Recent Signs and Countermeasures on Water related Disaster in Japan

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Heavy Rain in August 2008

Heavy localized frontal rainfall was occurred in various areas in Japan on 28 July, 2008.



Flood disaster in Hyogo prefecture on August 2008

<u>5 people (including 3 children) were killed</u> by flush flood in Toga river, Hyogo prefecture. Water level rose 134cm within 10 minutes.



Flood disaster in Ishikawa and Toyama prefecture on August 2008

1,967 houses were flooded in Kanazawa city (500 houses above floor level, 1,467 houses below floor level)



Flood disaster in Kyoto prefecture on August 2008

499 houses were flooded in Kyotango city

(17 houses above floor level, 482 houses below floor level)



Basic concept of " Climate Change Adaptation Strategies to cope with Water-related Disasters due to Global Warming" (June 200
Climate change due to global warming is expected to induce the following phenomena in coastal and low-lying areas.
Frequent and serious flood and sediment disasters
Frequent and serious high tides and coastal erosions
Frequent and serious droughts
Basic concept for future ideal society
Combining mitigation and adaptation aiming at "Water -disaster adaptive society"

Basic direction of climate change adaptation strategies

- 1. <u>Adaptation measures to target at "Zero casualty" should be considered,</u> because "Zero damage" from disasters is difficult.
- 2. In a nerve center like the Tokyo metropolitan area, <u>intensive efforts should be made</u> <u>such as preventing from ceasing national function</u>

Damage reduction from localized torrential rainfall due to Global Warming

Localized torrential rainfall due to global warming was occurred in various areas in Japan. Increasing flood disasters and water accidents in small and medium size river are expected in consequence of global warming

In order to achieve the target <u>"Zero casualty", flood management and preventing</u> <u>measures of water accidents in small and medium size rivers</u> should be reviewed

Review of flood management in small and medium size river

Review of preventing water accidents in urban river

Sub Committee on Climate Change Adaptation for Flood Control River Sector Committee, Panel on Infrastructure Development

> Policy Report 'Climate Change Adaptation Strategies to cope with Water-related Disasters due to Global Warming' (June 2008)

> > Set up September 2008

WG on localized torrential rainfall in small and medium size river (Chair : Prof. Koike, Tokyo Univ.) WG on water accidents prevention in small and medium size iver (Chair : Prof. Kishi, Keio Univ.)

Countermeasures against localized torrential rainfall in small and medium size river

Problems	Countermeasures		Road Map	
 Difficulty of appropriate evacuation in present mechanism Difficulty of precise operation in present mechanism Inappropriate river management/ maintenance 	Improve mechanism for quick response in initial stage Capacity building of river administrator Improvement of disaster preparedness in local community Sharing information & promoting Public awareness Improvement monitoring and prediction Improvement river management/ maintenance		Short Mid ~ Long Short Mid Mid ~ Long Short	
Practical Countermeasures				
<u>Revise criteria of</u> response in initial stage	Revise evacuation water-level	Improvement Hazard Map	<u>of</u>	
Issuing based on water-level is too late	Revise evacuation water-level for ensuring evacuation time Improvement of HN understanding about rapid water rising a localized torrential		/I for easy ut <u>risks on</u> <u>nd</u> <u>rainfall</u> HM	
 Clarify relationship between rainfall and water level Clarify relationship between rainfall and expected damage 	Water-level Present evacuation water level			
Decision by rainfall for quick response	evacuation time	Set up appropriate routes by eac	evacuation	

Countermeasures against water accidents in small and medium sized river



