

**Water-Related Disaster Risk Information
for preventative investment, disaster response
and recovery

IN THAILAND**

**Thada Sukhapunnaphan
Royal Irrigation Department, Thailand**

Data monitored, measured, compiled, and managed to prevent losses caused by water-related disasters.

WHEN ? ➡

- **Monsoon wet season (May to December) :**
Heavy rainfall brought by tropical storms and low pressure troughs.

WHERE ? ➡

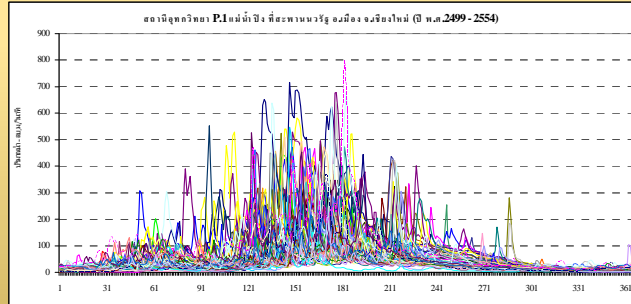
- **Various sources of related data and information**
 - Weather and climate : TMD* weather reports and forecasts, regional weather websites, 7 days rainfall prediction.
 - Storm and low pressure trough : Updated storm tracks satellite images, weather maps.
 - Rainfall : Rain radar sensor images, 24 hours rainfall report to compare with flooding range criterion.
 - Runoff : Water level and discharge situation of the rivers.

BEFORE FLOODING ➡

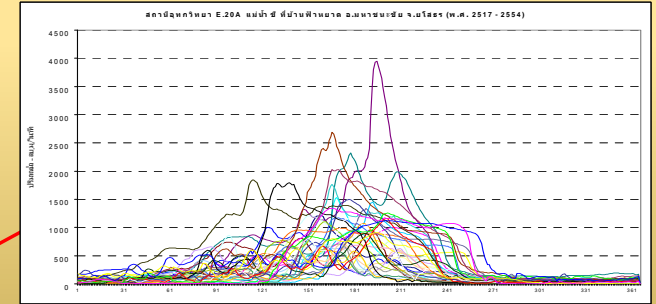
- **Early warning** : (If there is no structural flood diversion measurement)
Early warning must be disseminated to the public to prevent losses especially on flood experienced areas or vulnerable areas.

Daily Discharge - cms.

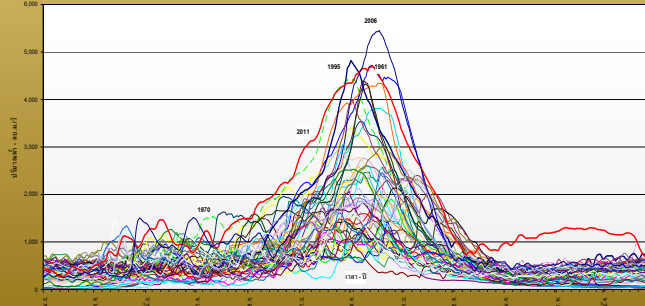
Ping River



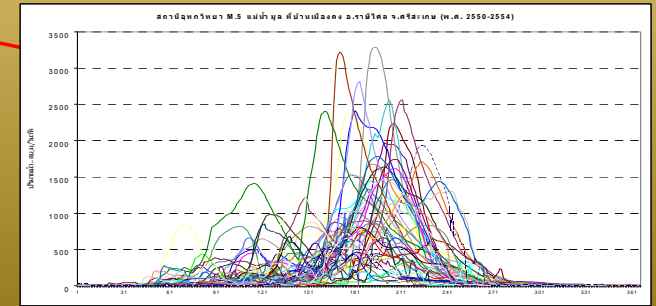
Chi River



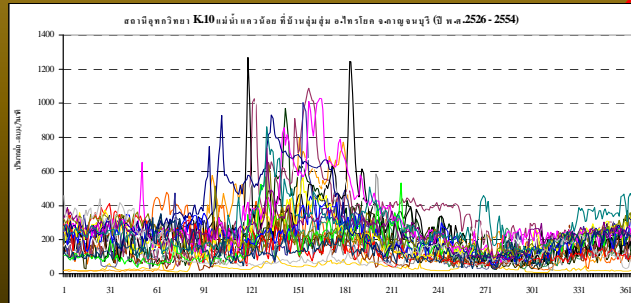
Chao Phraya River



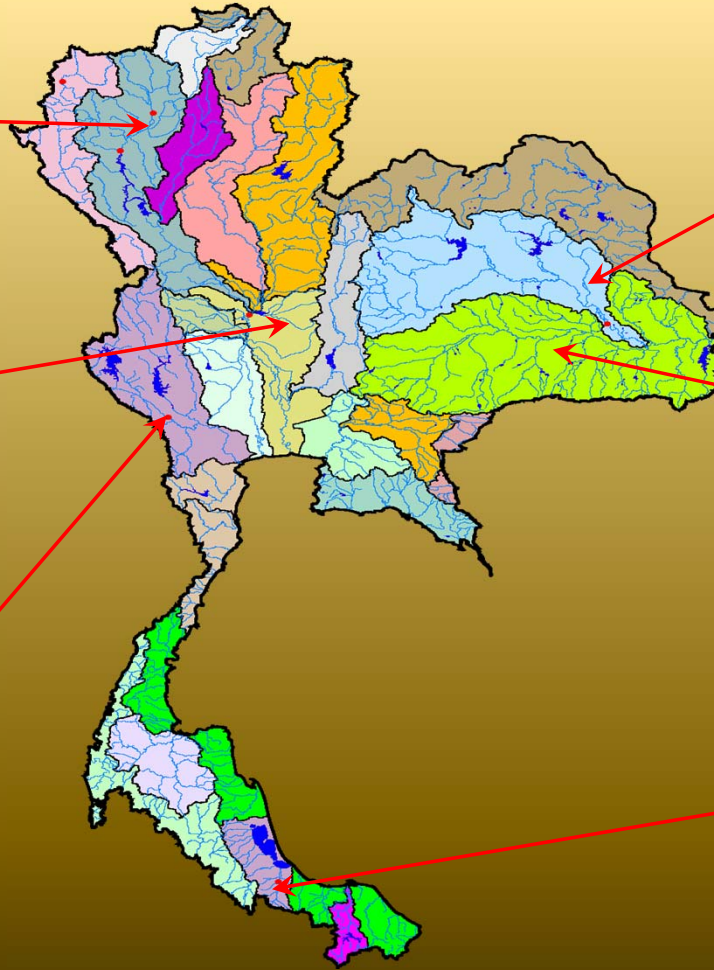
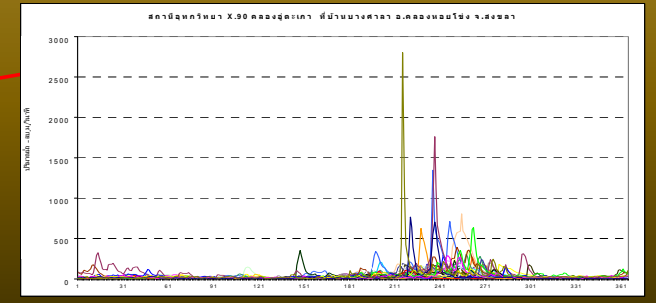
Mun River



Mae Klong River

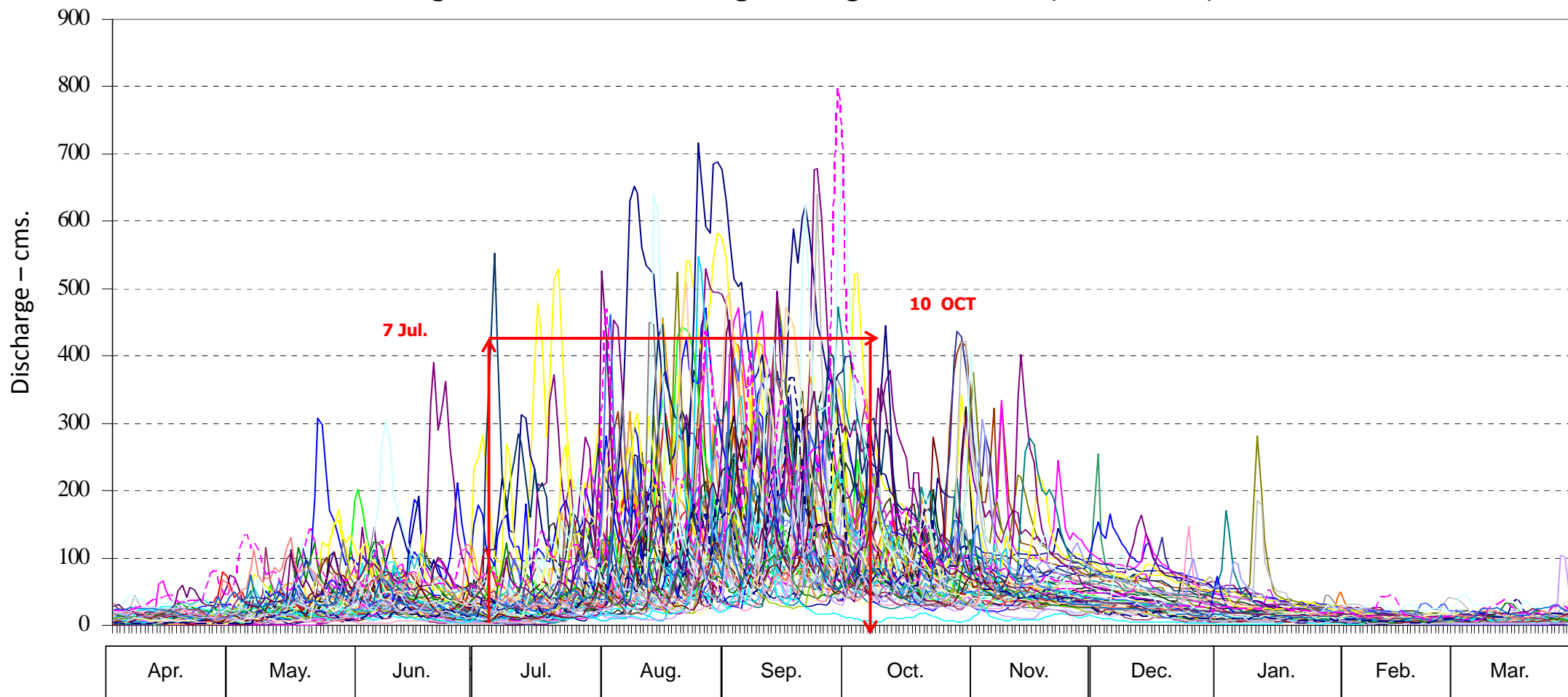


Tha Taphao River



Flooding Possibility Period of Experience Area

Ping river at P.1 A.Mueang, Chiangmai Province (1956-2011)



What to move ----->? **WATER or PEOPLE ?**

Investment toward implementing hard and soft measures of water-related disaster management based on the consideration about the location characteristic (economic, population density), frequency and severity of the disaster that used to occur in certain areas.

MOVE WATER...(not move people)

- **STRUCTURAL MEASUREMENTS :**

To divert or keep away water volume by constructing :

- Dams, reservoirs and retarding areas.
- Bypass, floodway.
- Dredging or enlarging water channels.
- River embankment, levee .

MOVE PEOPLE.....(not move water)

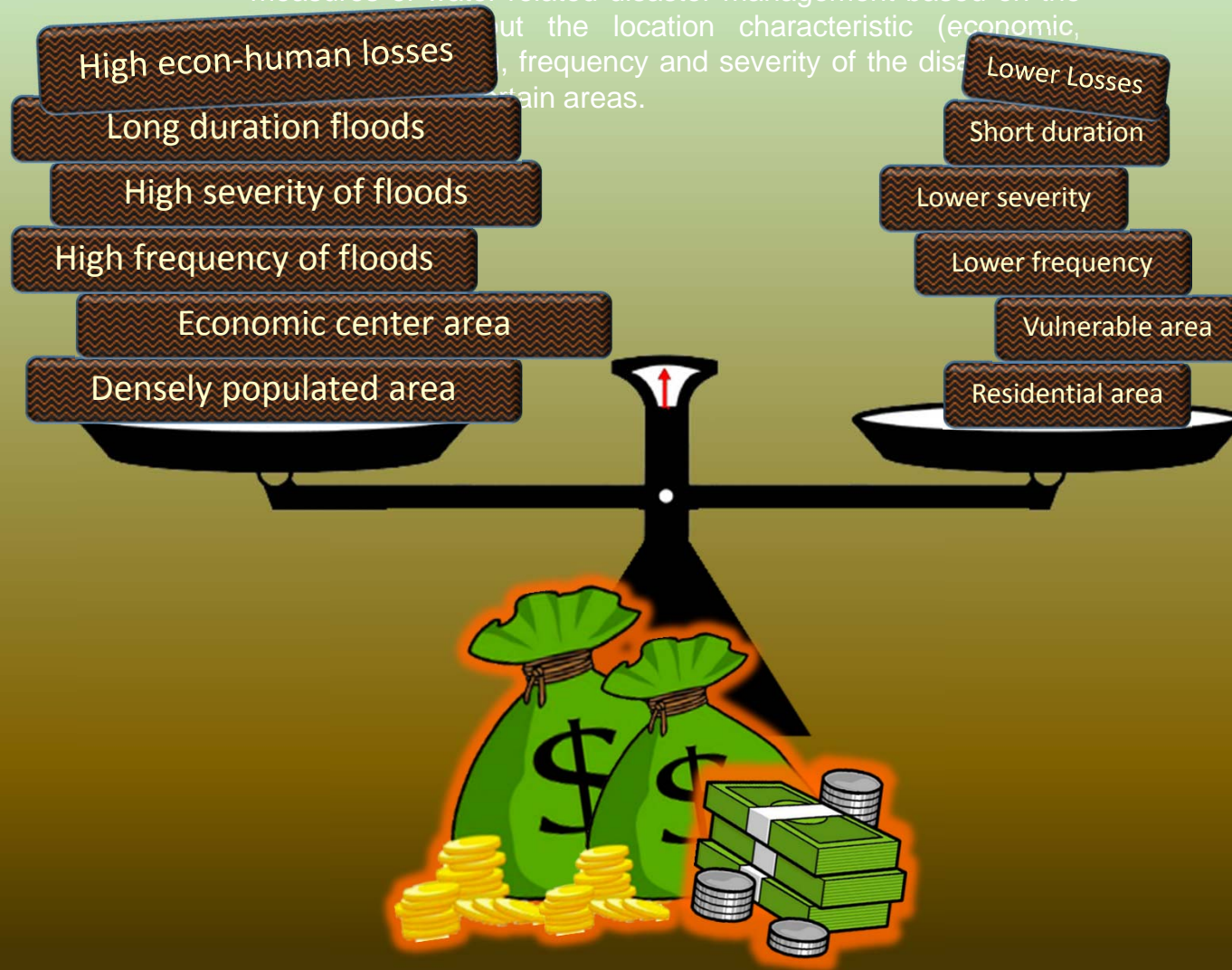
- **NON-STRUCTURAL MEASUREMENTS :**

Evacuate the residents to the safety place in time before flooding is the way to save human lives and properties. But the effective early warning system must be prompt, accurate and reliable, so it still needs more improvement with:-

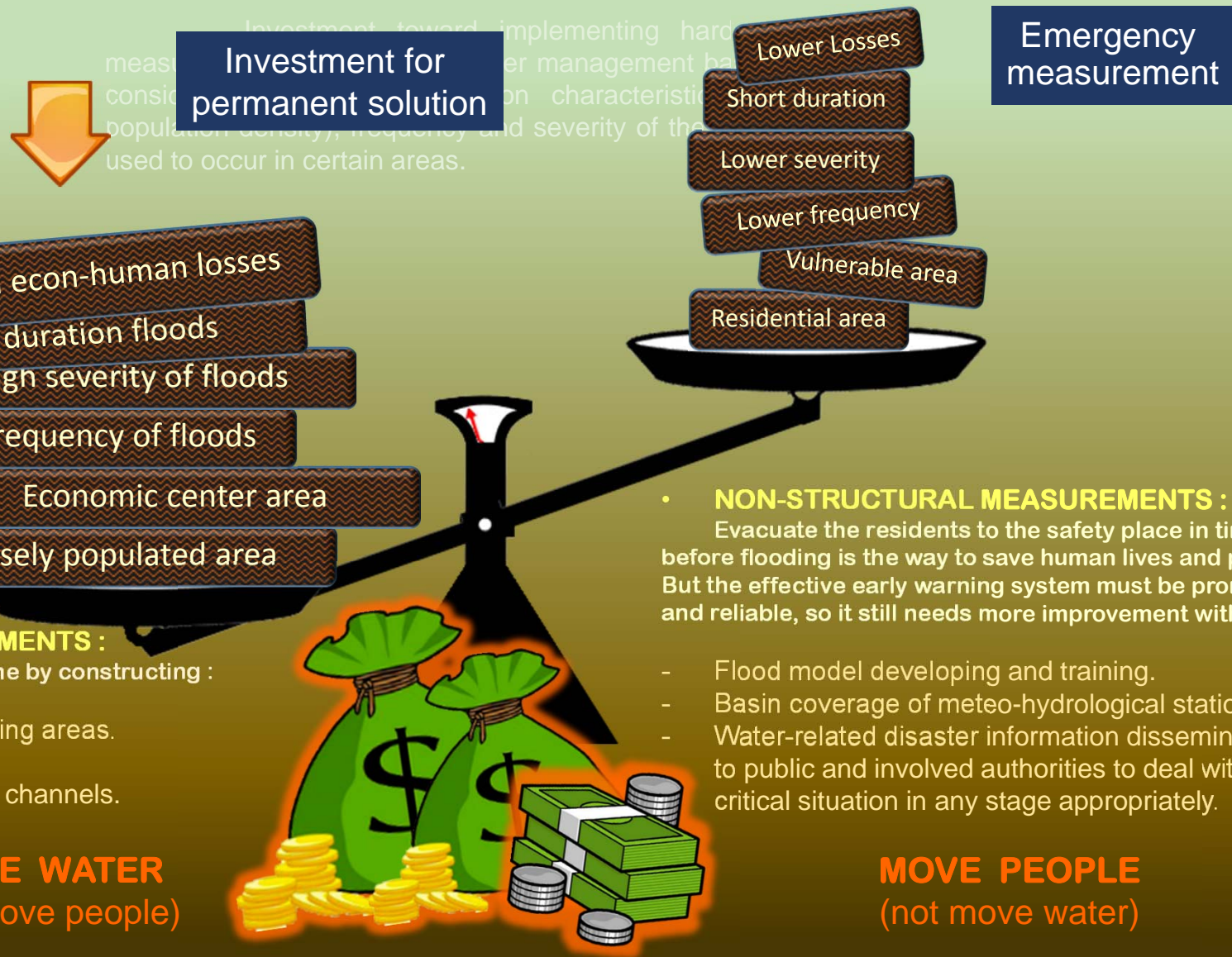
- Flood model developing and training.
- Basin coverage of meteo-hydrological station network.
- Water-related disaster information disseminated to public and involved authorities to deal with the critical situation in any stage appropriately.

WATER-RELATED DISASTER PREVENTION MEASUREMENTS IN THAILAND

Investment toward implementing hard and soft measures of water-related disaster management based on the location characteristic (economic, frequency and severity of the disaster in certain areas.



WATER-RELATED DISASTER PREVENTION MEASUREMENTS IN THAILAND



- Public awareness

FLOOD INFORMATION DISSEMINATION

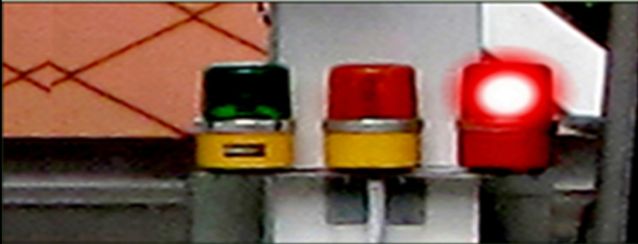
Flood information disseminated by various forms such as pamphlets, posters, normal boards or digital boards, presentation CDs as the data access channels for public now applied for another basins as well.



Three coloured flags



LED moving sign board



Alarm lights



Water level normal board



River monitoring board at the city landmark where people can follow the flood situation during the critical period

**THANK YOU
FOR YOUR ATTENTION**