



# Outline of ICHARM

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Activities of UNESCO-PWRI Centre  
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**the International Centre for  
Water Hazard and  
Risk Management**

**(ICHARM)**

**under the auspices of UNESCO**



# I am going to talk about

- 世界の水災害の動向

(Trend of water related disasters in the world)

- 土木研究所の概要

(Outline of PWRI)

- ICHARMの活動予定

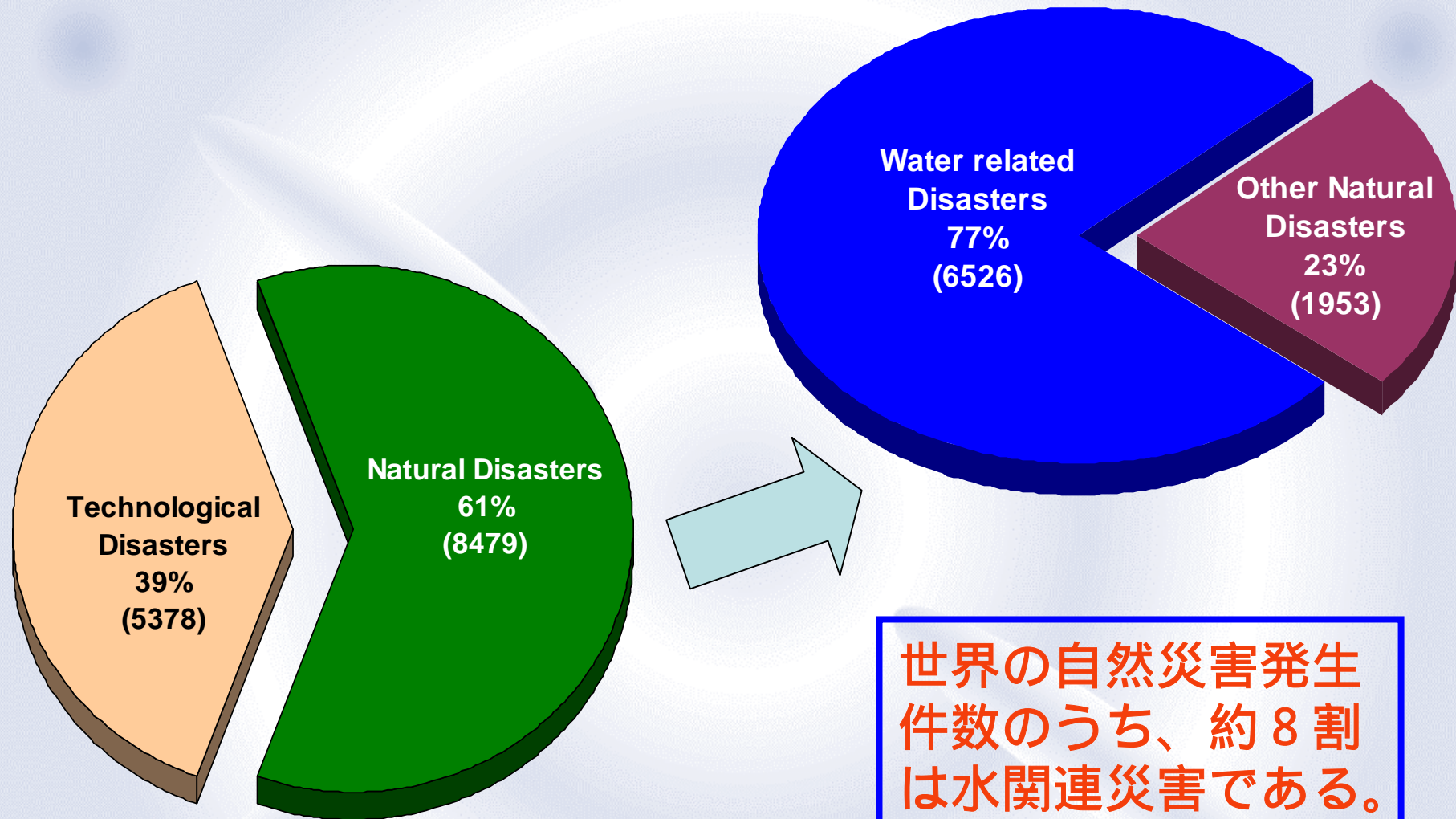
(Planned activities of ICHARM)

- ICHARMの設立準備状況

(Preparatory activities of ICHARM)





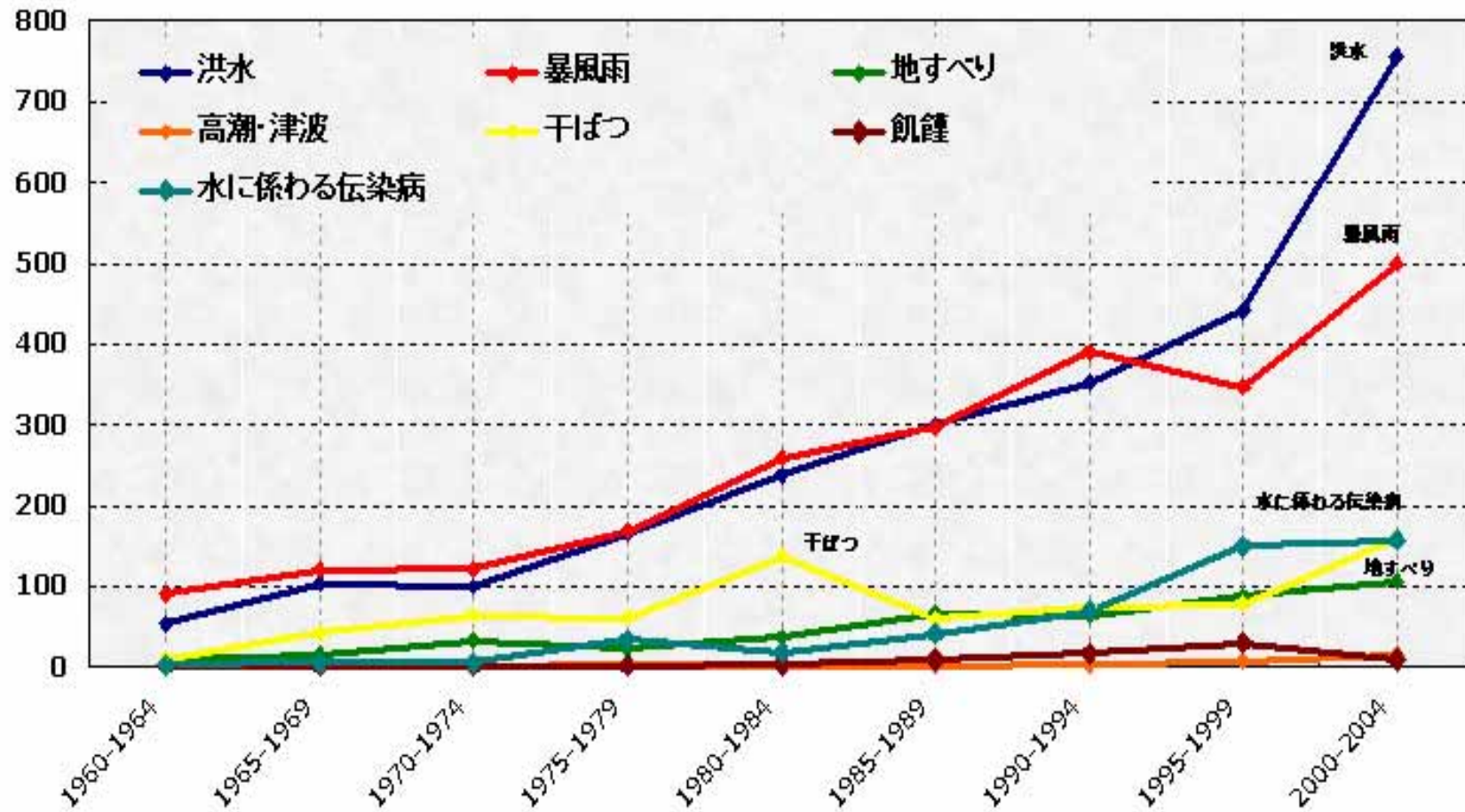


世界の自然災害発生  
件数のうち、約 8 割  
は水関連災害である。

Disasters in the World (1960 - 2004)  
CREDOのデータより、土木研究所作成

災害数 種類別の災害数の推移 (1960-2004)

(CREDOのデータより、土木研究所作成)

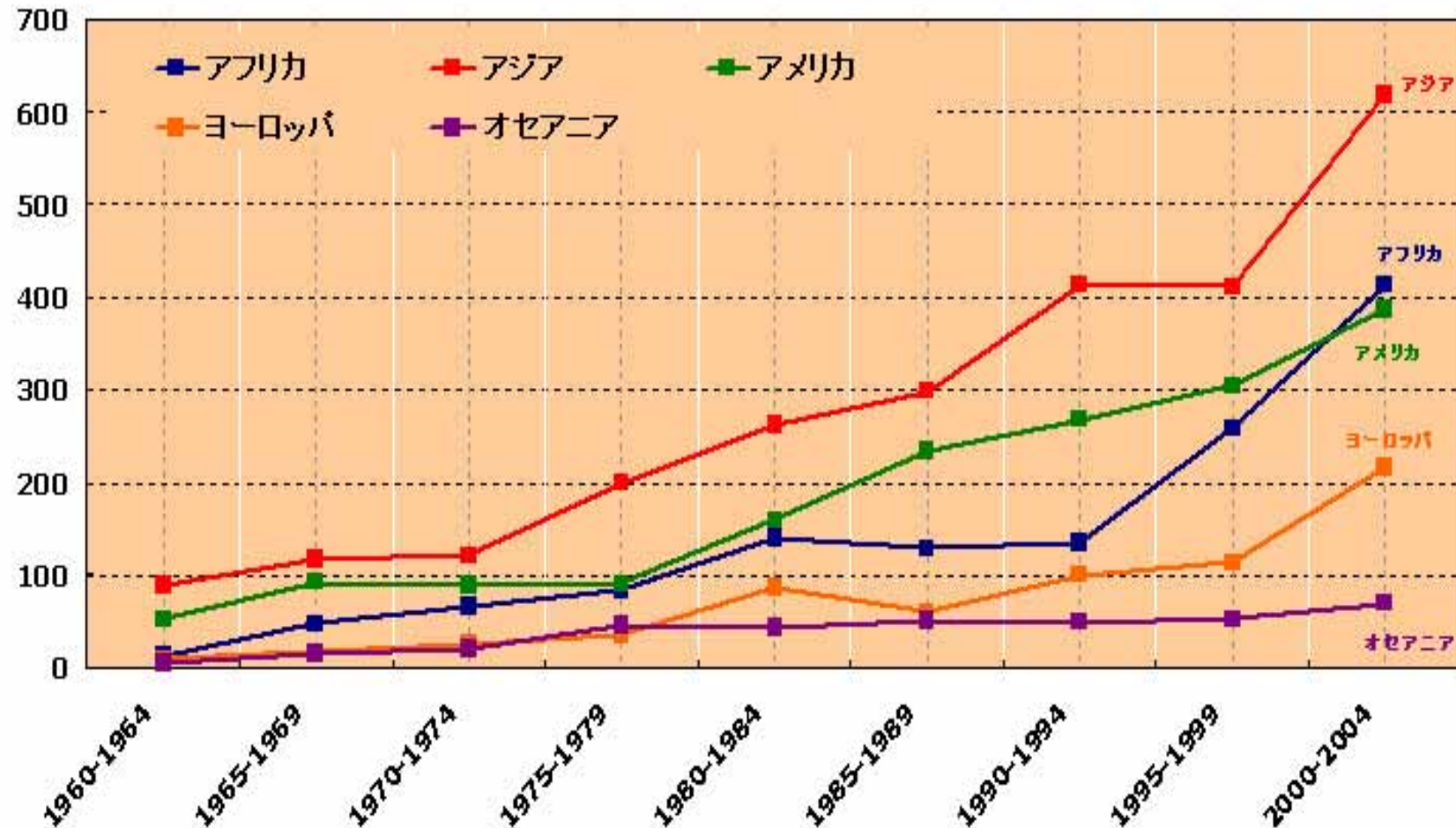


死者10名以上もしくは被災者100名以上の要件を満たす災害のうち、洪水や暴風雨によるものが圧倒的な比率を占めており、近年増加傾向にある。



## 大陸別の災害数の推移 (1960-2004)

(CREDOのデータより、土木研究所作成)



アジア地域の水災害発生件数は、世界の1/3以上を占めており、これも近年増加傾向にある。



# Public Works Research Institute (PWRI)

- **History**

- 1927: Established

- 1979: Relocated to Tsukuba  
(Area:126ha, Staff: 550)


- 2001: Re-organized into two institutes  
(PWRI and NILIM)

- **Staff : 219 (including 151 researchers)**

- **Research subjects: about 200**

- **Budget (FY 2004): 6 billion JPY  
(55 mil. US\$)**





# **200 Research topics focusing on 14 priority research projects**

- to ensure **safety**
- to conserve and restore the **environment**
- for **efficient management** of infrastructure



# 9 Research Groups with 20 teams

- Construction Technology Research Dept.
- Material and Geotechnical Engineering
- Earthquake Disaster Prevention
- Water Environment (水循環G)
- Hydraulic Engineering (水工G)
- Erosion and Sediment Control (土砂管理G)
- Road Technology
- Structure
- Niigata Experimental Laboratory



# International Research Cooperation

Swedish National Road Administration

VTT Technical Research Centre of Finland

University of Cambridge

Technical University of Milano

Korea Institute of Construction Technology

Korea Infrastructure Safety and Technology Corporation

Korea Institute of Water and Environment

Korea Highway and Transportation Technology Institute

China Institute of Water Resources and Hydropower Research

US Bureau of Reclamation

University of California at Davis

George Washington University

Mekong River Commission

Ministry of Transport of the Kingdom of Thailand

Asian Institute of Technology

Conclusion of MOU

● 2001

● 2002

● 2003

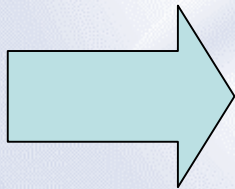
● 2004

**Implementation arrangements  
with overseas organization**



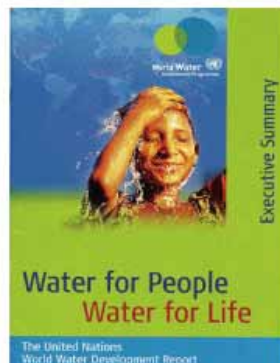
# Objective of ICHARM

- **Accumulated knowledge and experience** trying to overcome water-related disasters
- **Global network of UNESCO-IHP** for internationally sharing valuable information



**Contribution to prevent or mitigate water-related disasters in the world**





UN WWDR(2003)  
Executive Summary



Our Web

- Contributing to the **World Water Development Report (WWDR)** compiled by the **World Water Assessment Programme (WWAP)** by developing various indicators and presenting case studies in the risk management domain
- Promoting the **International Flood Initiative (IFI)**
- Expanding the **Global Flood Alert System (GFAS)** in liaison with the International Flood Network (IFNet)
- Conducting interdisciplinary studies on water-related disaster reduction measures for foreign rivers such as the **Mekong River, the Chao Phraya River and the Chang Jiang River**
- Developing procedures for hydrological observations and data processing

## Research

Data/  
Information

Results/  
Outcomes

Curriculum

Participation

Knowledge

Network

## Information Networking

- Developing **database** regarding water-related disasters worldwide in various areas such as meteorology, hydrology, damage statuses, and risk management systems
- Creating an international/interdisciplinary network of researchers, administrators and those who completed training courses through the **Web** and **newsletters**

## Training

- Planning and conducting training for administrators and researchers mainly in developing countries  
[Examples of the Training Courses]
- **Flood hazard mapping**
- **River and dam engineering**
- **Tsunami disaster prevention (in preparation)**



Flood Hazard Mapping Training

**Research, Training and Information networking activities would be promoted in a combined manner**



# Activities

## - Research -

- Contribution to international projects such as **WWAP** and **IFI/P** (UNESCO/WMO)
- Hydraulic / hydrological prediction, observation, modeling and analysis
- Risk assessment and risk management technologies for water-related hazards under various socio-economic, geographic and climatic conditions



# Activities

- **Training and Capacity building -**  
**Conducts JICA training courses, including**
  - **River and dam engineering**
  - **Flood Hazard Mapping**



**A new course on comprehensive tsunami disaster prevention is in preparation**

**Strengthen the follow up activities** to link the training course to concrete action for preventing or mitigating water related disasters



# **TC on Flood Hazard Mapping**

## **Objective**

- **Acquire professional knowledge necessary to produce flood hazard maps**
- **Enhance understanding of its effectiveness**
- **Seek application in his/her own country**

## **Framework**

- **4 weeks for 5 years (2004-2008)**
- **16 trainees from 8 countries of Asia**
- **Place: Tsukuba, Japan (PWRI & JICA)**



# **Activities**

## **- Information Networking -**

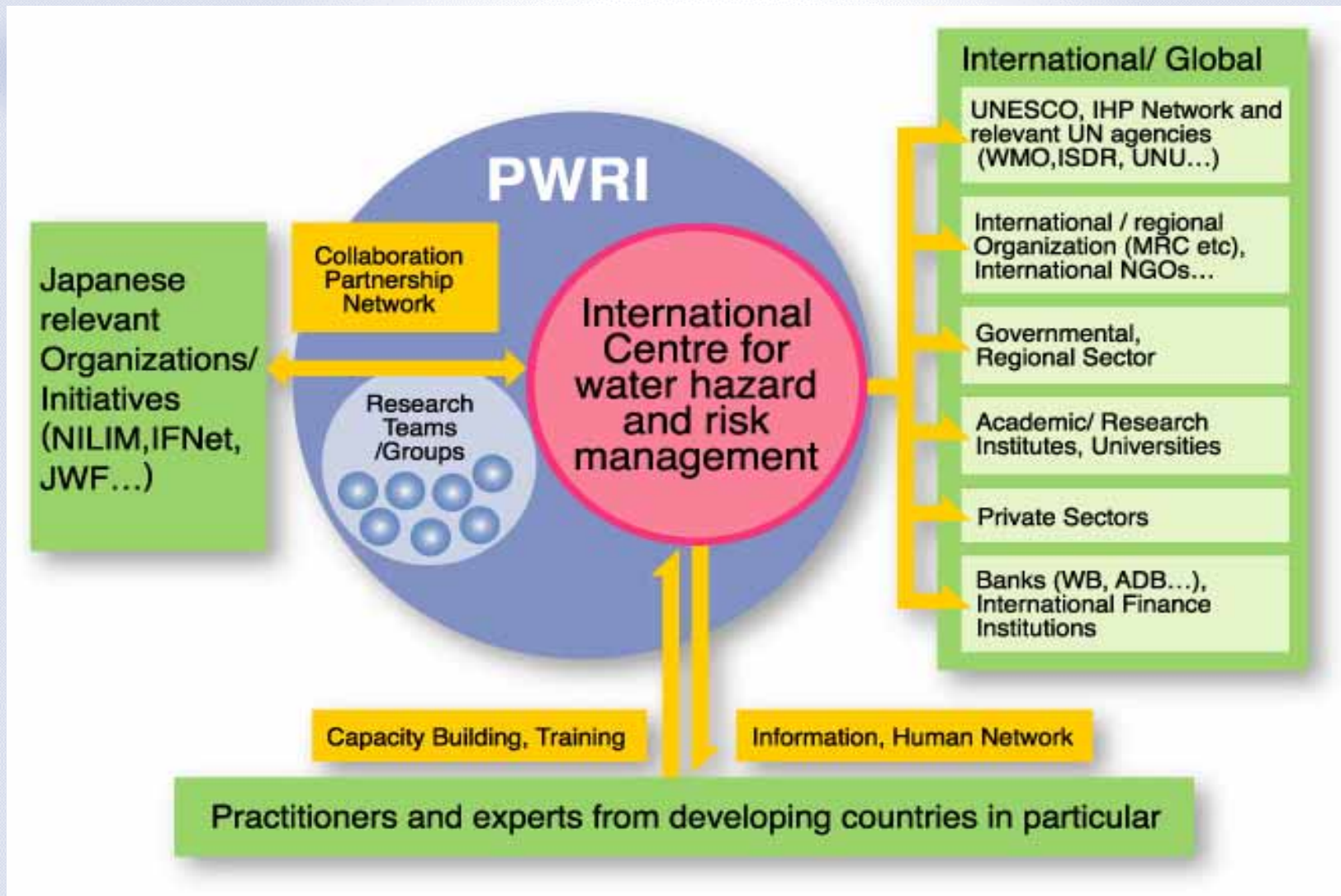
**Information networking will be synergized with research and training activities**

**in order to enhance integration and coordination:**

**Through the information network...**

- **Research output will be widely disseminated**
- **Feedback from countries / regions will be reflected in the research projects**
- **Trainees will develop domestic links to their own countries/ regions**
- **Local needs for training items would be clarified**





**ICHARM would collaborate with the UNESCO-IHP networks, relevant UN agencies and other key institutes & organizations of the world**



# Preparatory activities

**October 2003**

**32<sup>nd</sup> UNESCO General Conference**

→ Announcement of intention to set up the Centre by the representative of Japanese Government

**October 2003**

**RSC meeting in Southeast Asia & Pacific  
and in Latin America & Caribbean**

→ Resolutions strongly supporting the establishment of the Centre



# Preparatory activities (cont'd)

**January 2004**

**International technical workshop** at PWRI

→ Experts from Asia, Africa, East & West  
Europe, and North & South America

→ Summary Report on directions of the Centre

**International Symposium** in Tokyo

**April 2004**

Proposal of the new Center was welcomed at  
**UNESCO IHP Bureau Meeting**

**July 2004**

**A preparatory meeting of IFI/P** hosted by PWRI



# **Preparatory activities (cont'd)**

**September 2004**

**UNESCO IHP Intergovernmental Council**

→ Resolution to support the proposal

**January 2005**

**World Conference on Disaster Reduction**

(Hyogo Japan, organized by ISDR)

→ Recognition of the role of ICHARM

→ Official launch of IFI





International Strategy  
**ISDR**  
for Disaster Reduction

Welcome to Hyogo

# World Conference

.....  
18-22 January 2005, Kobe, Hyogo, .....





**Dr. Sakamoto, CEO of PWRI, at the opening of the thematic session entitled 'Research on Floods and Landslides and a new Initiative for Risk Reduction'**



# International Flood Initiative (1/2)

## Mission

Promote **an integrated approach to flood management**

by **reducing the risk** of social, environmental and economic effects that result in and from floods and **increasing the benefits** from floods and the use of flood plains

## Implementation

UNESCO, WMO, UNU, UN-ISDR, IAHS ...

Secretariat : ICHARM



# International Flood Initiative (2/2)

## Guiding principles

- Living with flood
- Equity
- Empowered participation
- Inter-disciplinary and trans-sectorality
- International and regional cooperation

## Strategic Activities

- Research
- Training and education
- Information networking
- Capacity building
- Technical assistance



# Preparatory activities (cont'd)

**April 2005**

➤ **UNESCO Executive Board (FA & PX)**

→ Draft decision was adopted to approve ICHARM at the General Conference in October 2005.





# Preparatory activities (cont'd)

October 2005

**33<sup>rd</sup> UNESCO General Conference**

→ Proposal of the Japanese Government  
was accredited by 191 member countries







## Office Space of ICHARM

**Research Staff** 20  
(in the initial stage)

**Office space**  
**2,000m<sup>2</sup>**







# **END**

**Thank you for your attention**

**<http://www.unesco.pwri.go.jp>**