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EARLY WARNING SYSTEM FOR THE LOWER MEKONG RIVER

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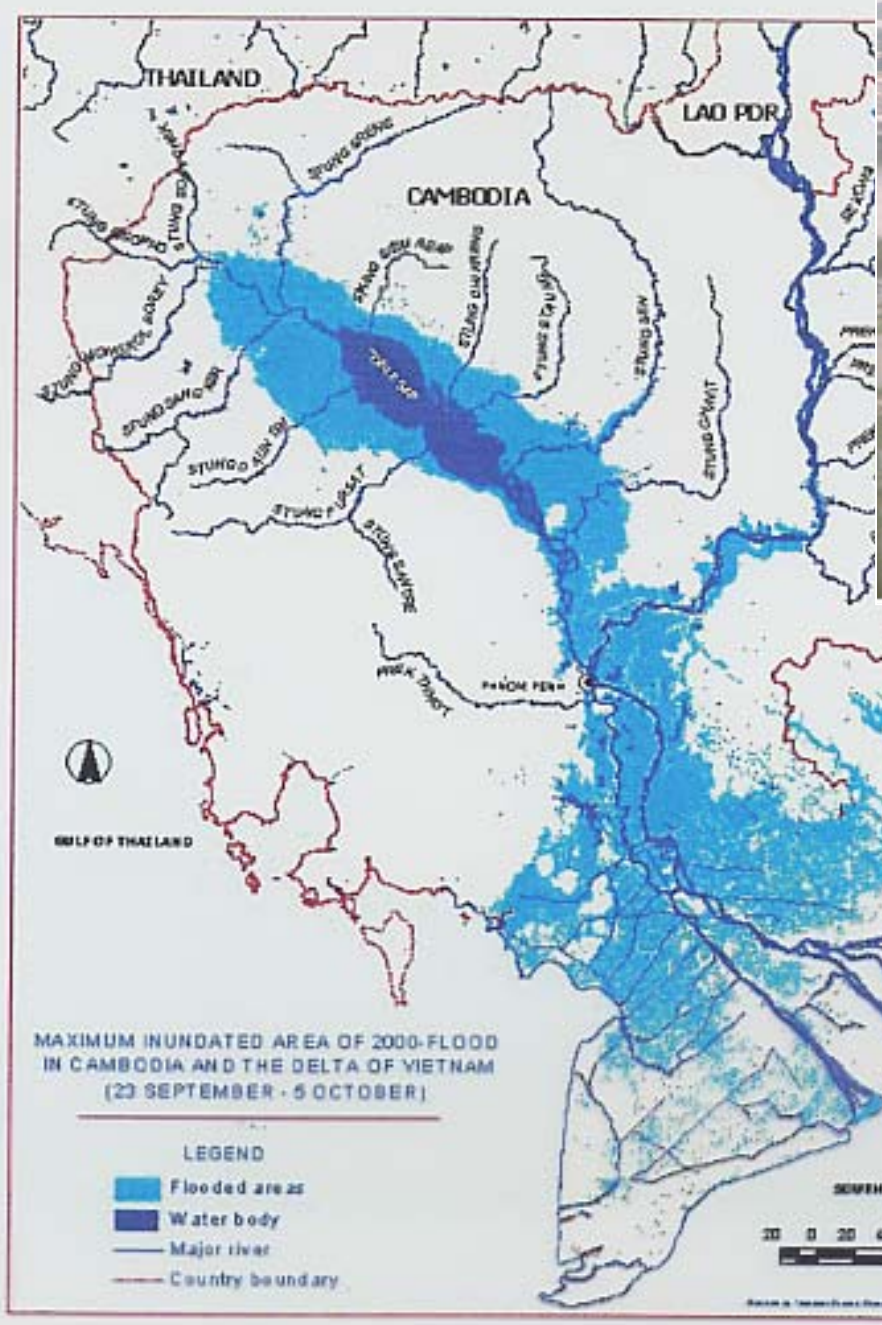
Lower Mekong

Maximum flood

Kratie 65,000 m^3/sec



Flood 2000:

Tonle Sap Lake:

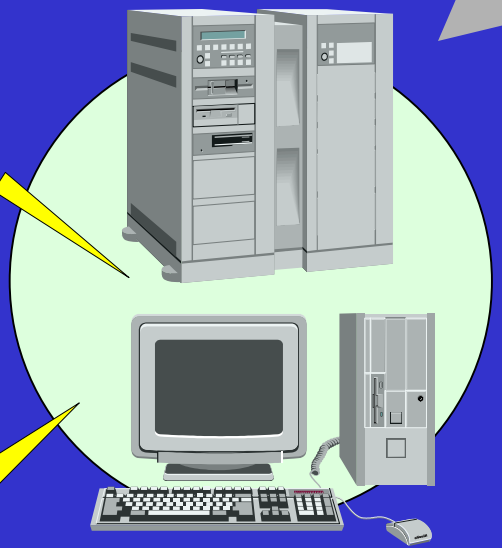
increased from ca. 6400 km² to 16000 km²

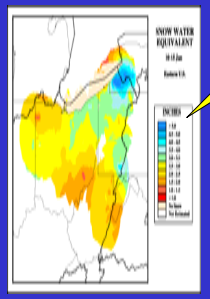
Flooded area: more than 30,000 km²

Flood Forecasting and Early Warning

MRCS + Partners:Data collection, Analysis, Provision of Forecasts

Web site, bulletin, e-mail, fax, radio, telephone, etc.





Background: Experiences gained in a meeting in Maputo, in October 2000 on the Limpopo flood of Spring 2000 (sponsored by Japan) resulted in a

Meeting of experts to consider appropriate measures for mitigating flood damage for future floods (Phnom Penh, February 2002)

Advantages of approach:

- concentrating on a region
- excursion to assess the damage
- independent experts

Disadvantages:

- too few experts to cover the breadth of the subject
- topic to broad

Measures of success of early warning:

authenticity: warning from trusted source, possibly verified by comparing with experience

specificity: avoid possible misunderstanding of the warning

timeliness: lead time long enough for warning reaching people and taking actions

accuracy erroneous warnings must be avoided, warning procedure must be clear to the people at risk, include that errors are possible

reliability:continuous operation of warning system must be assured

Requirements of participatory process for effectiveness of Early Warning:

- community based assessments of needs
- assessment of relevance of existing warning systems, and identification of priorities for improvement
- understand the possibilities and methods of modern EW methods
- participate in the selection process for the warning system
- training in the use of warning messages and actions to be taken

From the general discussions, based on the expert presentations and elaborated in working groups,a concept of an approach for early warning in 10 steps emerged

Step 1: state the objectives of early warning: identify what is to be accomplished

Objectives:

As part of a modern flood management system

- **obtain an effective and early warning against floods:**
  - **for warning people to prevent loss of life**
  - **for warning people early enough for bringing lifestock and property to safety**

- **For the Mekong, also predict flood stages for optimum scheduling of agricultural activities**

Step 2: Identify the needs and vulnerabilities of the people at risk

- identify and map hazards and vulnerabilites, in cooperation with the people at risk (PAR)

- obtain an understanding of the reaction of PARs to flood warnings (find reasons why there is lack of acceptance)

- identify and motivate key persons of the communities to make them support of and actively participate in measures of early warning.

Step 3: Identify the parts of an early warning system and obtain information on how the parts were realized internationally by experts (obtain recommendations)

Step 4: Compare the existing system with the recommendations for components: component by component.

Step 5: Identify the weak links in the existing system in cooperation with local administrations, (include people at risk in the discussion)

Step 6: Identify the most effective way of strengthening the weak links, using international experience and local know how

Step 7: set targets: give priorities, and set dead lines

Step 8: develop a strategy to reach the targets in cooperation with the people at risk

Step 9: Implement the strategy, include operation rules

Step 10: maintain and improve the system, include information and training of people at risk

The recommendations of the Expert Meeting on „Early Warning“ have been incorporated into the program for flood protection of the Mekong countries, as developed by the Mekong River Commission.

Implementation of this program has a high priority and is supported by important donor countries and organizations

In order to accomplish the tasks identified by these 10 steps, the generation and operation of an optimum early warning system requires:

an accurate and sufficient data base

obtained and maintained by
state of the art technology

a set of suitable models

for converting data into forecasts
specially adapted to the conditions of the Mekong,
reflecting available data base, scientific state of the art, and computing capacity of today

an efficient organization:

- to maintain and develop the necessary model- and data base,
- to produce forecasts and verify their accuracy
- to transmit the forecasts to the decision maker

a decision maker:

- who is efficient and knowledgeable
- who speedily translates the forecast into a warning, according to well researched decision criteria

- an optimum system for
  getting the warning to the people

- a well trained group of local persons
  who know what to do
  and guide children and disabled to safety

- a local population who knows what to do
  in cases of flood emergency

Thank you!