

Breakout Session 1: Issues and Needs

East Asia Group: China, Japan, Korea, Mongolia, Philippines

Co-chairs: Rosalina de GUZMAN and Kazuhiko FUKAMI
Secretary: Patricia SANCHEZ

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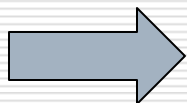
1. Issues related to climate system-water cycle-water use

□ Specific problems

- Korea: flooding problems, 50 more days of rain, intensity is much stronger than before; precipitation pattern change (recent 2 years)
- Japan: 2008-epoch making, very localized torrentially heavy rainfall, for short time; In Tokyo, Kobe, Kanagawa-"Gerilatic rainfall"; North and South Contrast in PDF; precipitation pattern change (recent year)
- Philippines: last 10 years, intensity of tropical cyclone is increasing, intense rains more frequent, 320km/hr wind speed in 2006, 1085mm/day in 1991, drought during El Nino: characterized by below normal rainfall; La Nina in eastern part of country experiences above normal rainfall; precipitation pattern change (recently); sea level rise and saline water intrusion
- China: usually, floods introduced every July, August to Sept. in Yangtse river; low rainfall days longer (drought in middle and south part of China; longer duration); North part-short heavy rain causing landslides; South part-typhoon

*Consistent with IPCC, heavier intensity of rainfall, longer no rain day

- Thailand: in spite of long period of dry season 2010 very dry, abruptly very wet rainy season last year (in mountain side) and heavy floods starting from mountainous regions to lowlands without typhoon. But no data to forecast in advance in mountainous regions.
- Mongolia: since 2000, decreasing precip in central part of Mongolia, mountainous part-no change. Change of precipitation; flooding frequency also increasing but more related to social issues (e.g. urbanization)



Floods (often in smaller scales) and droughts

2. Issues related Water Nexus: agriculture, energy health, water quality, biodiversity, and ecosystem+ infrastructure!

- ❑ In Japan, agriculture, biodiversity, water quality and ecosystem are main factors
- ❑ In Mongolia, agriculture and water resources
- ❑ In China, agriculture, hydropower, low water drought affect ecosystem and biodiversity, water quality during flood
- ❑ In Philippines, agriculture and energy
- ❑ In Thailand, agriculture and energy
- ❑ Infrastructure should be added as another important sector.: Each country have their own system and it is difficult to adapt the impact of CC

< additional questions >

- ❑ How we can give the right information to these different sectors? They are demanding for more customized climate information.
 - ❑ How to adapt the design criteria to changing characteristics and magnitude of water hazards, e.g. for new drainage (e.g. localized flooding in Japan, flood in Singapore)
 - ❑ How do we share the data to the different sectors beyond laboratories?
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Major water nexus

- Agriculture
 - Infrastructure
 - Energy
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3. Needs for functions and/or tools of WCI to address identified issues

- ❑ For Thailand case, observation data are not enough, especially in mountainous area, to be combined with meteorological data (GsMap 10km hourly data can be incorporated).
 - ❑ For Philippines, now the government recognizes the need to monitor and prevent these recurring disasters and has made an initiative to install more raingauges, community-based systems etc. sponsored by various agencies)
 - ❑ Access to some data (e.g. we cannot get data from other global prediction centers for forecasting) (data access and data sharing)
 - ❑ Capacity building needs
 - ❑ Decision Support tools
 - ❑ In Urban watersheds, hydrological system has been changed, many stakeholders get together and decide how to restore the hydrological cycle
 - ❑ Climate proofing
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4. Needs for collaboration framework at the national level: inter-agency, interdisciplinary

- ❑ We need an integrated water cycle model to show a holistic view of it to all the stakeholders as a fundamental subjective basis to secure common understandings.
 - ❑ Inter-agency collaborations for decision making in water crisis (drought or flood) are required. Academia, local agencies and civil society are to be involved as well.
 - ❑ AWCI should discuss and establish the criterion to maintain data quality, at least for rainfall (e.g. density of raingauges, etc.), water level and hopefully river discharge.
 - ❑ AWCI should share technical standards to design infrastructures in terms of water.
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