

Asian Water Cycle Initiative AWCI

Bali, Indonesia, 6-9 September, 2007

Case Study
on Stung Sangker River
Basin for
Natural Water Resources Management

SO IM MONICHOTH

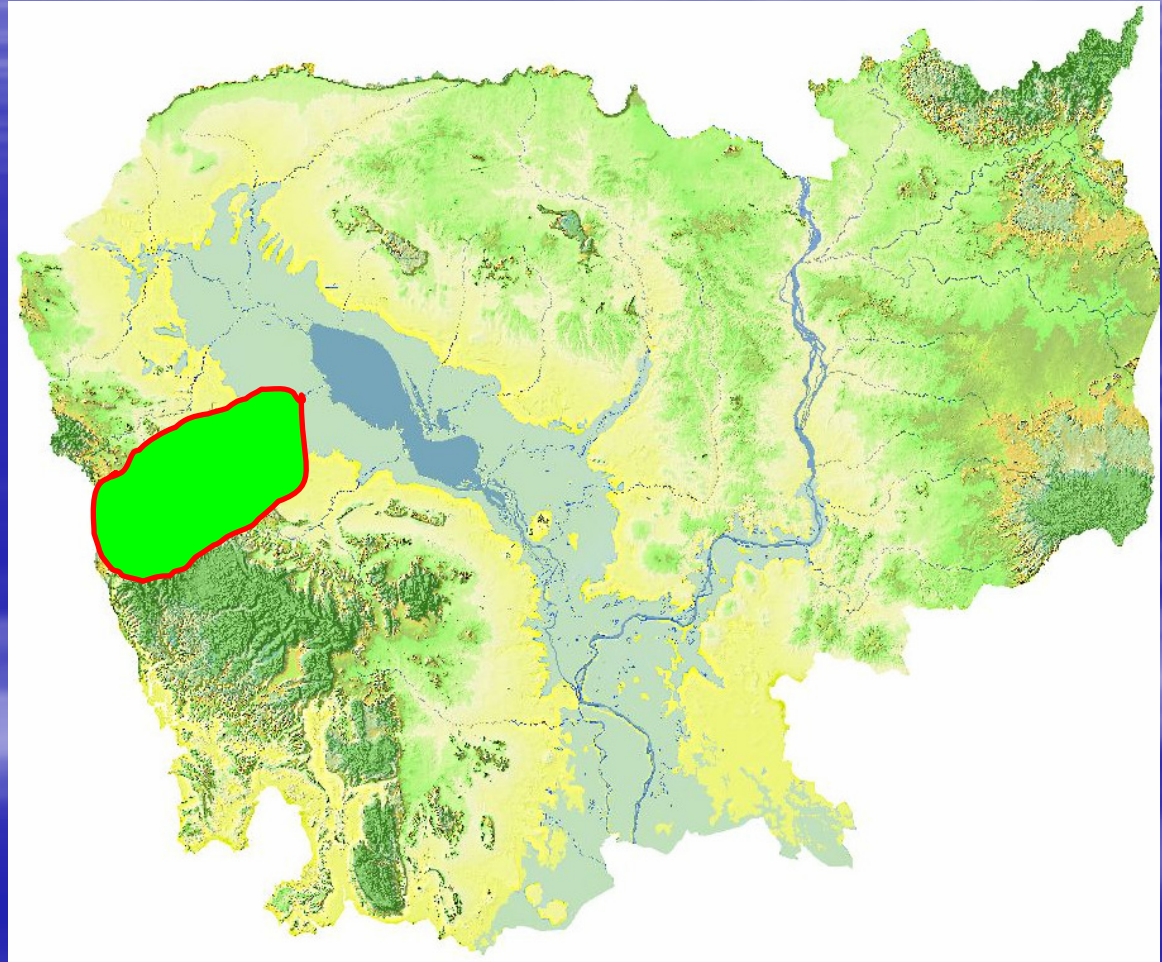
Department of Hydrology and river Works (DHRW), Cambodia

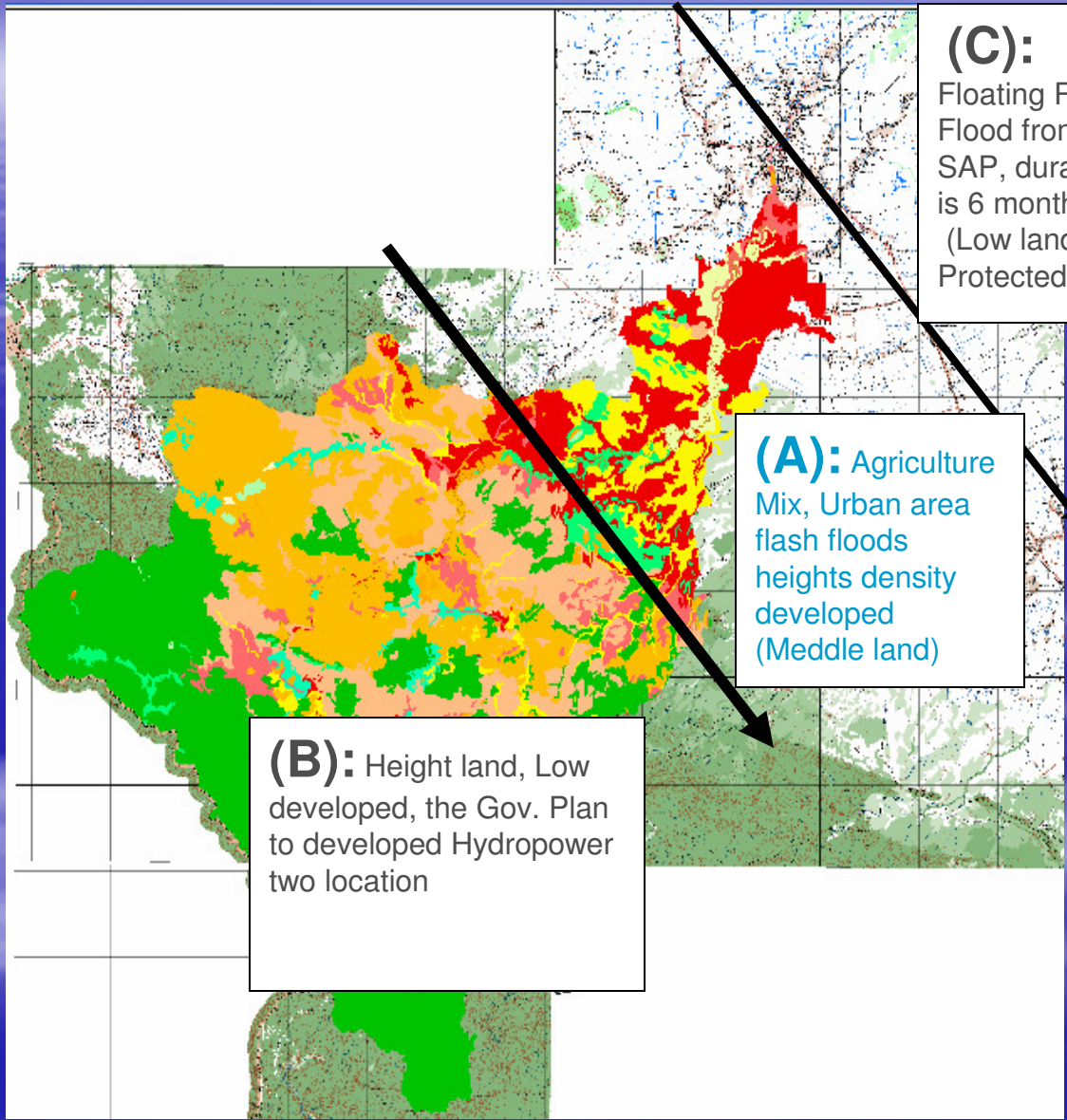
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1. INTRODUCTION

- Sangker is one river contributes flow into Great Lake.
- Located Battambang Province at southwest of Cambodia
- The basin area is 2960.955 km²



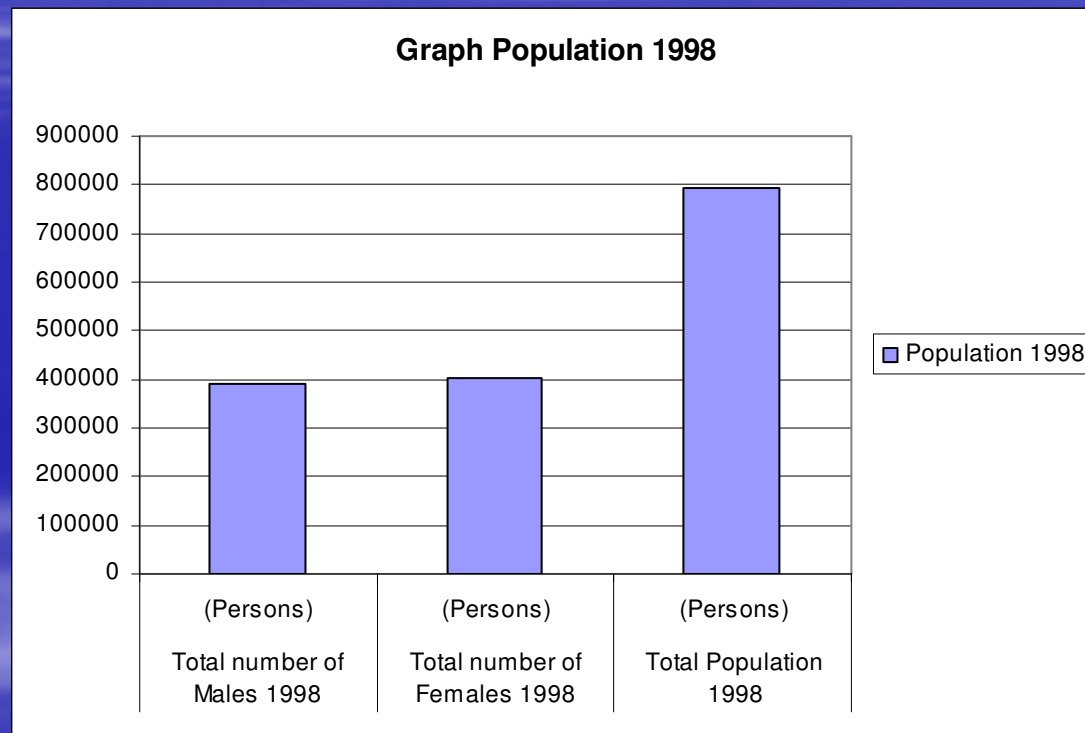


(C):
Floating Rice,
Flood from the TONLE
SAP, duration time flood
is 6 month
(Low land)
Protected area Gov

(A): Agriculture
Mix, Urban area
flash floods
heights density
developed
(Meddle land)

(B): Height land, Low
developed, the Gov. Plan
to developed Hydropower
two location

Population in BB_1998



2. OBJECTIVES

- *To studies the impact of flash flood in case heavy raining*
- *To manage the water resources*



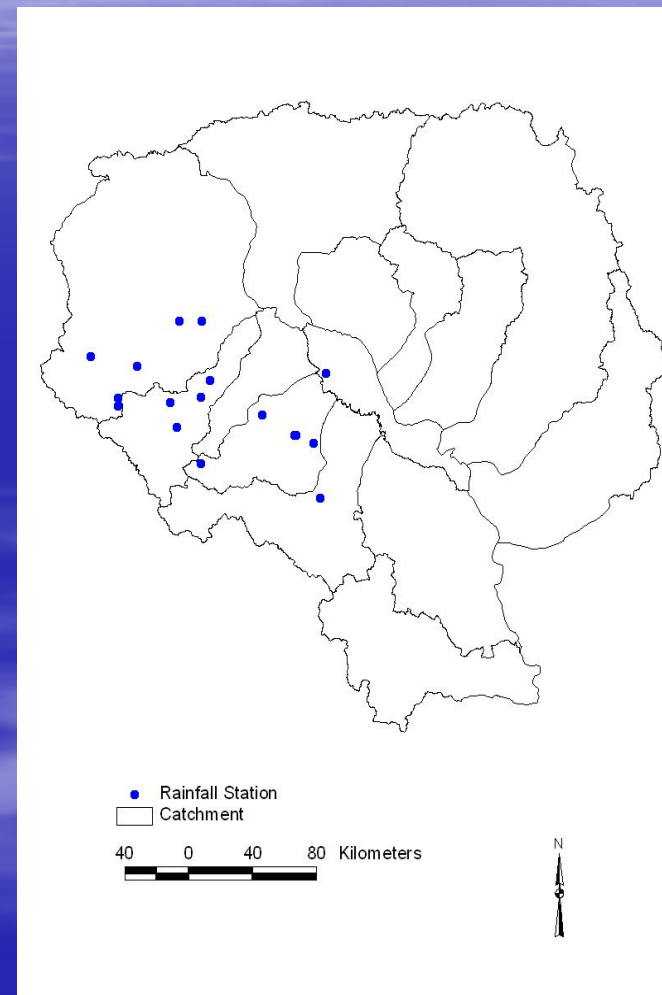
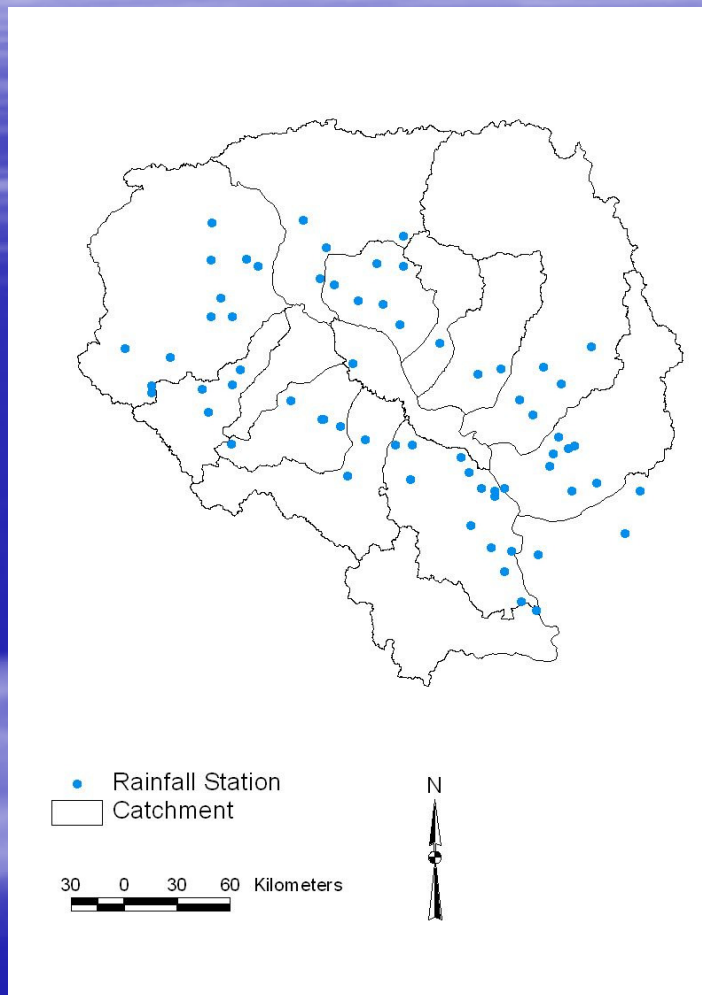


Spill or over flow, X

3. DATA AVAILABILITY

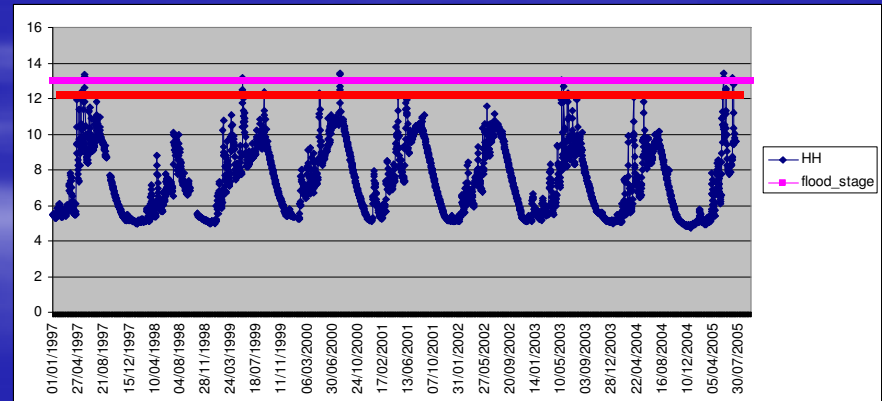
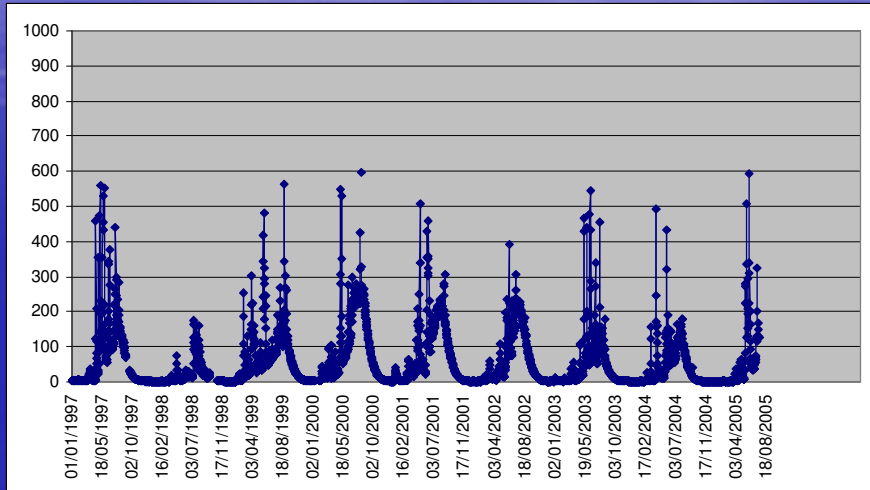
- Flow
- Water levels
- Rainfall
- Humidity
- Temperatures
- Wind Speeds
- Solar Radiation
- Topographical Data
- Land Use
- Soil Types
- DEM with 50 m grid resolution

Meteorological Stations used to supply weather input Data



Cont.

- Flow and water levels data at Battambang Hydrological station in Stungsangker river



4.MODEL APPLICATION

Hydrological Model

SWAT

Basin Simulation Model

IQQM

Hydrodynamic Model

ISIS

Impact Analysis Tools

scheme of Model

Rainfall - Runoff

Changes
Water abstractions
Dams in basin
In-stream demands

Changes
Climate change
Prediction Water Resources
Catchment land cover
Nutrients & phosphorous

Basin Simulation Model

Changes
•canal levels
•sediment
•Flooding
•River works
•In-stream demands and others

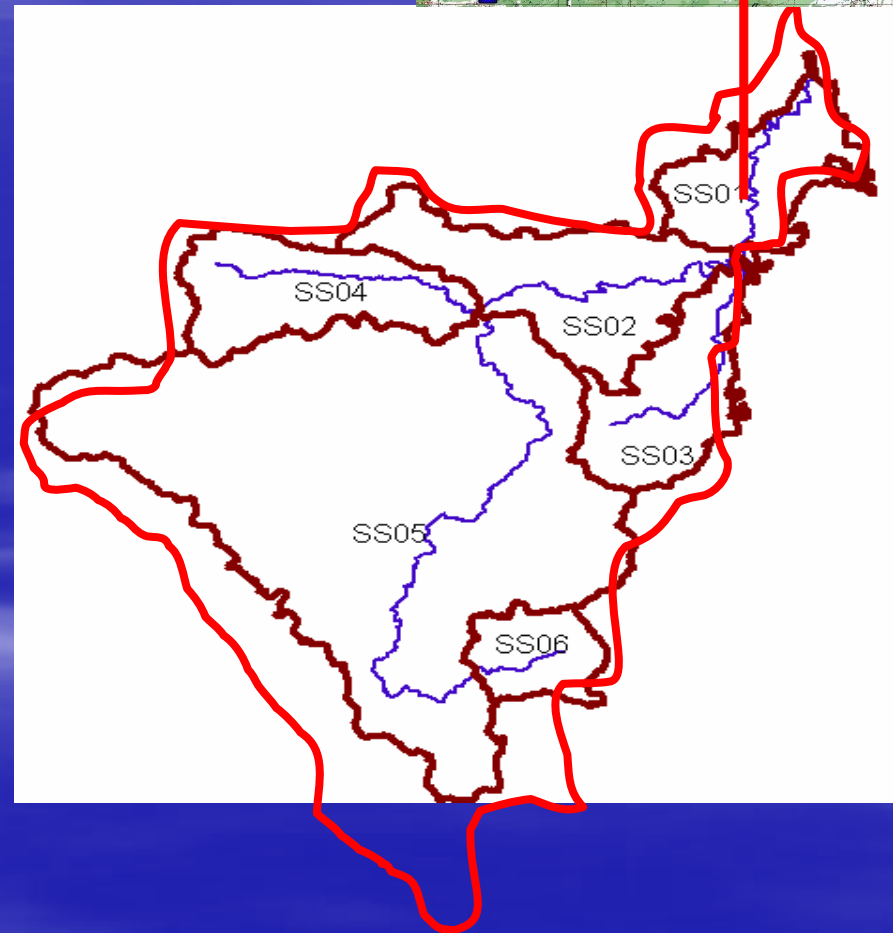
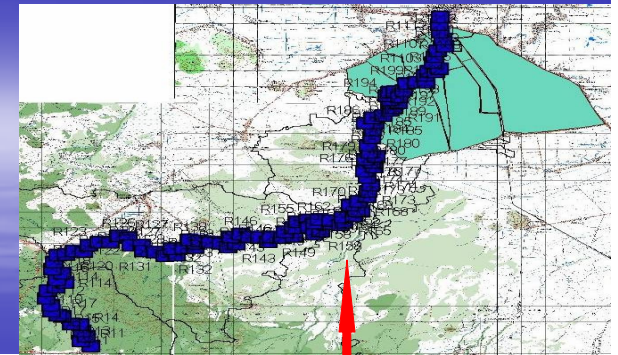
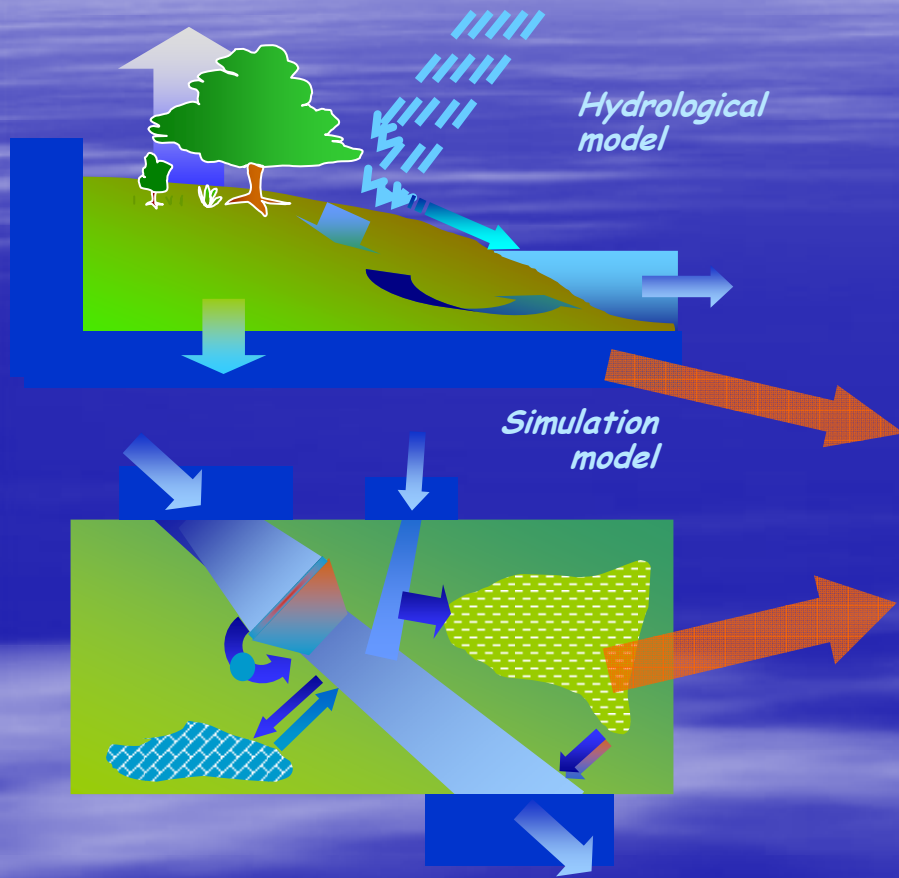


Im

Impacts
Environmental
Socio-economic

Hydro
Mo

Scope of Scheme model



Stung Sungker Sub-basin

Table 4.1:

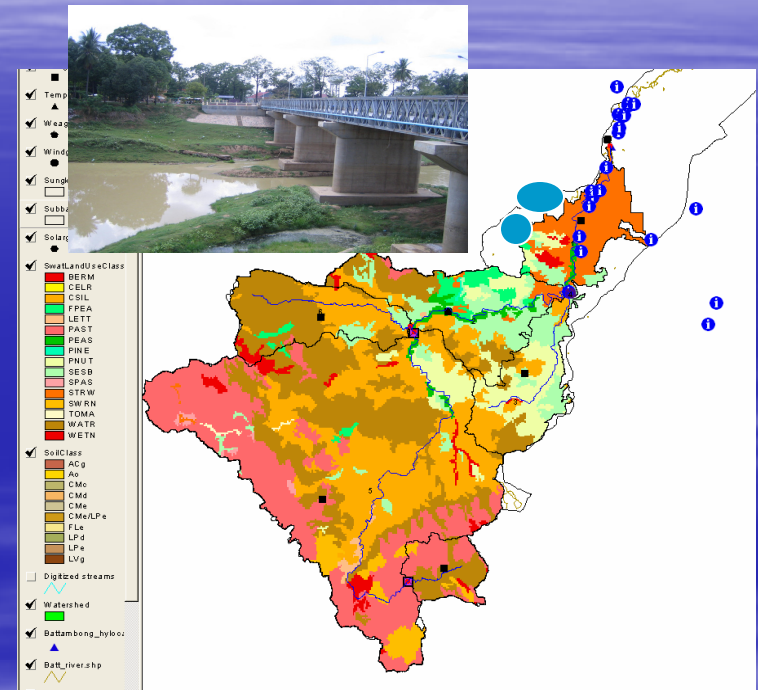
Code	Sub-basin name	Surface area (km²)
SS01	Stung Sungker	230.7100
SS02	Stung Sungker	377.6650
SS03	Stung Sungker	250.4250
SS04	Stung Sungker	281.6600
SS05	Stung Sungker	1699.4851
SS06	Stung Sungker	121.0100

Irrigation and water supply

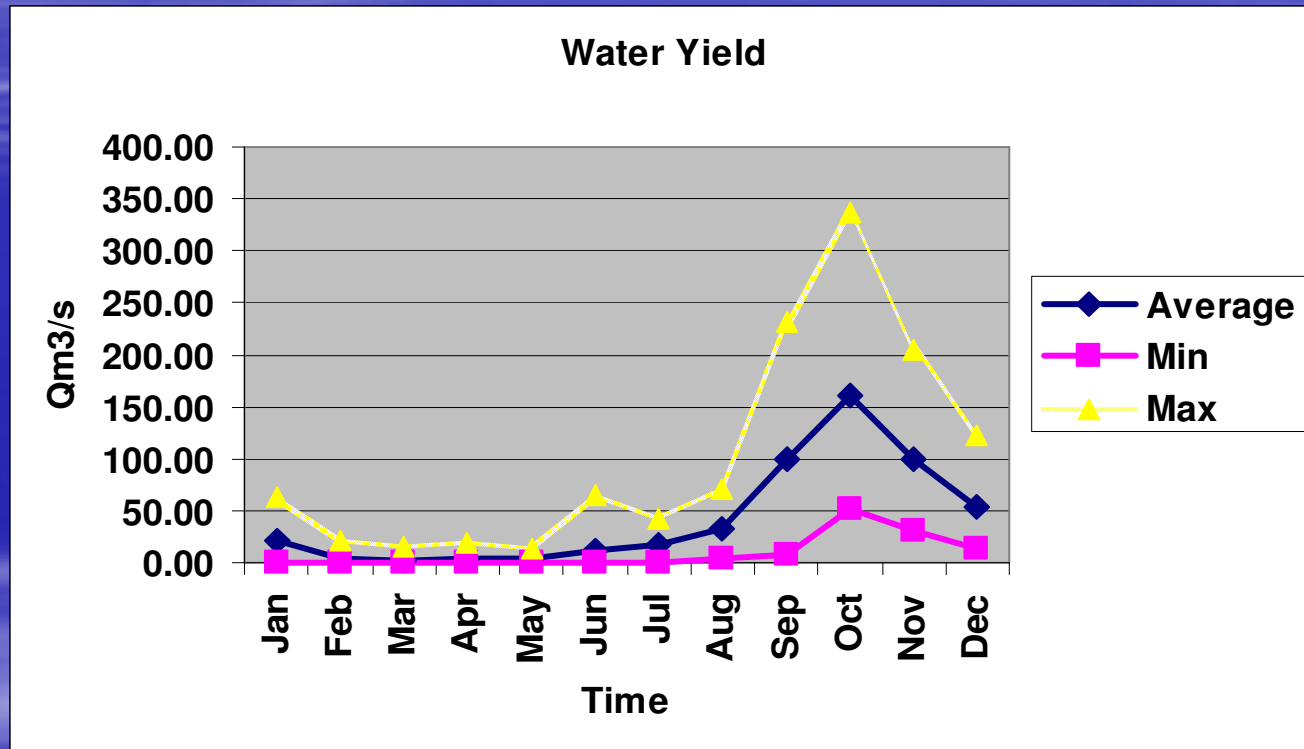
Potential Area (ha) for
wet and dry seasons

Wet:42,000 ha

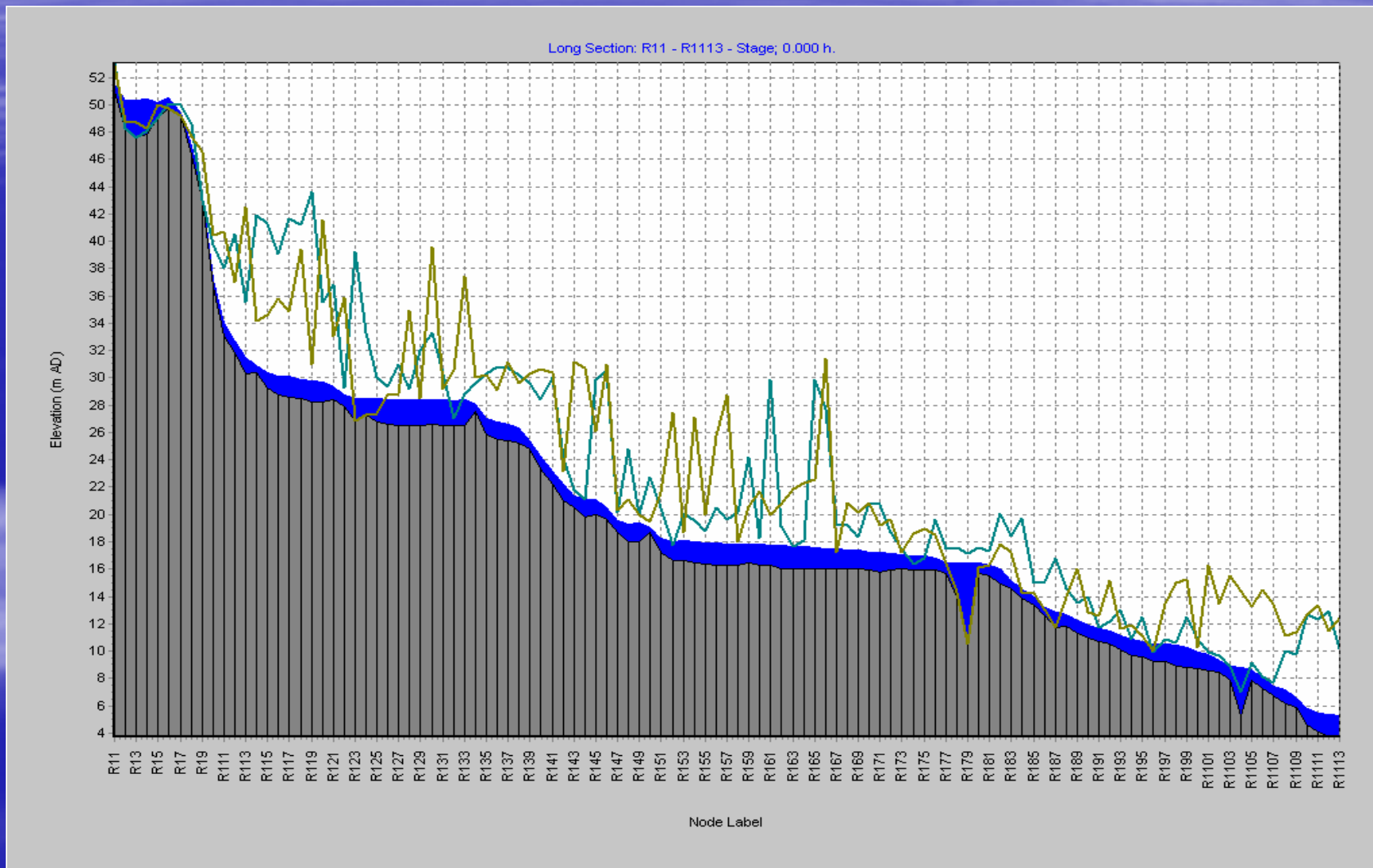
Dry :1,400 ha



Water Yield



Long Profile River












Flood depth (meter)

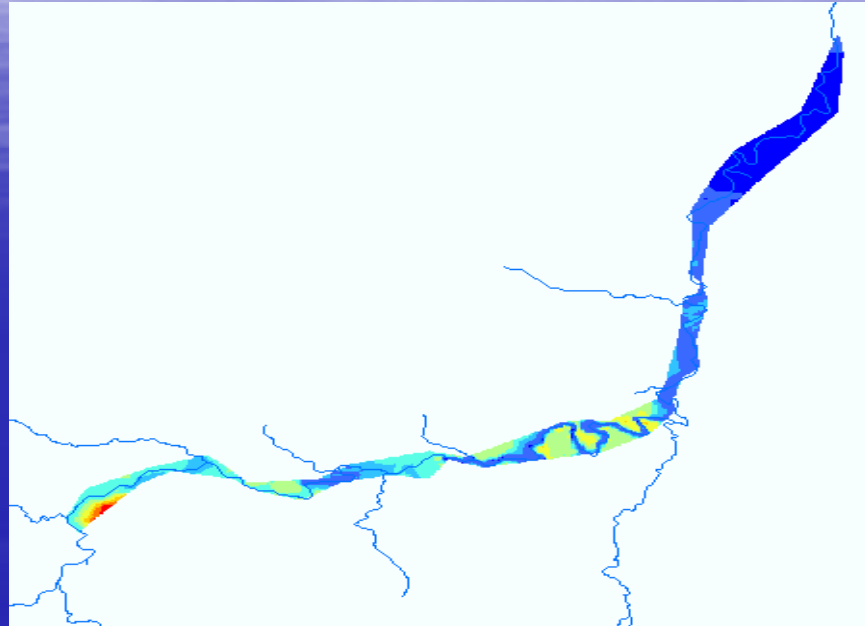
Legend

— River

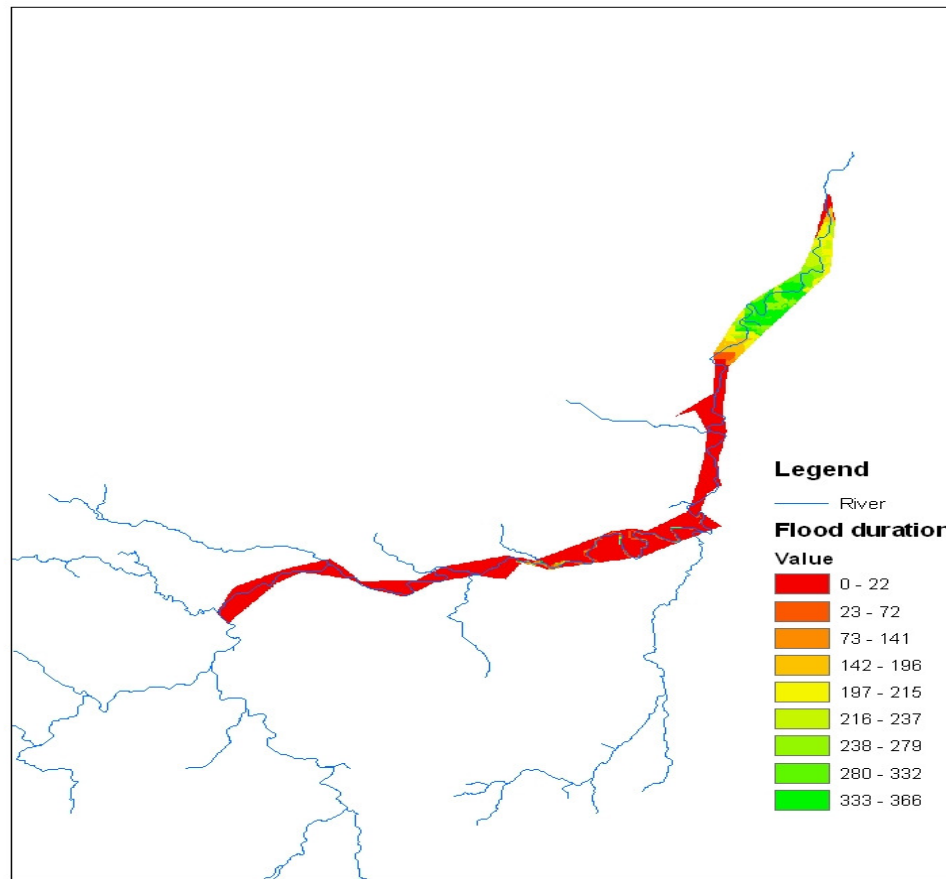
Flood depth

<VALUE>

	0.0 - 0.01
	0.01 - 0.05
	0.05 - 0.5
	0.5 - 1.0
	1.0 - 1.5
	1.5 - 2.0
	2.0 - 2.5
	2.5 - 3.0
	3.0 - 7



Flood duration (day)



Thank You.

