

A photograph of Mount Fuji, a snow-capped volcano, under a clear blue sky. The mountain's slopes are covered in white snow, with some rocky patches visible. The peak is sharp and prominent.

Outline of UNESCO-CHARM

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Activities of UNESCO-PWRI Center
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I am going to talk about

The International **C**enter
for Water **H**azard and **R**isk **M**anagement
under the auspices of **UNESCO**
(**UNESCO CHARM**)

- Background
- Outline of the Public Works Research Institute (PWRI)
- Planned Activities of the Center
- Preparatory Activities to date
- Toward setting up the Center



Internationally common recognition

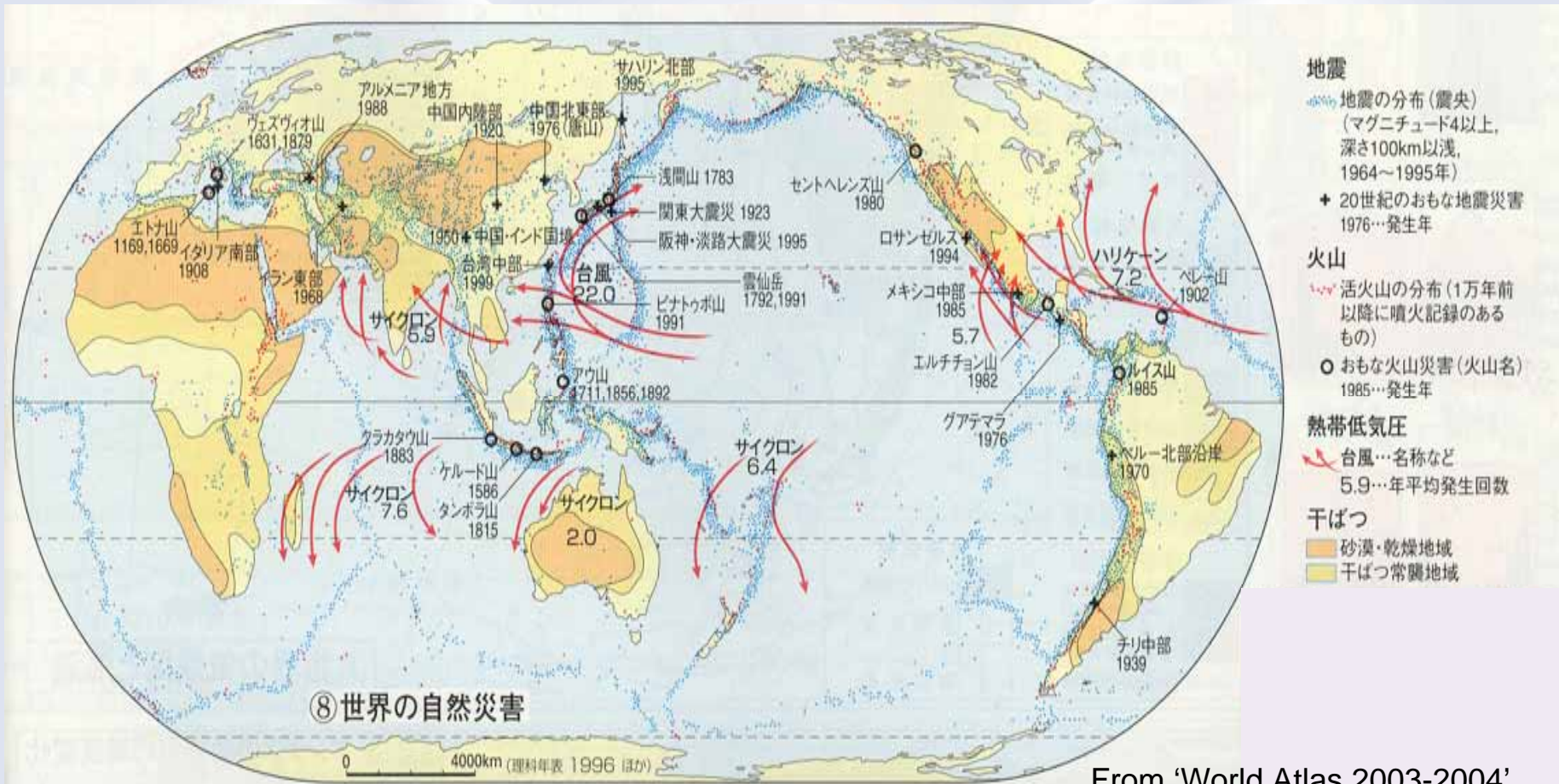
**2002 World Summit on Sustainable Development
(Johannesburg)**

**2003 3rd World Water Forum
(Kyoto, Shiga & Osaka)**

Water related disasters such as flood and drought are **major challenge for ensuring sustainable development**

Urgent needs for appropriate actions to prevent or mitigate impacts from water related hazards

Various Natural Disasters over the World

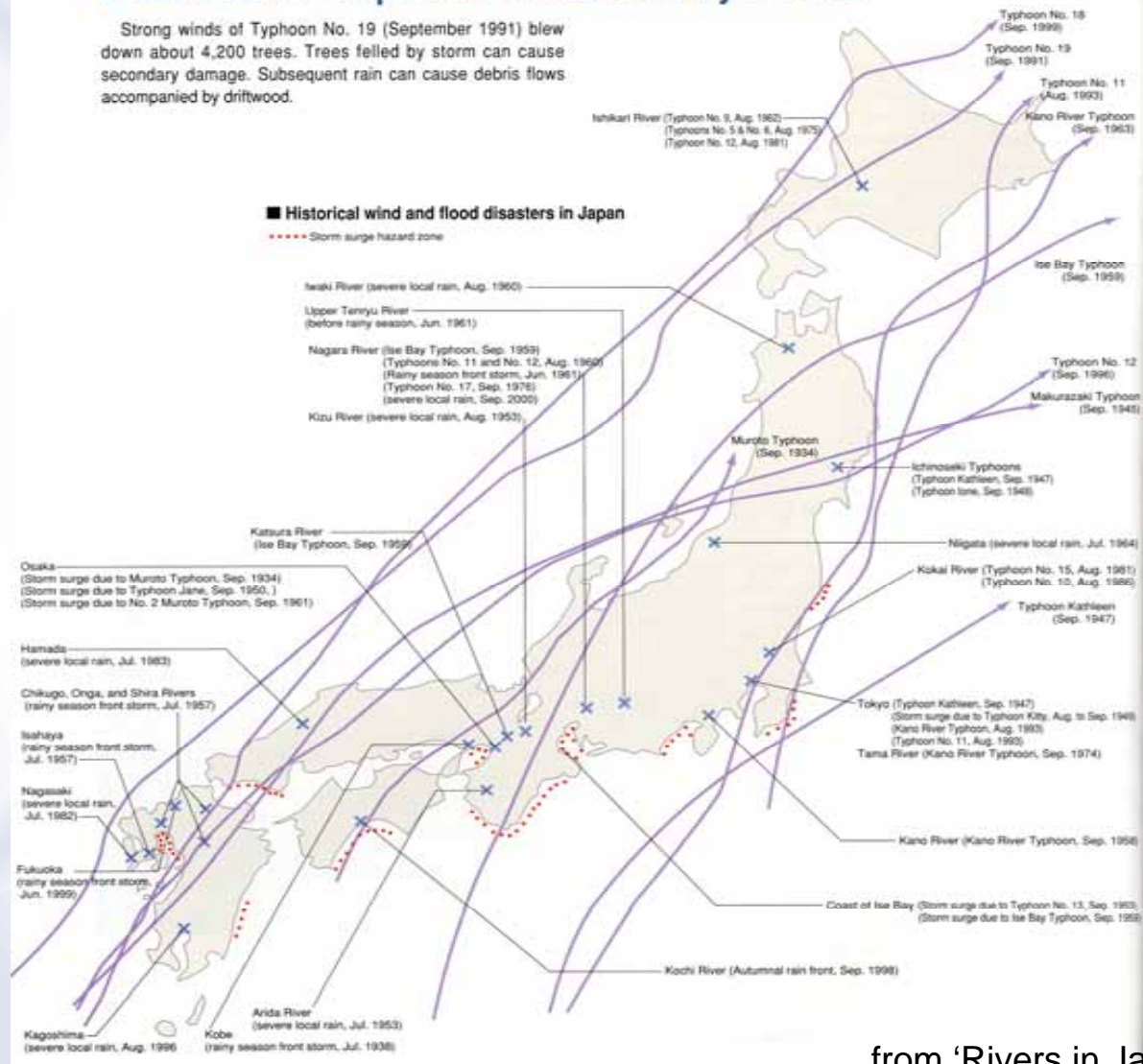


From 'World Atlas 2003-2004'
 Ninomiya Shoten, 2003

Historical wind and flood disasters in Japan

Great destructive power of trees felled by storms.

Strong winds of Typhoon No. 19 (September 1991) blew down about 4,200 trees. Trees felled by storm can cause secondary damage. Subsequent rain can cause debris flows accompanied by driftwood.



from 'Rivers in Japan', MLIT, 2003

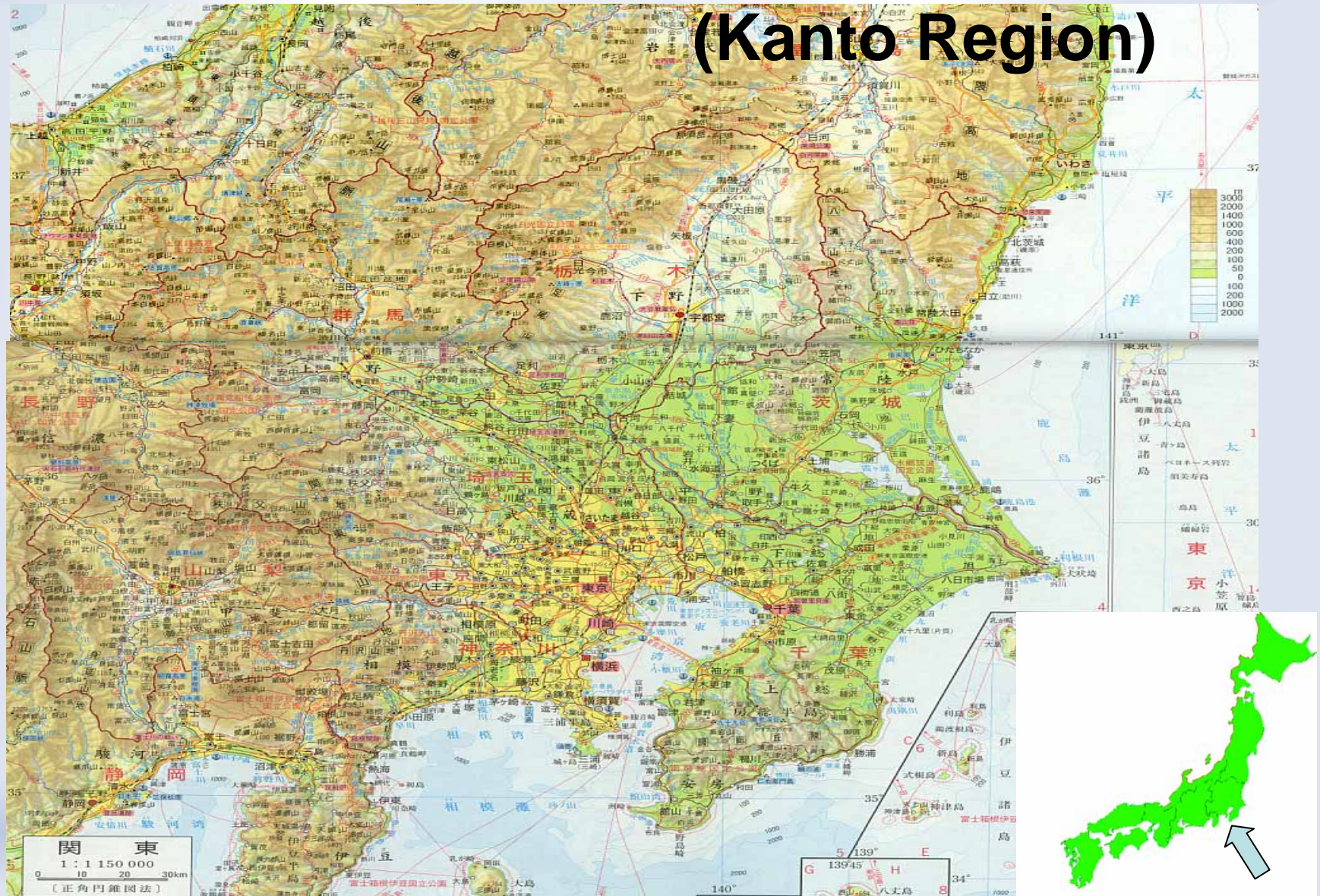
In the case of downpour
in Fukui Prefecture in
July 2004, 283mm/day
was recorded at Miyama
Observatory.





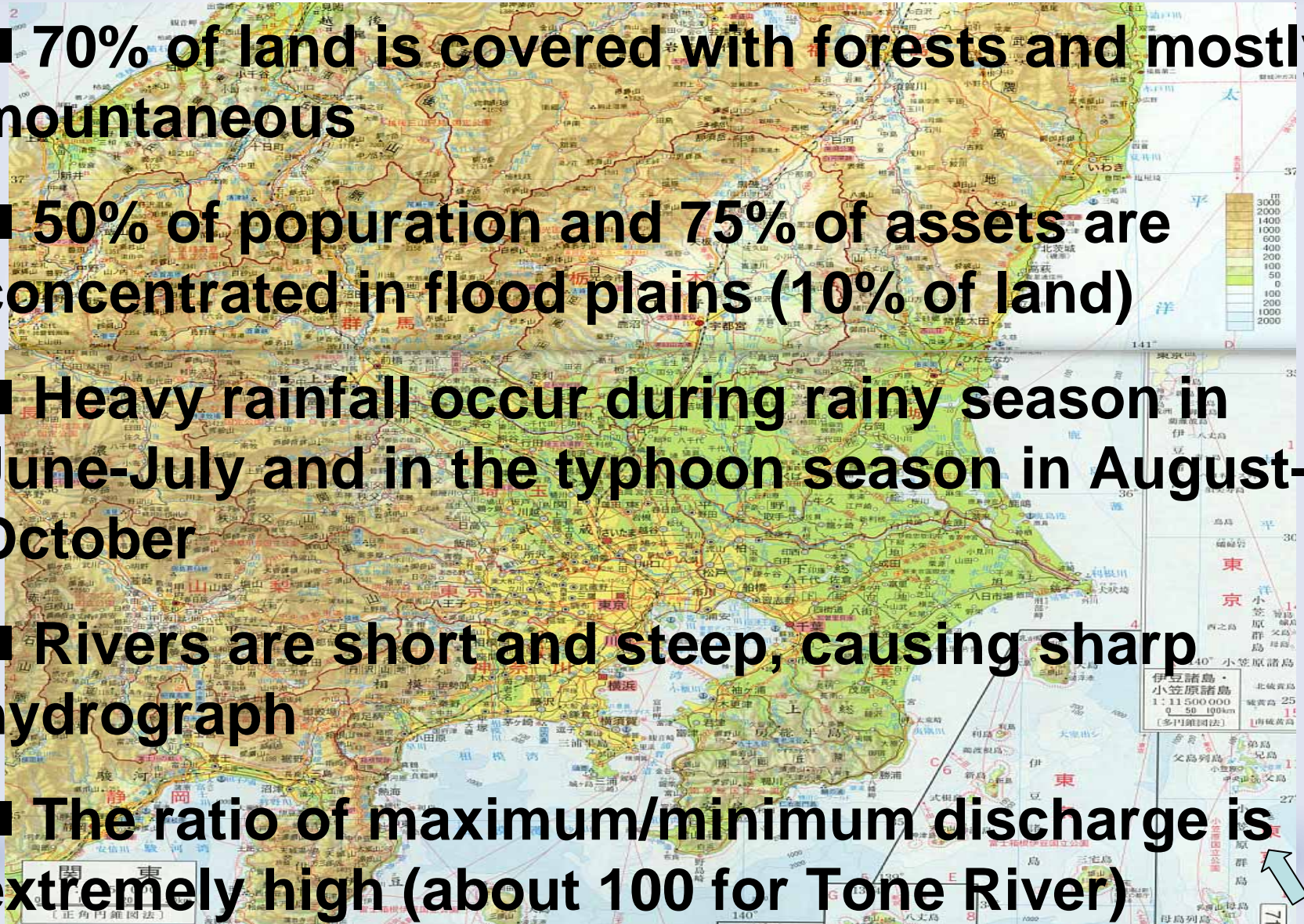
Inundated situation of Sanjo City, Niigata Prefecture after downpour in July 2004. 421 mm/day of rainfall was recorded at Tochio Observatory.

Geographical condition of Japan Island (Kanto Region)



Geographic Conditions of Japan

- 70% of land is covered with forests and mostly mountaneous
- 50% of popuration and 75% of assets are concentrated in flood plains (10% of land)
- Heavy rainfall occur during rainy season in June-July and in the typhoon season in August-October
- Rivers are short and steep, causing sharp hydrograph
- The ratio of maximum/minimum discharge is extremely high (about 100 for Tone River)



Long effort to prevent flood damage (Tone River)



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 topics: about 200**

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

Aerial Photo of PWRI



Facility Layout of PWRI



2.5 km

The background of the slide is a faded, high-angle photograph of a city. In the foreground, there's a large, modern building with a glass facade. Beyond it, there are more buildings, trees, and a parking lot with several cars. In the far distance, a range of mountains is visible under a clear sky.

200 Research topics focusing on 14 priority research projects

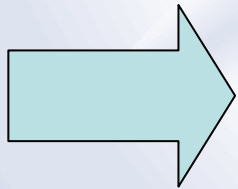
- to ensure **safety**
- to conserve and restore the **environment**
- for **efficient management** of infrastructure

9 Research Groups with 20 teams

- **Construction Technology Research Dept.**
- **Material and Geotechnical Engineering**
- **Earthquake Disaster Prevention**
- **Water Environment**
- **Hydraulic Engineering**
- **Erosion and Sediment Control**
- **Road Technology**
- **Structure**
- **Niigata Experimental Laboratory**

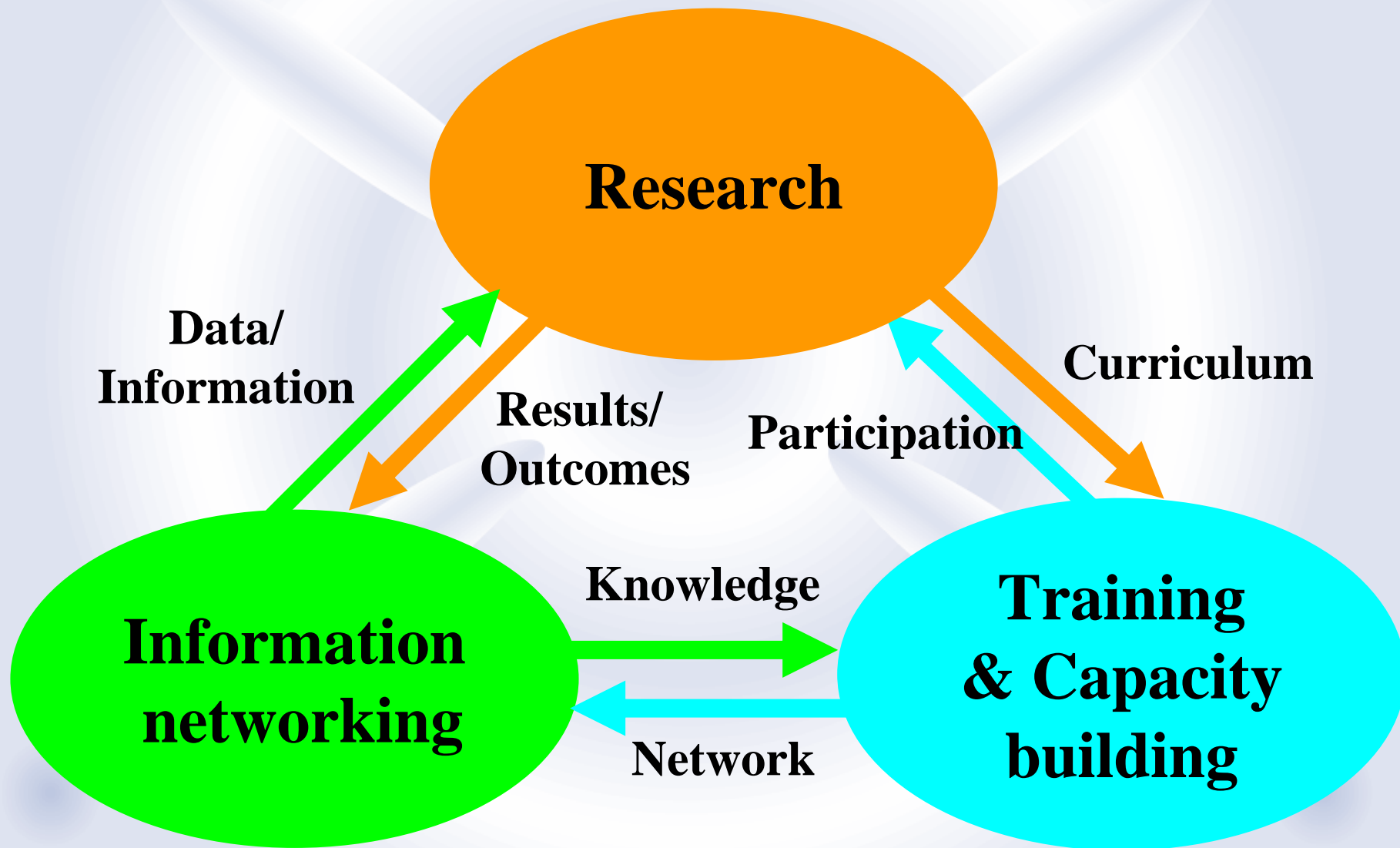
Framework of UNESCO-CHARM

- **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

Pillar Activities of UNESCO-CHARM



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

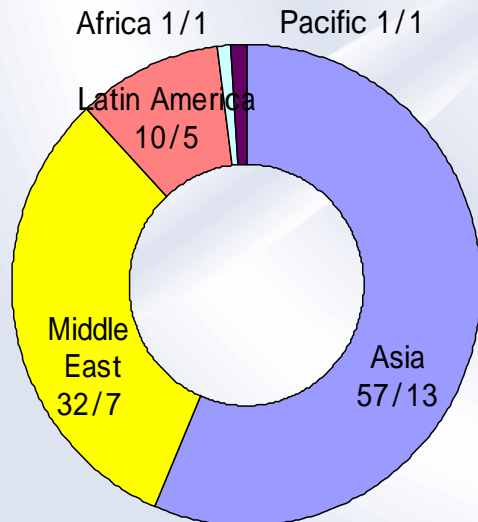
Activities

- Training and Capacity building -

PWRI has long experience in conducting JICA training courses for over 35 years

including

- River and dam engineering**
- Sabo engineering**



**Total Number of
Trainees/Countries
101/27
in FY 2003**



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**

Preparatory activities

October 2003

➤ **32nd UNESCO General Conference**

→ Announcement of intention to establish the Centre by the representative of Government of Japan

October 2003

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

→ Resolutions strongly supporting the establishment of the Centre

Preparatory activities (continue)

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

A Blueprint of the Centre Building



- ◆ **Research Staff** : 20 (at the initial stage)
- ◆ **Center building** : will be completed in autumn 2005
- ◆ **Office space** : 2,000m²

In the Future

We will submit a proposal for consideration at the forthcoming UNESCO Executive Board.

And to obtain an accreditation of the new Center at the UNESCO General Conference in autumn 2005.

A photograph of a construction site under an overcast sky. In the center, a large concrete pillar is being built, with a blue crane or scaffolding structure attached to its side. At the top of the pillar, a white sign with a green cross and the Japanese text '安全最優先' (Safety is the top priority) is visible. In the foreground, there are yellow and black striped safety barriers and orange traffic cones. To the left, another concrete structure and a crane are visible in the background.

安全最優先

END

Thank you for your attention

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

Technical Workshop and Symposium on water hazard and risk management

- to share and exchange the **latest technology**
- to discuss the **scope of the Center** and its activities
- valuable comments and suggestions were compiled as the **Summary Report**



Preparatory Meeting of International Flood Initiative/Programme (IFI/P)

- **Basic direction and approach of IFI/P was discussed** among the participants from UNESCO-IHP, UNU, IAHS
- The output of the 3 days meeting was summarized in a **draft concept paper**
- Going to be discussed and coordinated among related bodies

