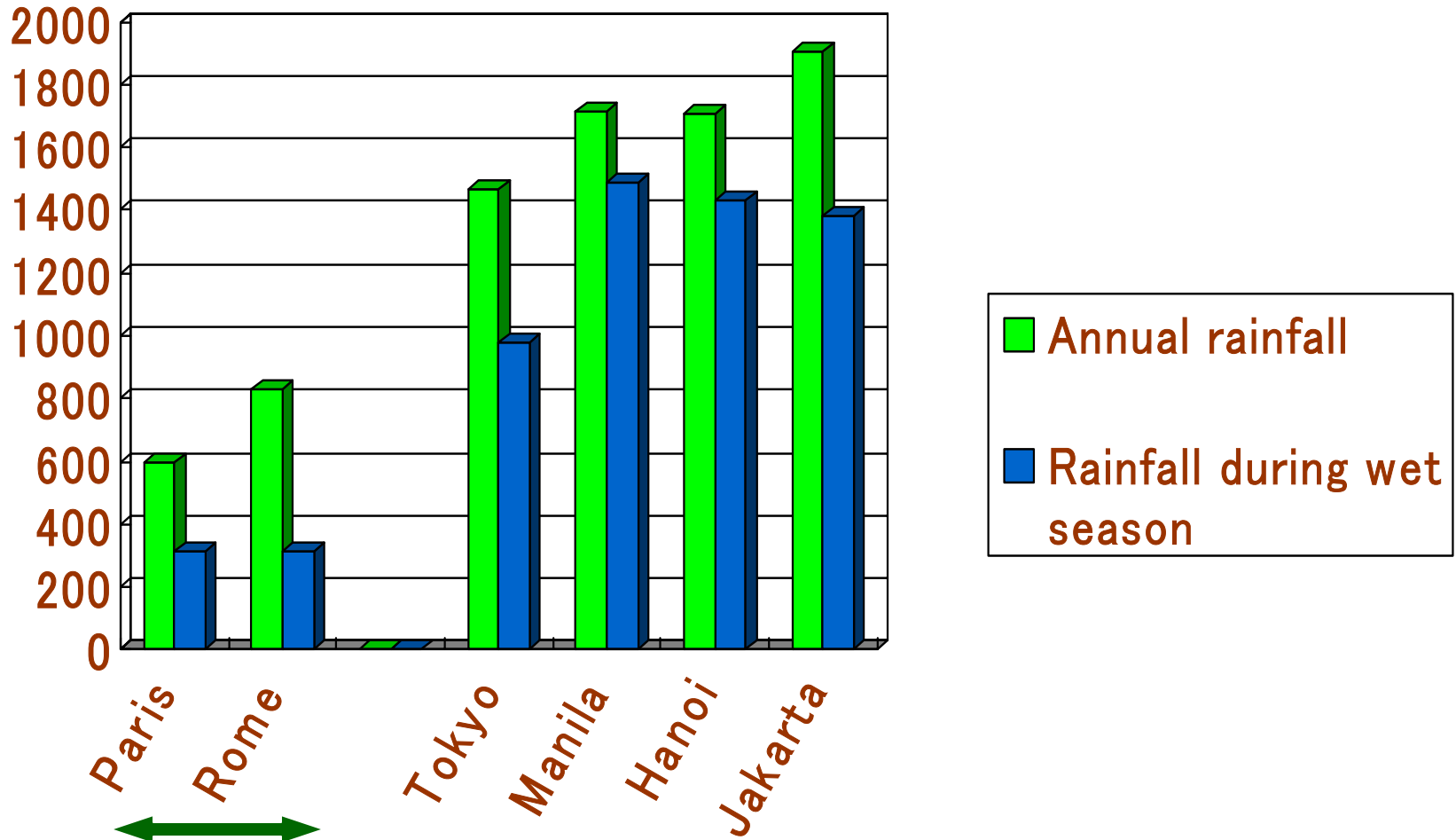
# Water Usage Volume of Worldwide Water Sources - purpose and region -



# Rainfall in the Asian Monsoon Region

## Fluctuation of Water quantity of River etc.

(mm)

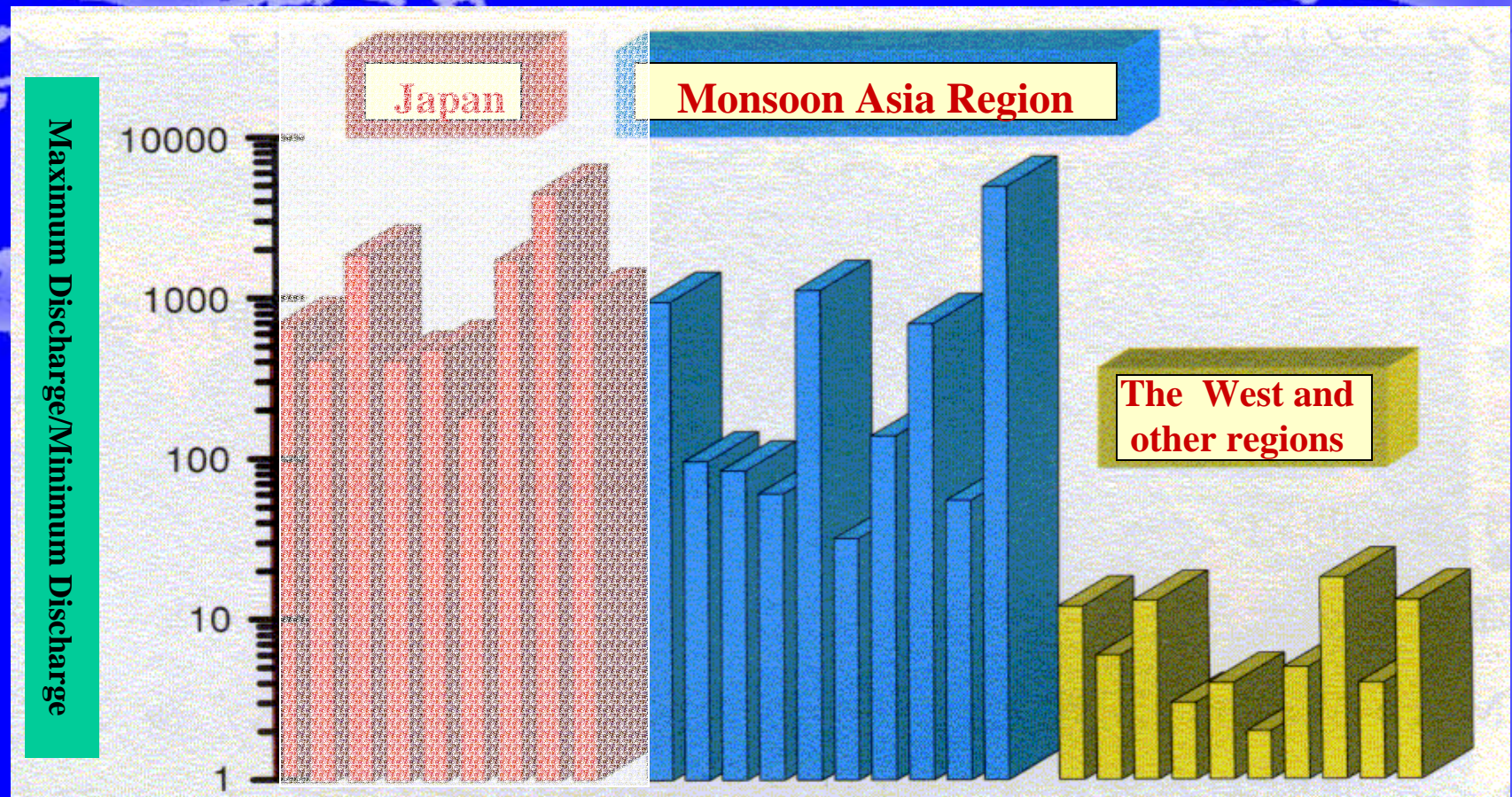


Europe

Difficulty of water management in Asia



# Comparison of coefficient of river regime



From  
left to  
right

Japan: Ishikari, Mogami, Tone, Shinano, Kiso, Yodo, Oota, Niyodo, Tikugo

Monsoon Asia: Songhua(China), Han(Korea), Naktong(Korea), Xun(China), Mun(Thailand), ChaoPhraya(Thailand), Nan(Thailand), Chindwinn(Myanmar), Ganges(Indea), Godavari(India)

The West and other regions: Donau(Slovakia), Rhein(Swiss), Rhone(France), Nile(Egypt), Congo(Congo), St. Lawrence(USA), Mississippi(USA), Hudson(USA), Amazon(Brazil), Parana(Argentine)

- Water related problems in Asia: Too much & too little water, high population density, shortage of infrastructure, etc.
- Population explosion: 60% of world population

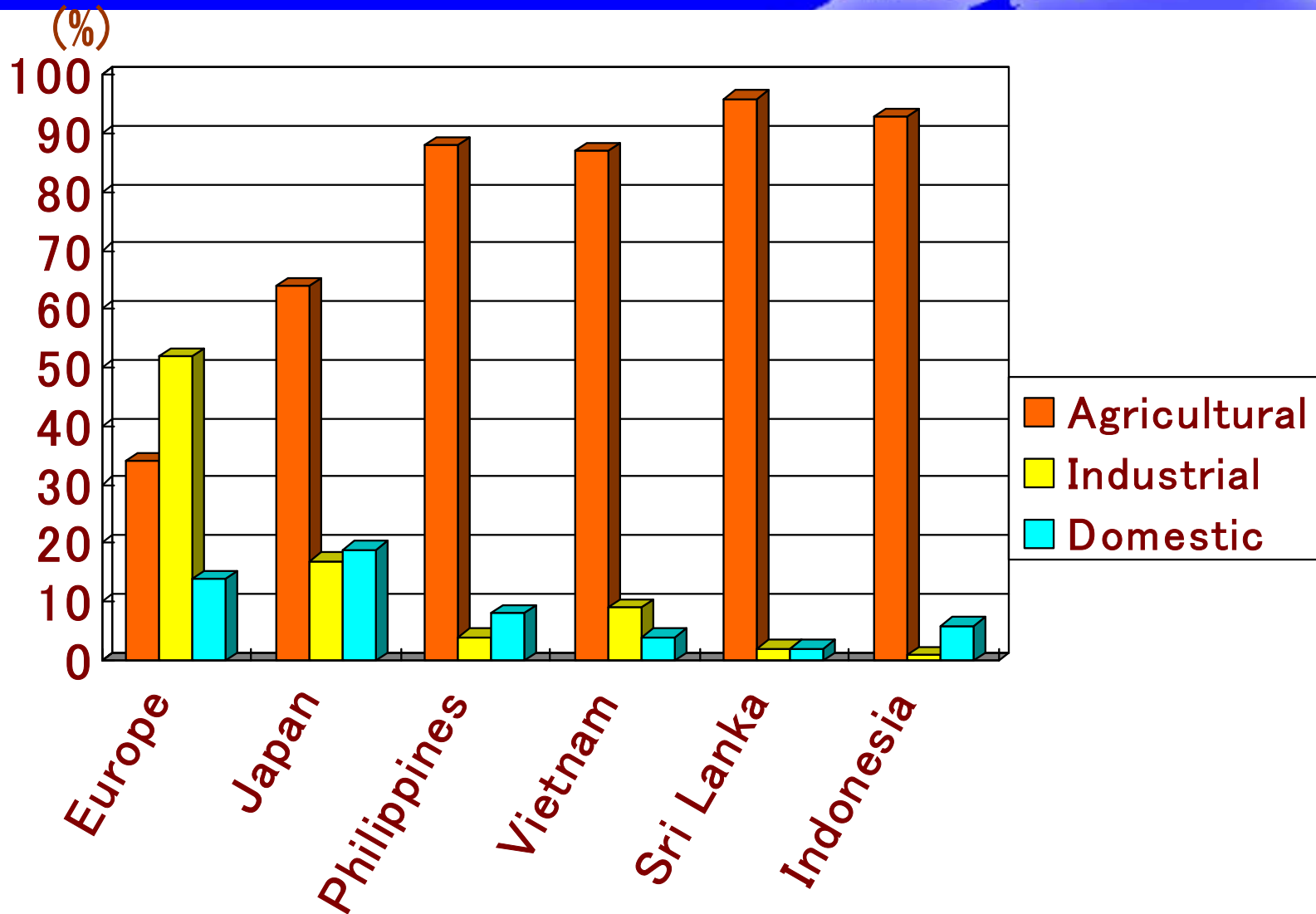
Population density on habitable flat land and gentle terrains in each country (in order)

	Malaysia KL+Selangor	Indonesia Jawa Island	Japan  Tokyo 13,600	Britain	France	Holland
Flat land population density	700 over persons	2500 over persons	1040 persons	518 persons	159 persons	370 persons

Calculation formula: the population / (country x approximate ratio of flat land or gentle terrains)

- In terms of the population density, Practical IWRM approach for Asian countries is Needed.

# Percentage of Sectorial Water Withdrawals



# Example from Indonesia

In Bali, there are about 1,700 irrigation collectives called "subak", organized for each water system. As well as water management on the principle of "fair water gathering and free crop selection", they make decisions on when to start planting, the dates of religious rituals, plans for repairs to facilities, and other matters at gatherings held every 35 days. They also pass down traditions such as festivals, folk dances and music, as a tourism resource.

## Management of terraced rice paddy field by the Subak



# Example from Sri Lanka

In Sri Lanka, linked network of reservoir irrigation, called the "cascade system", has existed for about two thousand years. Local farmers' organizations maintain and manage sustainable water management systems involving an advanced form of rainwater recycling, contributing to highly productive rice cultivation in paddy fields.



# Fighting for water



●水あらしの図(図説「農民生活史事典」)

# -Process to its establishment and scope-



Bangladesh, Cambodia, China, Indonesia, Japan, Korea, Lao PDR, Malaysia, Pakistan, Philippine, Sri Lanka, Thailand, Vietnam  
(13 countries)



- (1) RBO
- (2) Government organization in national, federal, provincial and local level
- (3) Regional knowledge partner
- (4) Inter-regional knowledge partner
- (5) Development cooperation agency

Session scene

Letter of Intent for NARBO

# NARBO Activities

1. Advocacy and raising awareness for IWRM among RBOs, water sector apex bodies, and leading water sector agencies in the region.
2. Sharing of information, good practices, and lessons learned for IWRM among the participating organizations.

Major methods to do so include the management of databases and web sites for information exchange on integrated water resources management in, sending of newsletters via e-mail and their placing on websites, and the holding of workshops.

3. Supporting NARBO members to improve water governance, including the enabling policy, institutional, and legal framework for IWRM, and the formulation of action plans.
4. Building capacity of RBOs in implementing IWRM, mainly through staff exchange and training among participating organizations.
5. Supporting RBOs with technical advice in regard to the planning, conservation, development, and the proper and efficient operation and maintenance of water resource facilities, to improve IWRM.
6. Fostering of regional cooperation for improved management of water resources management in transboundary river basins.



# 1st NARBO training course on IWRM in Thailand, 26 July - 6th August



Lecture in Class (Bangkok)



Lecture in field visit's site (Chiang Mai)



Frog breeding, a case of successful enterprise by water resources development and management (Chiang Mai)



Canal construction almost founded by farmers' irrigation association (Chiang Mai)

We, NARBO, hope to contribute toward the resolution of water issues in Asia for the stability and fruitful future of the World

**\* The role of an RBO is to realize the stability and development of regions through appropriate management of water resources, and efforts are required that can acquire confidence of people and regional residents.**

The collaboration from all over the world will be anticipated & most welcome for Asia

# Indonesian NARBO Secretariat

## Establishment of Indonesian NARBO Secretariat

The expectation of Indonesian RBOs to join NARBO is due to some opportunities to enabling international co-operation, having improvement of water resources management and development of its excellence, conducting interaction between RBOs.

Since Indonesia has the biggest number of NARBO Members, Indonesian NARBO Secretariat was established in April 2004. The establishment of the secretariat is purposed as a coordinating institution to facilitate communication and coordination of NARBO Members of Indonesia in implementing NARBO Action Plan 2004-2005 in accordance with Government policy.

# Thank you

Jasa Tirta II Ir. H. Djuanda Dam

# New Network of IWRM for Asia

- Network of Asian River Basin Organizations -

Mr. Sukrasno Sastro Hardjono,

The Executive Director of Indonesian NARBO Secretariat  
Director of Directorate Water Resources Management,  
DGWR, Ministry of Public Works, Republic of Indonesia

Mr. Tjoek Walujo Subijanto,

The Vice Executive of Indonesian NARBO Secretariat  
Director of Operation for Brantas River of  
Jasa Tirta I Public Corporation, Republic of Indonesia