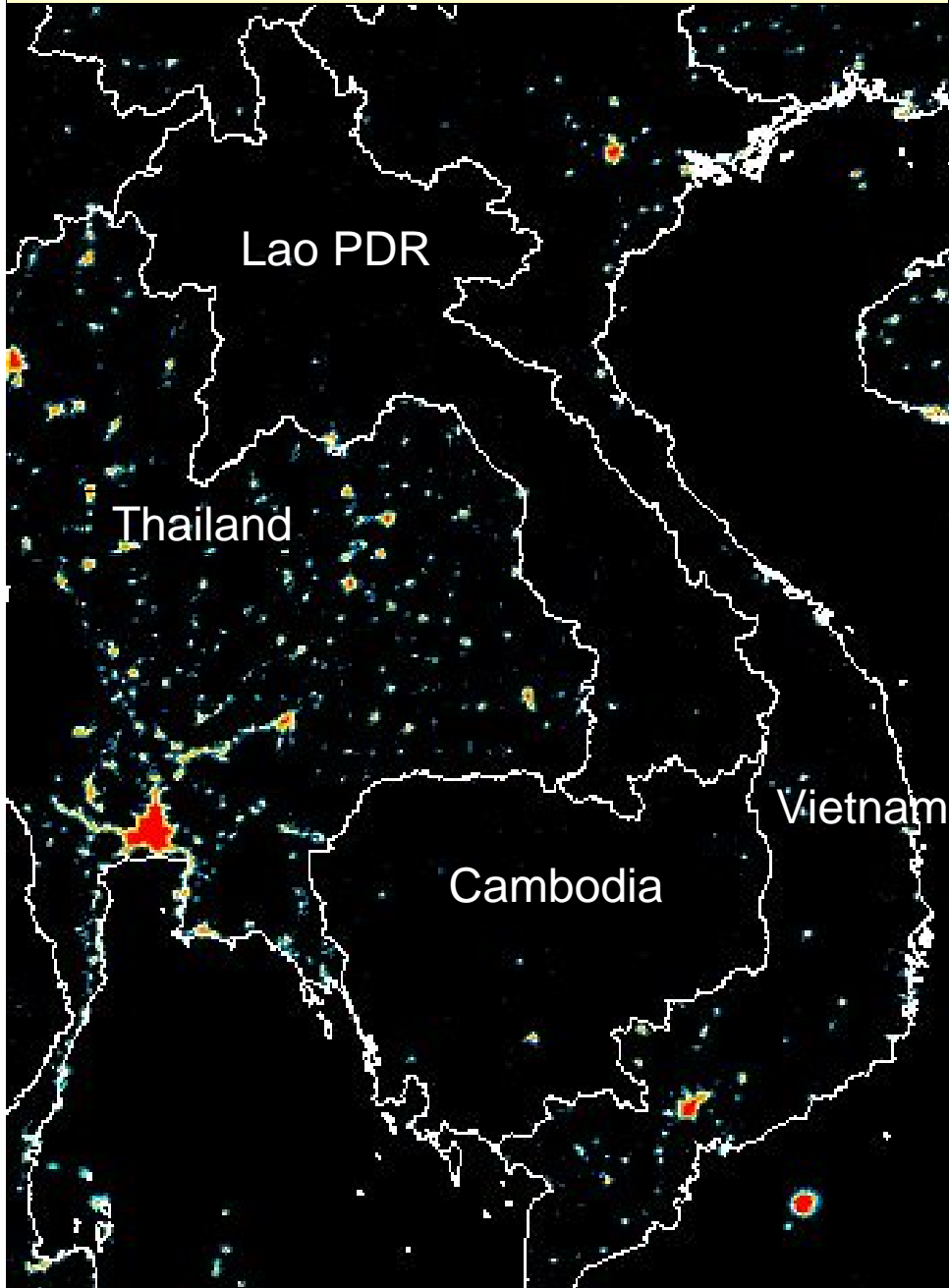


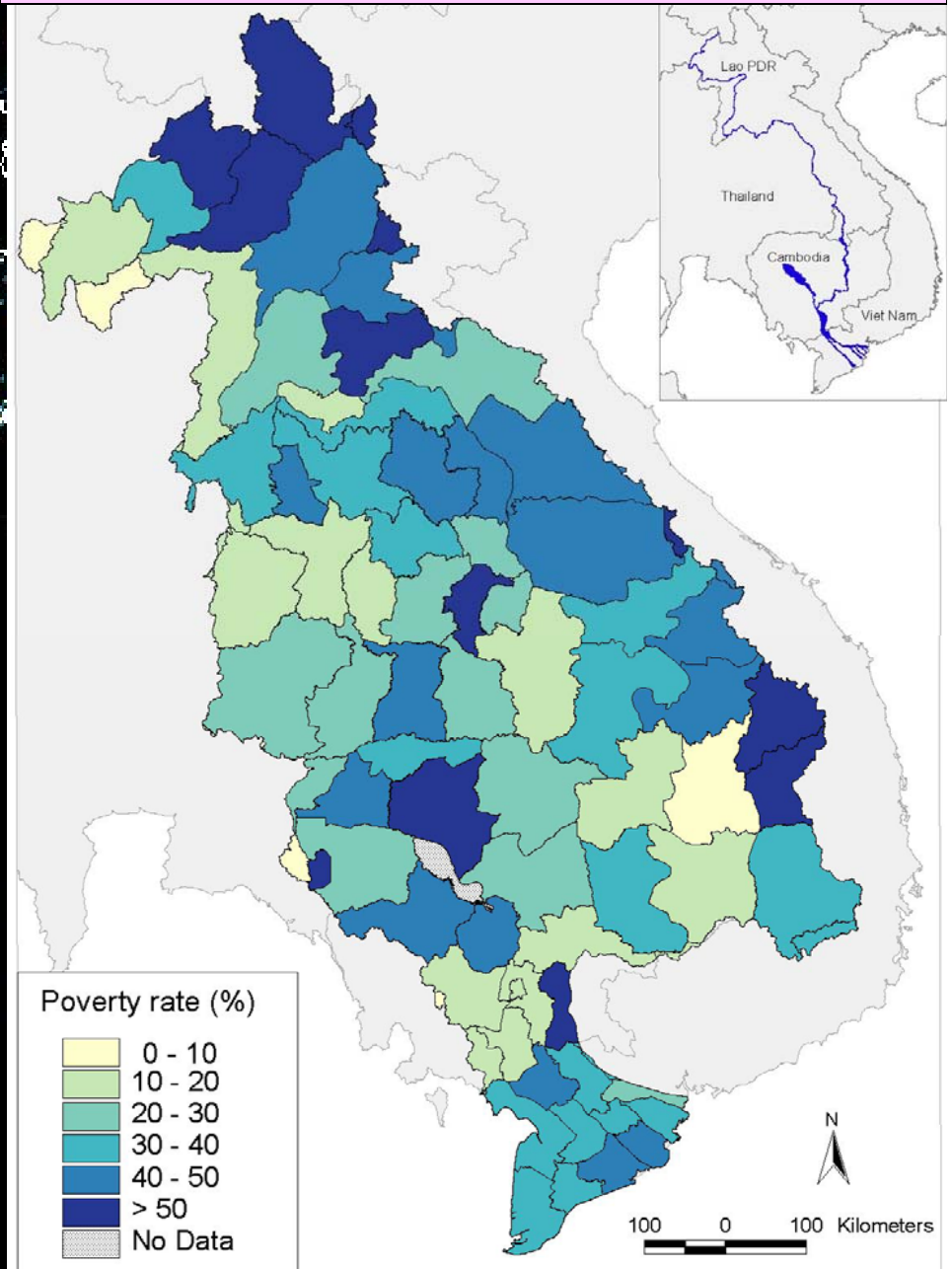
## 第二部

### - メコン河の課題 -

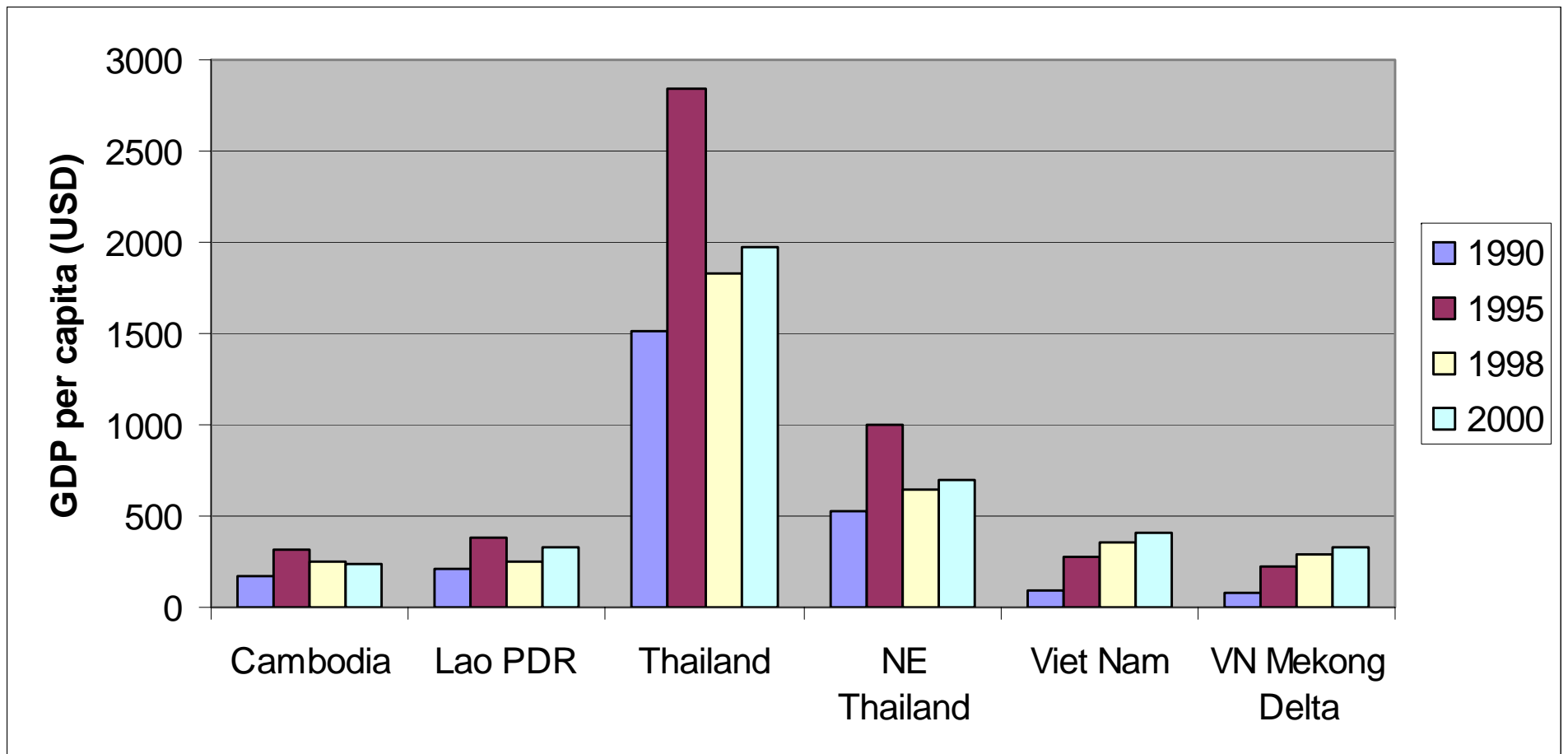
# インドシナ半島の夜の衛星写真



# 高い貧困率



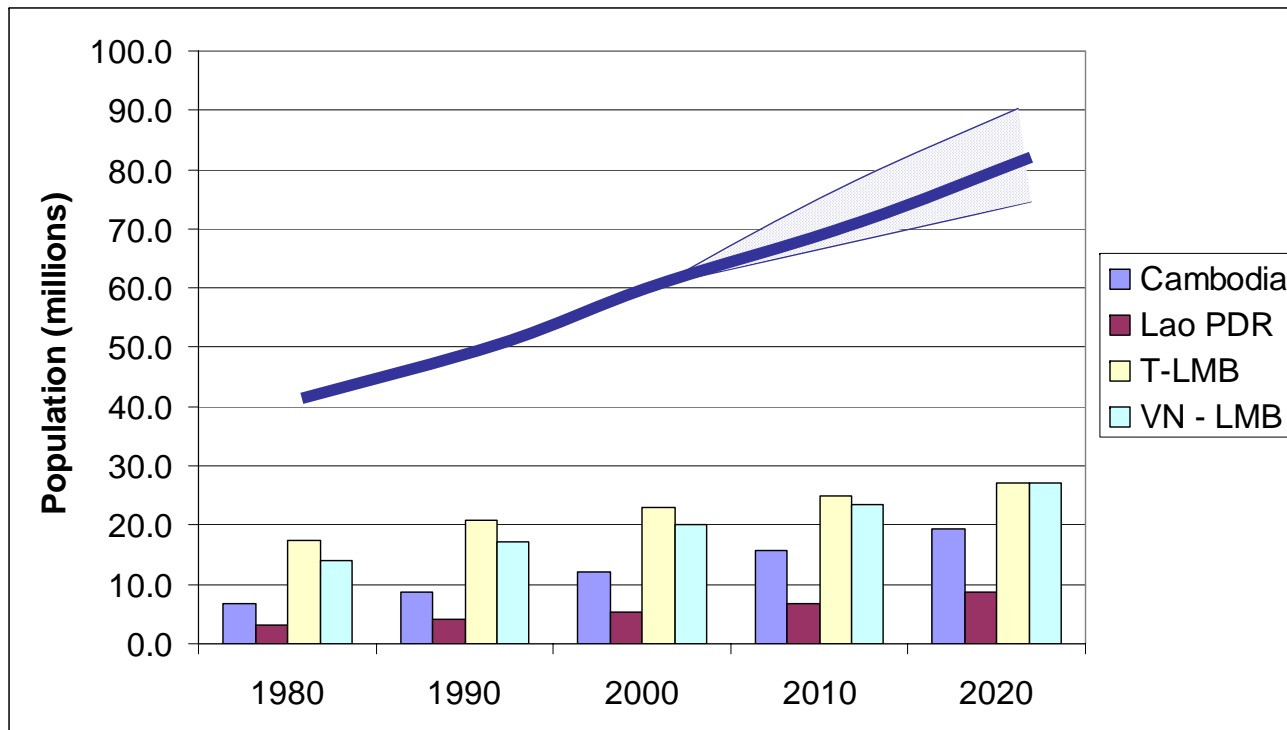
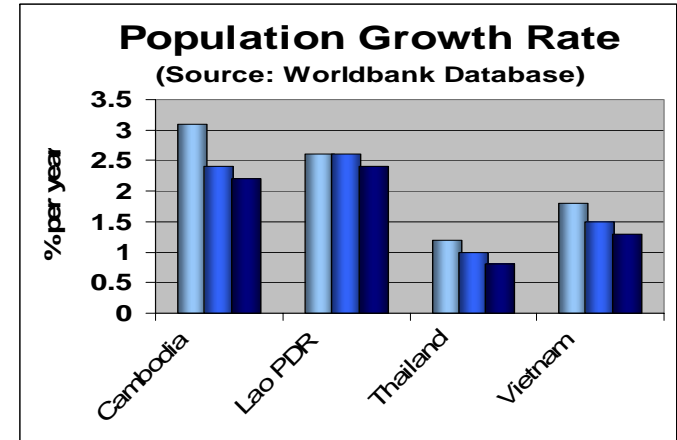
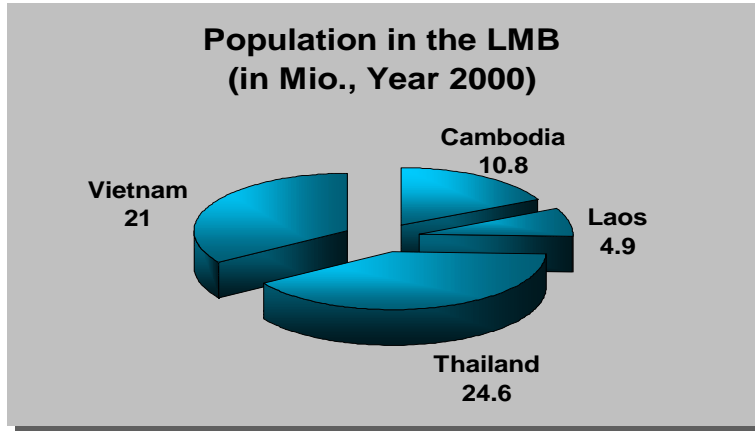
域内は**貧困国**で構成。  
経済発展のためには、**持続可能な開発**が求められている。



ラオス、カンボジアの50%以上の人々が安全な水へのアクセスができない

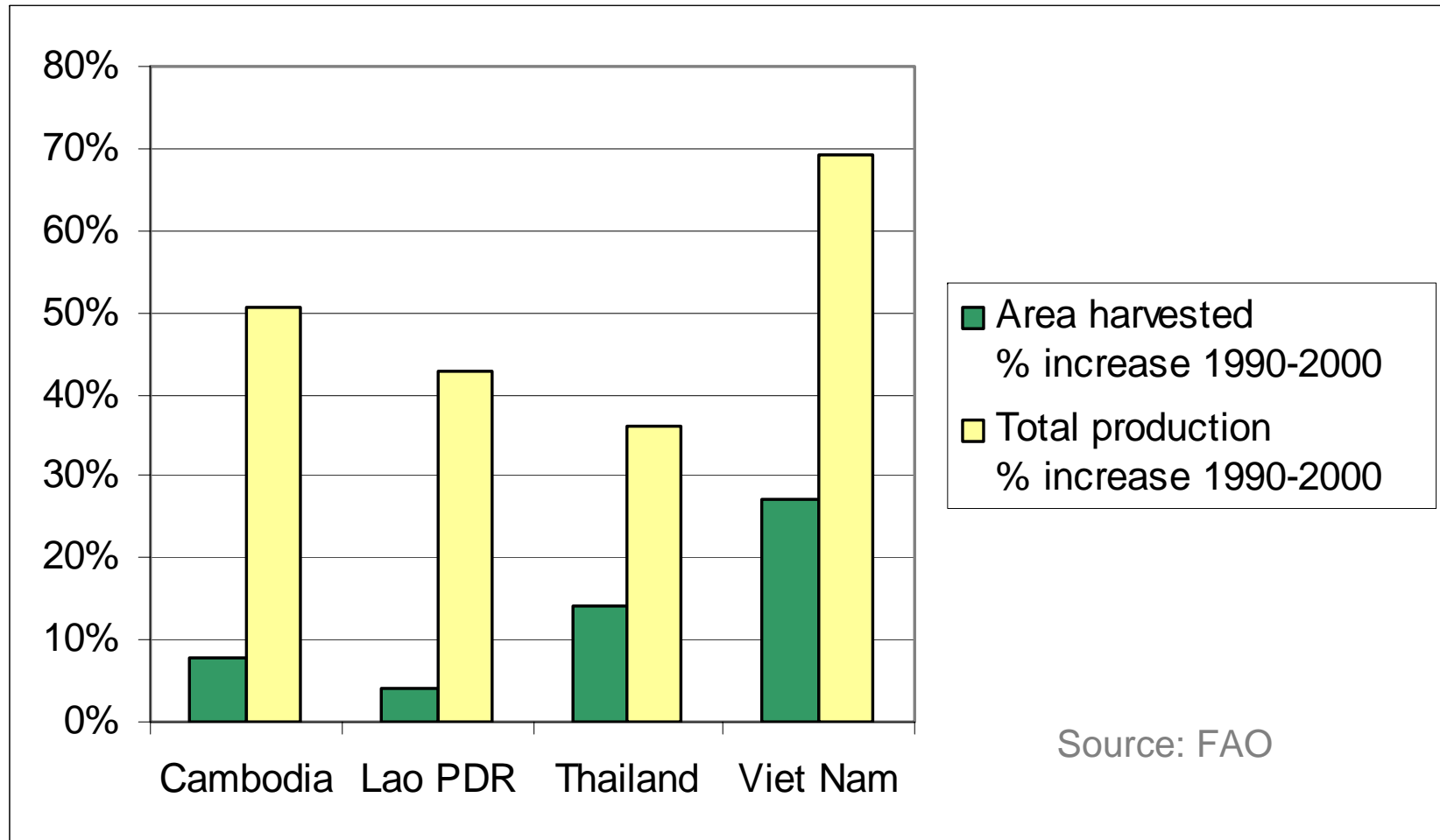
域内人口6,000万人 → 1億人(2025年)

高い人口増加率



# 食料生産の増加

Estimated dry season average irrigated areas (ha)





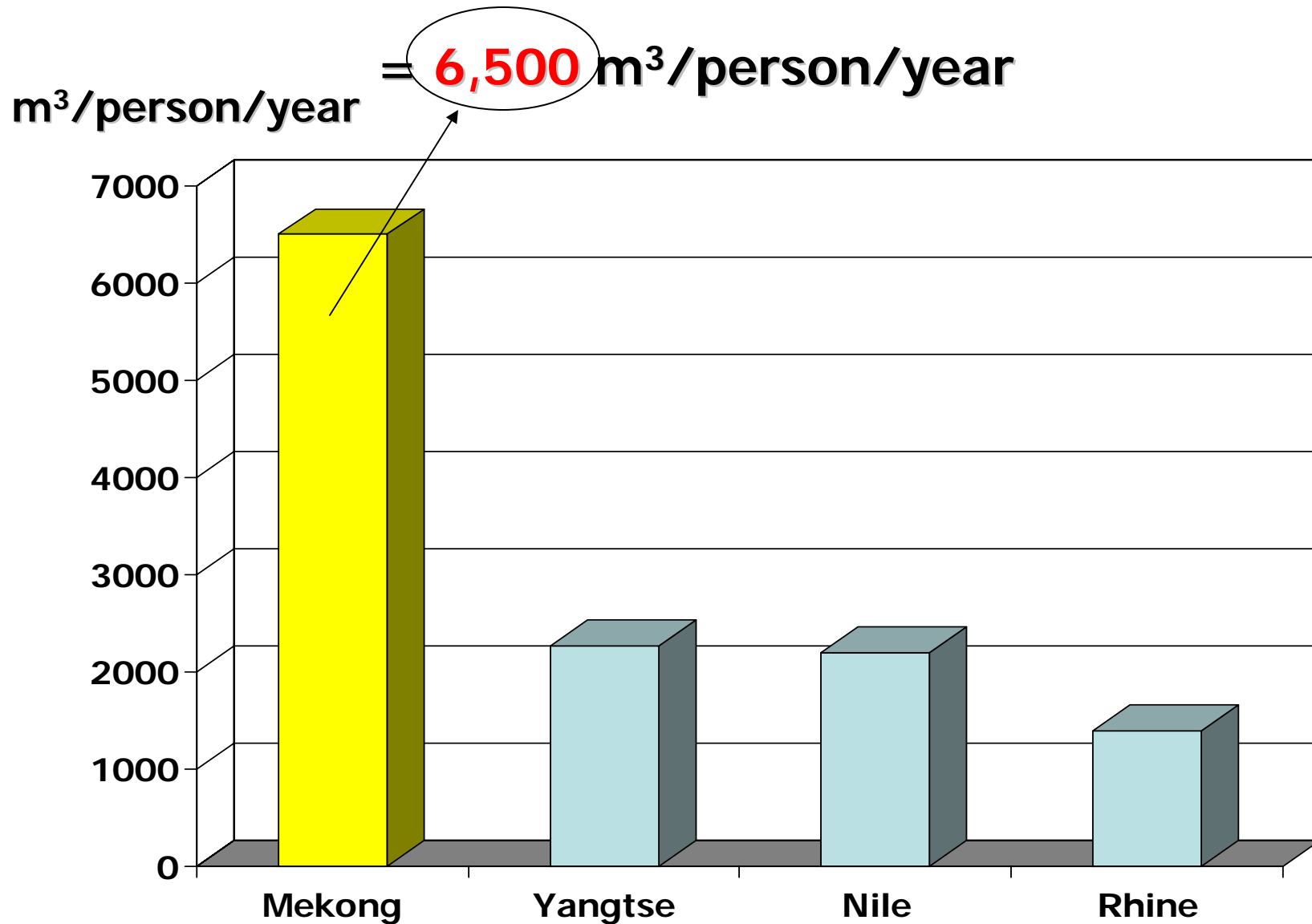
**域内の80%は水資源をベース  
とする食料に依存**

Subsistence and commercial fisheries

**1.5 – 2 million t /year  
(2 billion US \$ /year)**



# Volume of water flowing in the river 475 billion m<sup>3</sup>/year



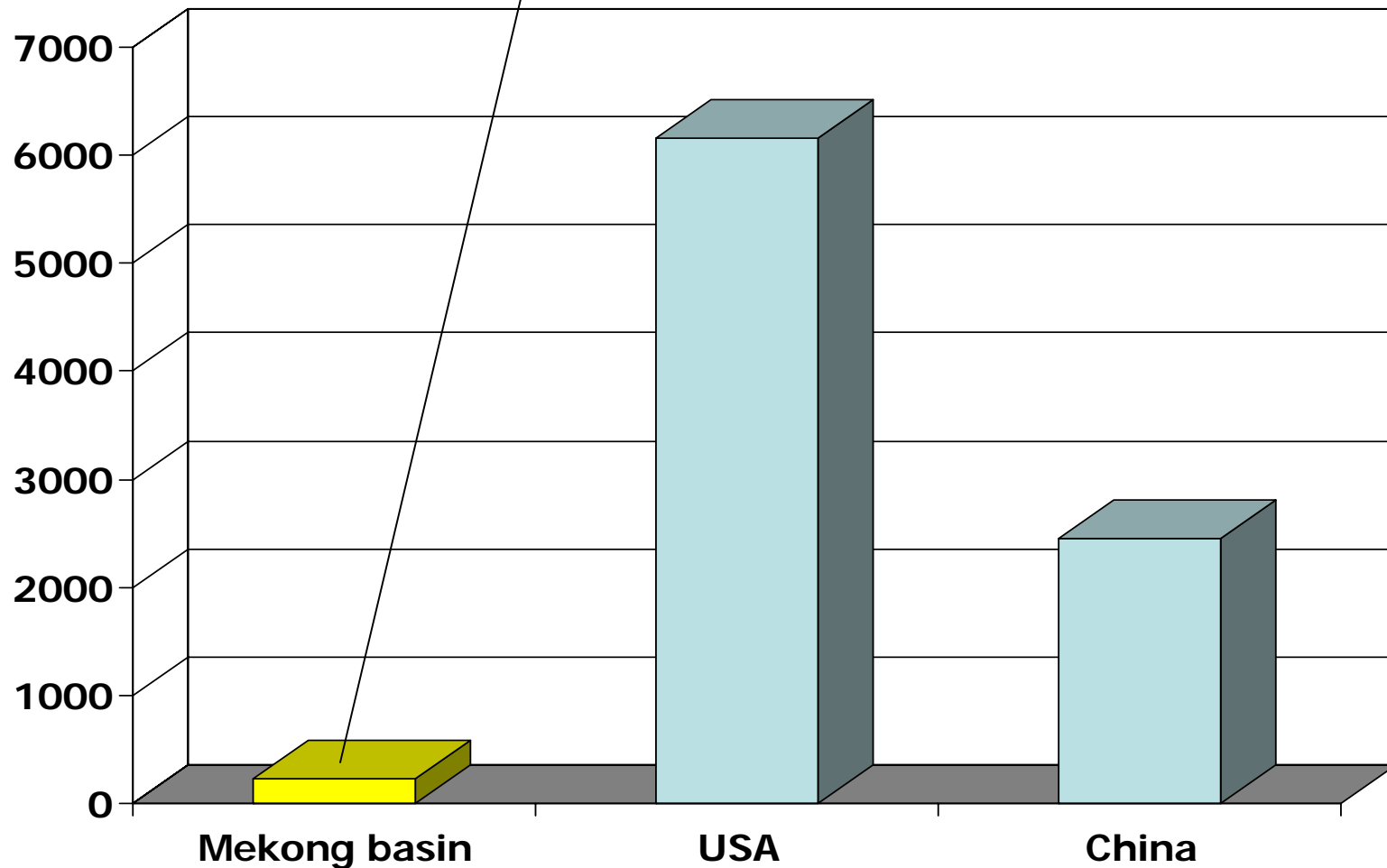
# 水資源開發量

## Volume of water stored in reservoirs

20 billion m<sup>3</sup> (5% of annual flow)

= **230** m<sup>3</sup>/capita

m<sup>3</sup>/person





## 雨季と乾季のアンバランス

雨季の3ヶ月分の流量は、年間流量の50%

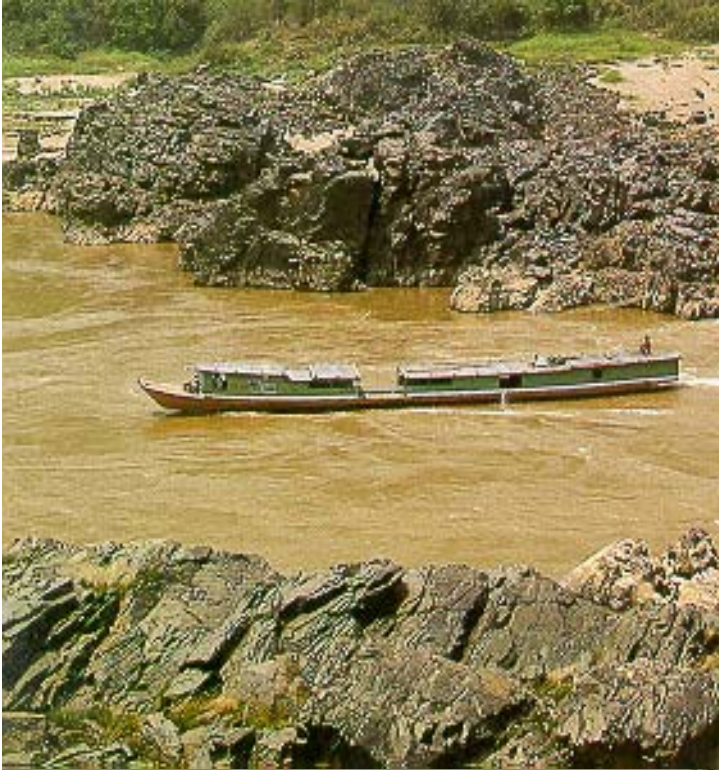
乾季の3ヶ月分の流量は、年間流量の10%

長期の洪水と渇水が半年毎に起こる

# Other facts

- **Withdrawal for irrigation, industry and domestic use (年間取水量)**  
**60 billion m<sup>3</sup>/y = 12% of annual flow**
- **Hydropower development of total potential**  
**LMB: 7% (2,124 / 30,200MW)**  
**UMB: 12% (2,850 / 23,000MW)**
- **水質** 一般的によい。乾季にデルタで塩水遡上、土壤から硫酸分の流出あり。

## 舟運開發



## 農業開發



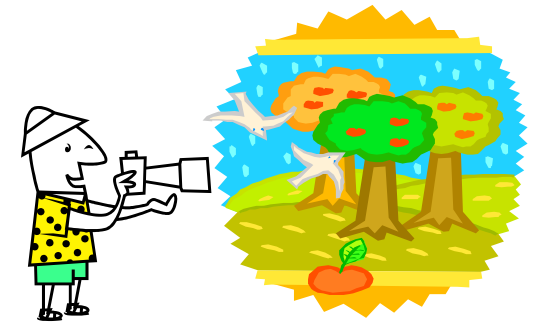
## 水產振興



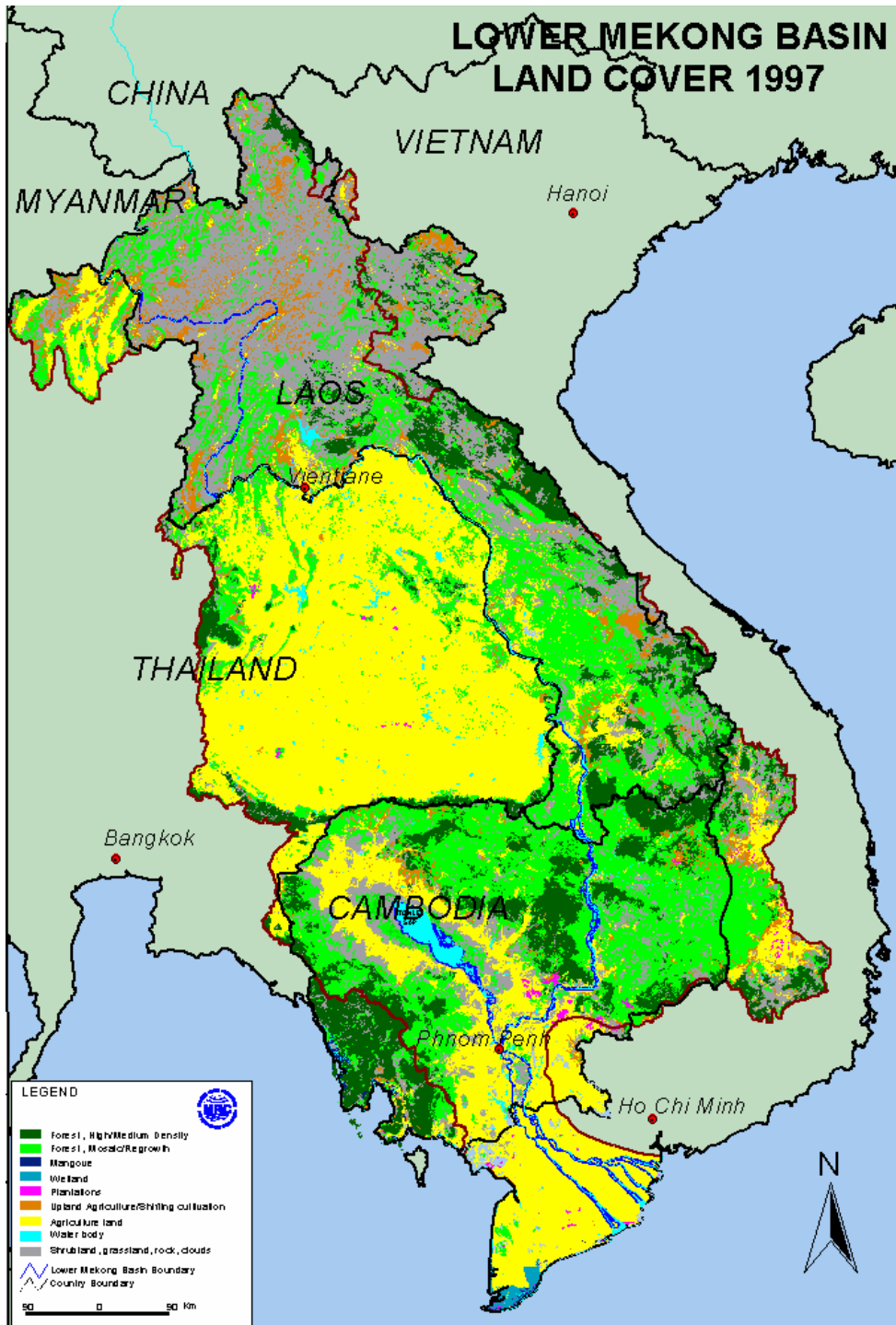
## 水力發電



## 觀光開發







## 多様で豊かな自然環境 (Biodiversity highlights)



# 世界的にも貴重な自然環境 (Biodiversity highlights)

- Biodiversity of international significance (国際的価値)
- Numerous **globally-threatened** species:
  - Irrawaddy Dolphin,
  - Sarus Crane,
  - Siamese Crocodile, and
  - Giant Catfish and others.
- Diversity of the river fauna 3<sup>rd</sup> next to Amazon and Congo (世界第3位の多様な河川流域動物相)
- **> 1,300 species of fish**
- Wetland biodiversity contributes to livelihoods and national economic indicators



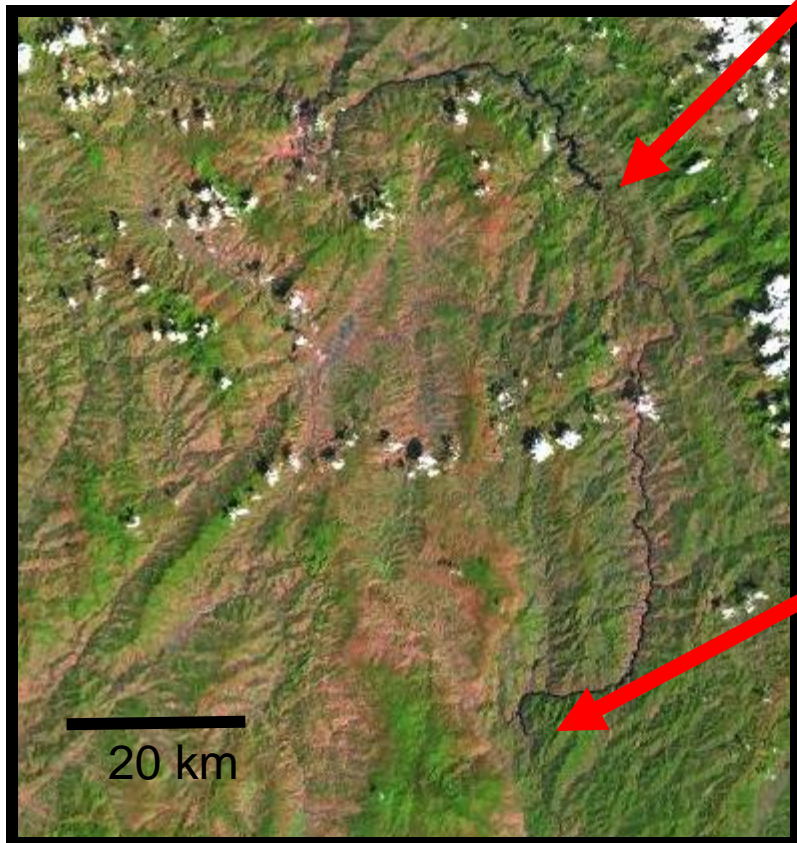


**A world record for the largest Giant catfish (293 kg)  
found in the Mekong in June 2005**



開発と環境のバランスをどう図っていくか  
が大きな課題

中国メコン河上流ダム開発



Manwan(漫湾)(1992完成)

V= 920 million m<sup>3</sup>



Dachaosan(大朝山)(2003完成)

V= 880 million m<sup>3</sup>



Manwan and Dachaoshan  
dams, Feb 2003

**Xiaowan (小湾)** (2013 完成予定)

295 m high Arch dam

V= 15,130 million m<sup>3</sup>

Manwan dam の16.4倍

**Nuozhadu** (次に建設予定)

254 high, 24,670 million m<sup>3</sup>

CHINA

完成年

1	Gongguoqiao	750 MW
2	Xiaowan	4,200 MW
3	Manwan	1,500 MW
4	Dachaoshan	1,350 MW
5	Nuozhadu	5,500 MW
6	Jinghong	1,500 MW
7	Ganlanba	150 MW
8	Mengsong	600 MW

2013

1992

2003

2016

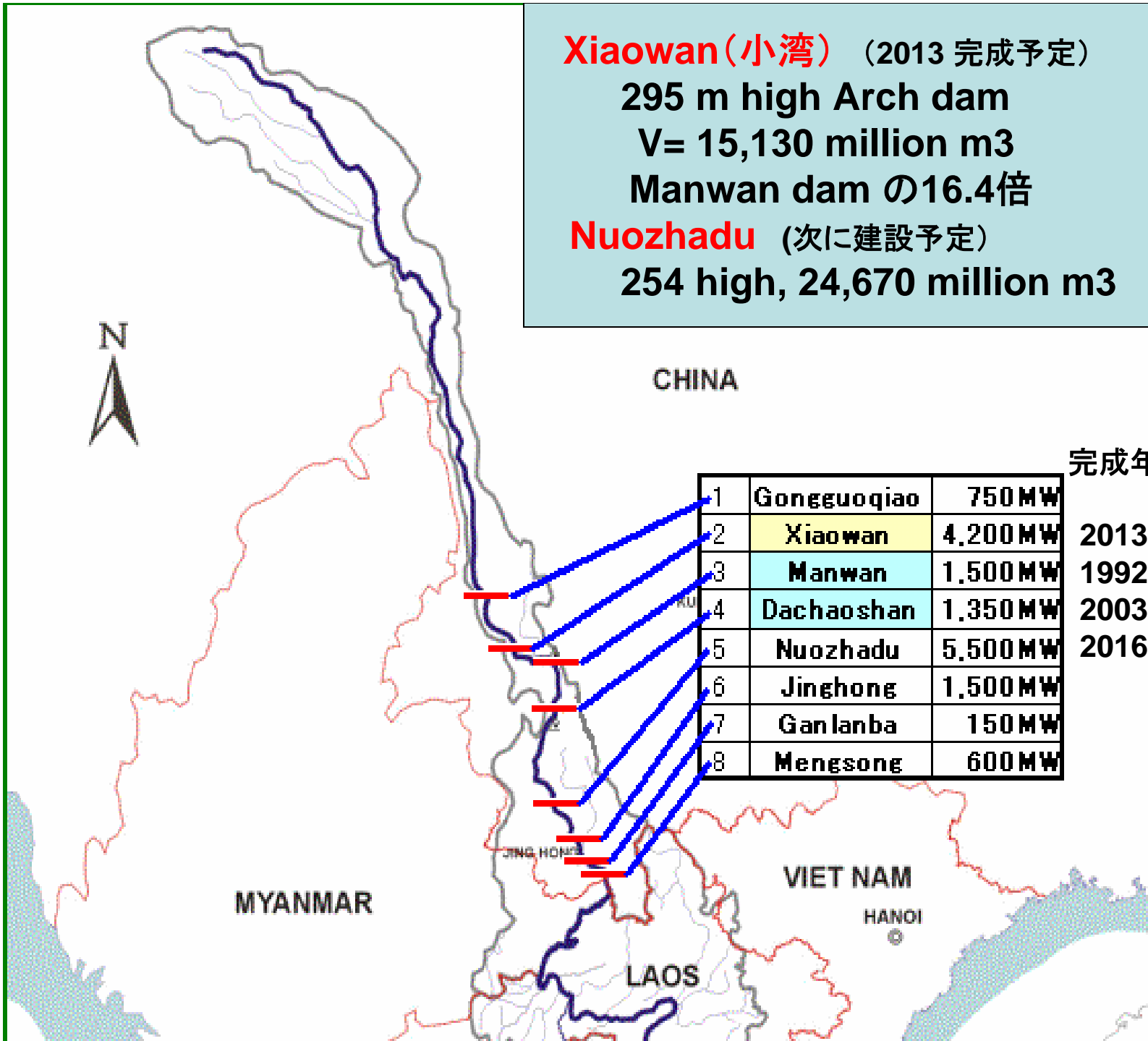
MYANMAR

VIET NAM

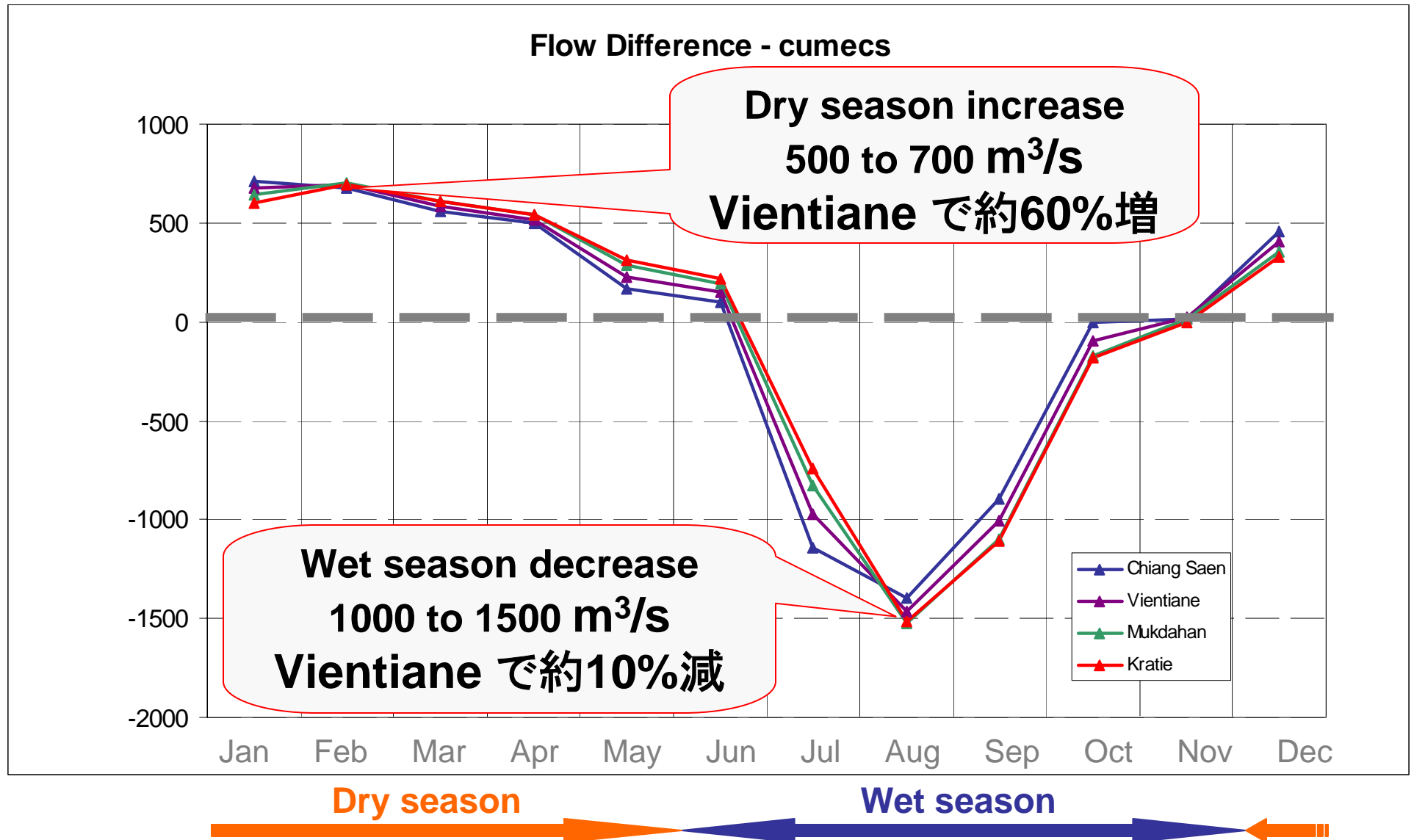
HANOI

LAOS

JING HONG



# Xiowan and Nuozhadu – change in flows

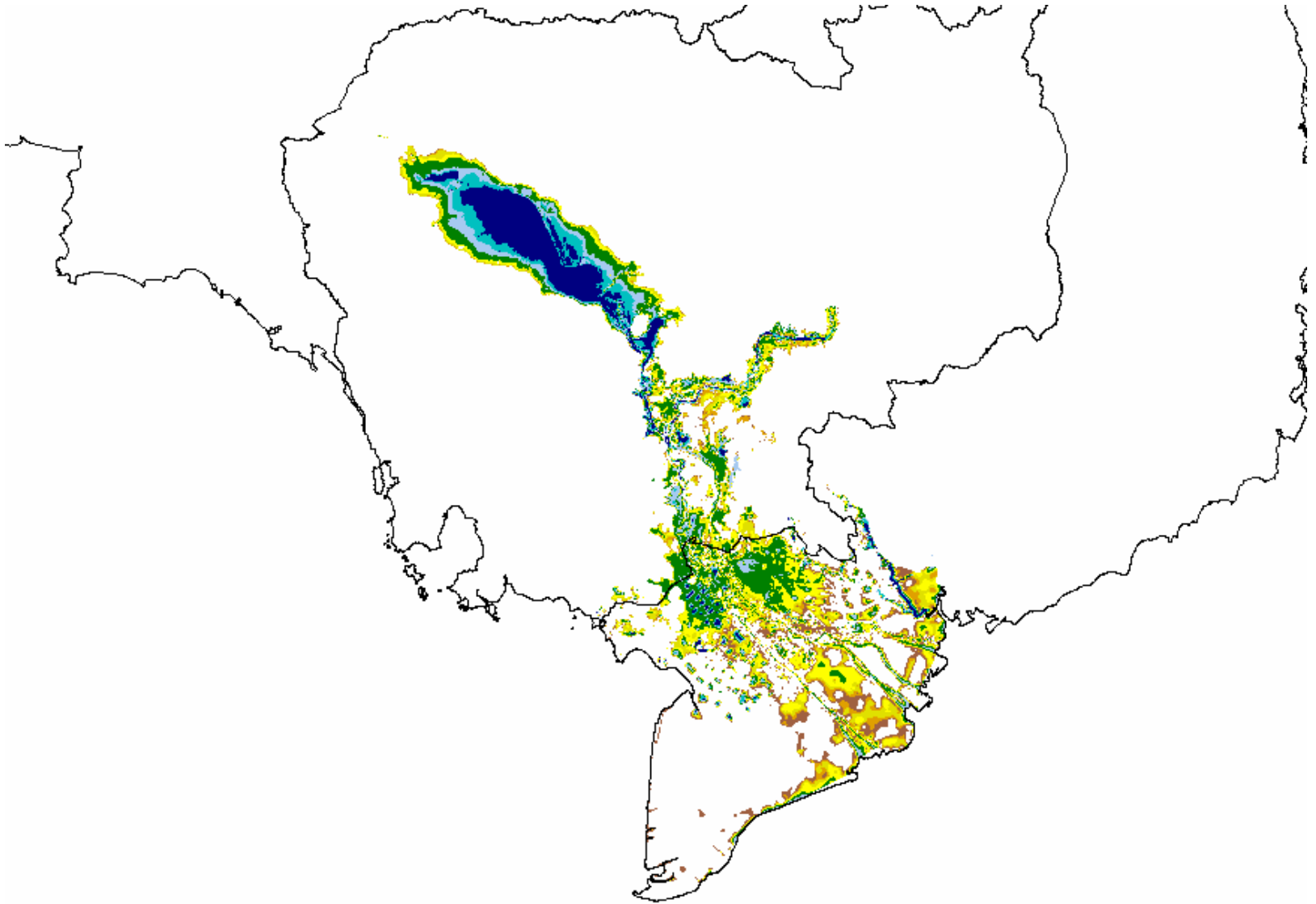




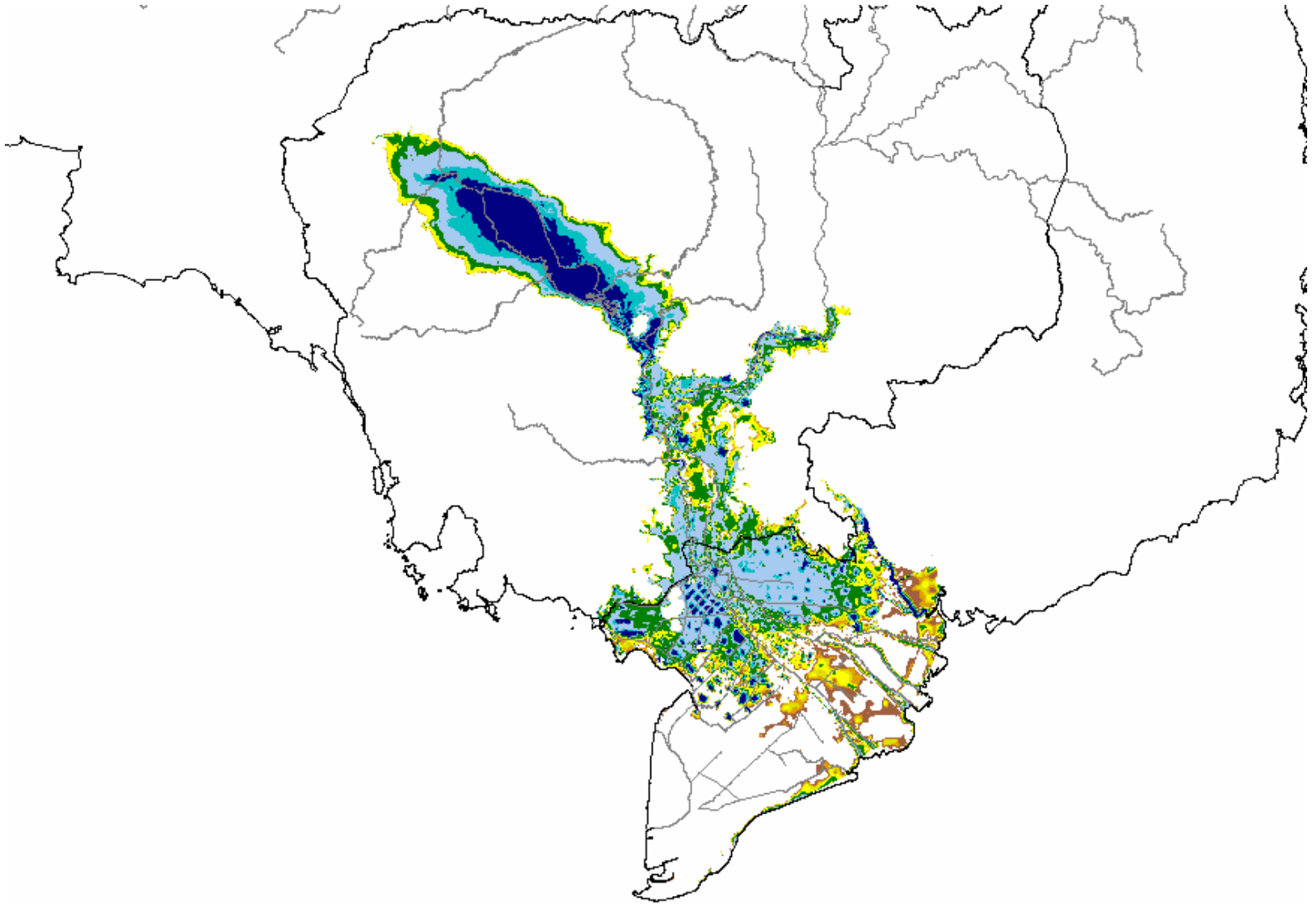
# Mekong Floods



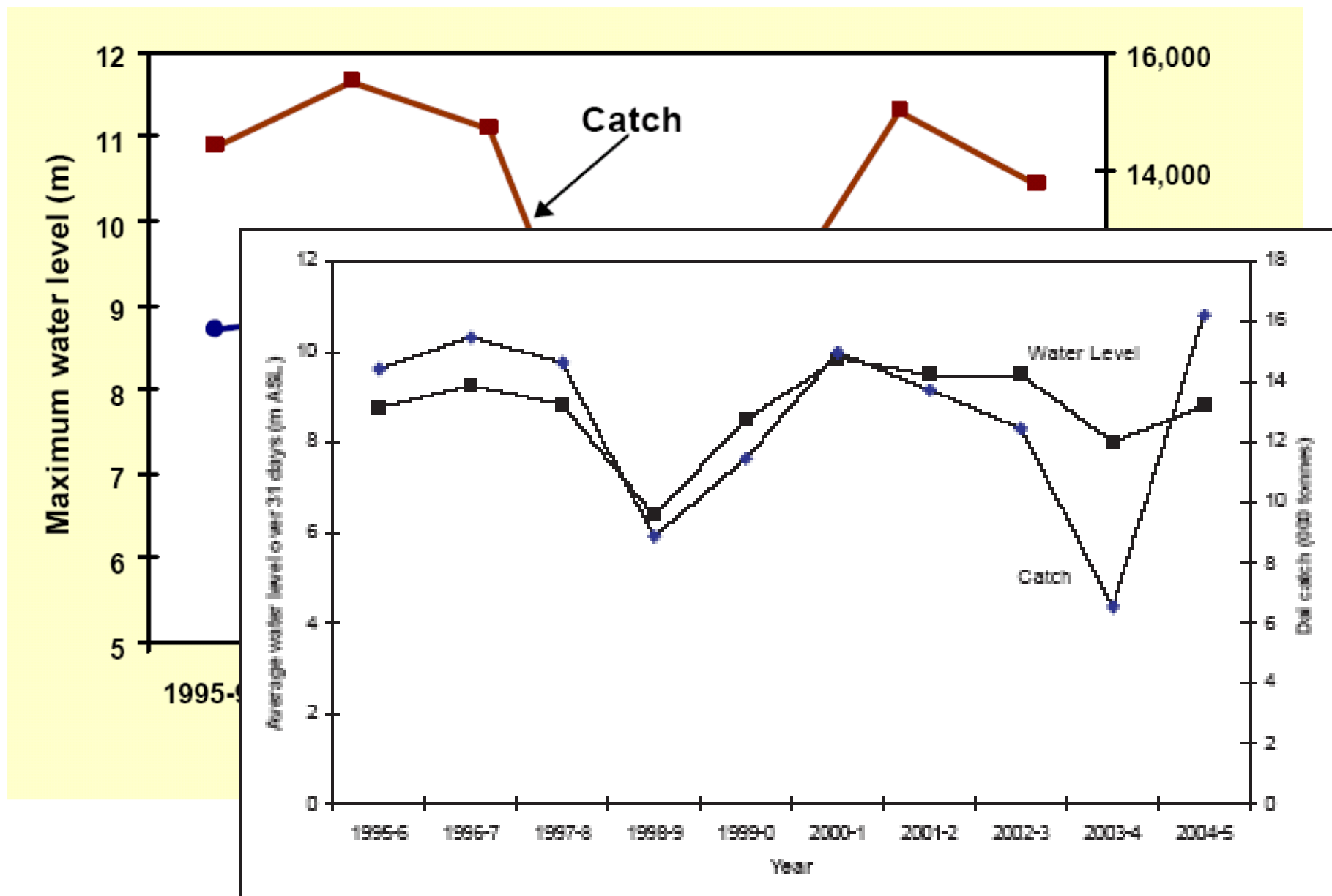
# 1998 Flood



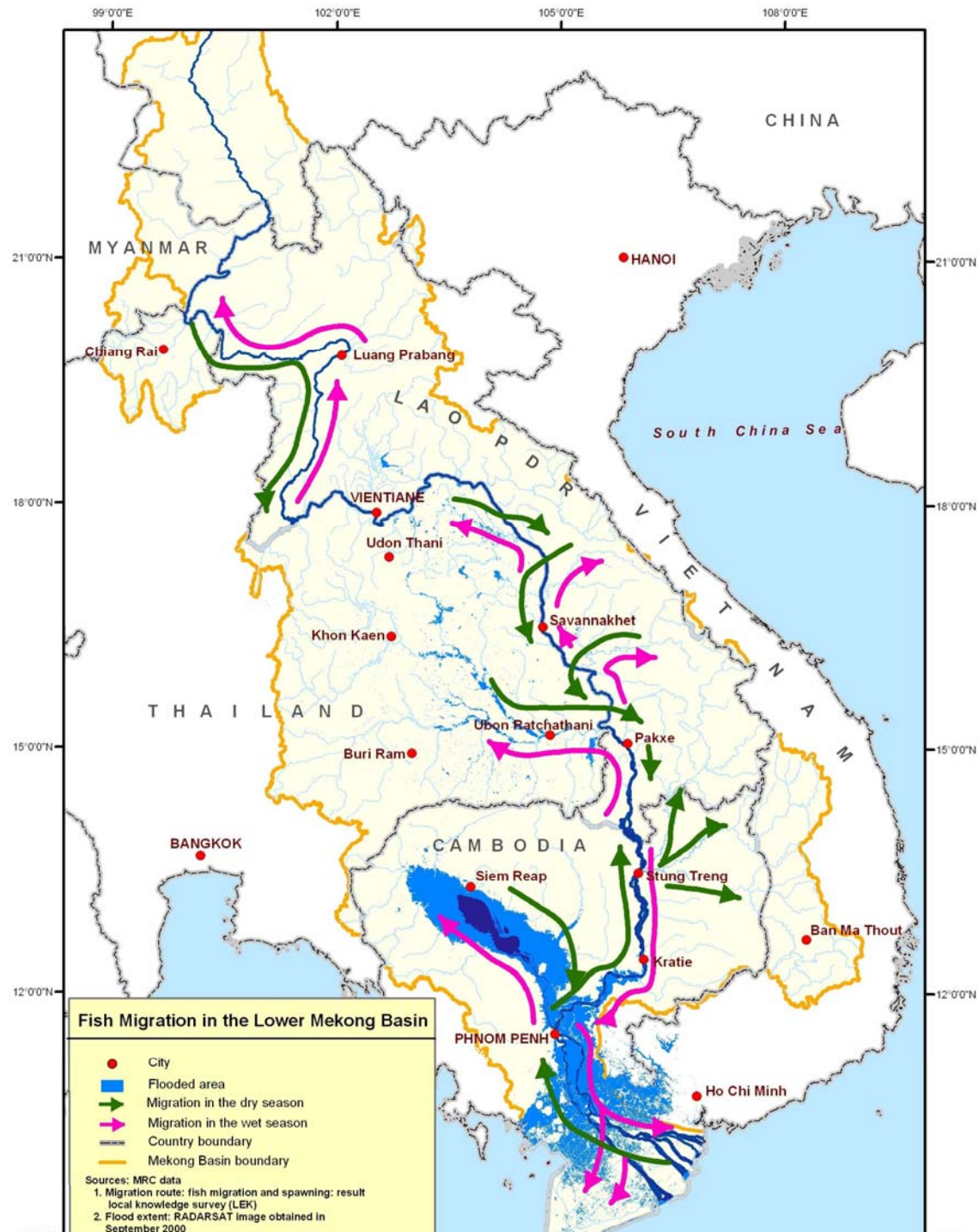
# 2000 Flood



## Relationship between the maximum flood level and the fish catch in Tonle Sap



# 魚の回遊

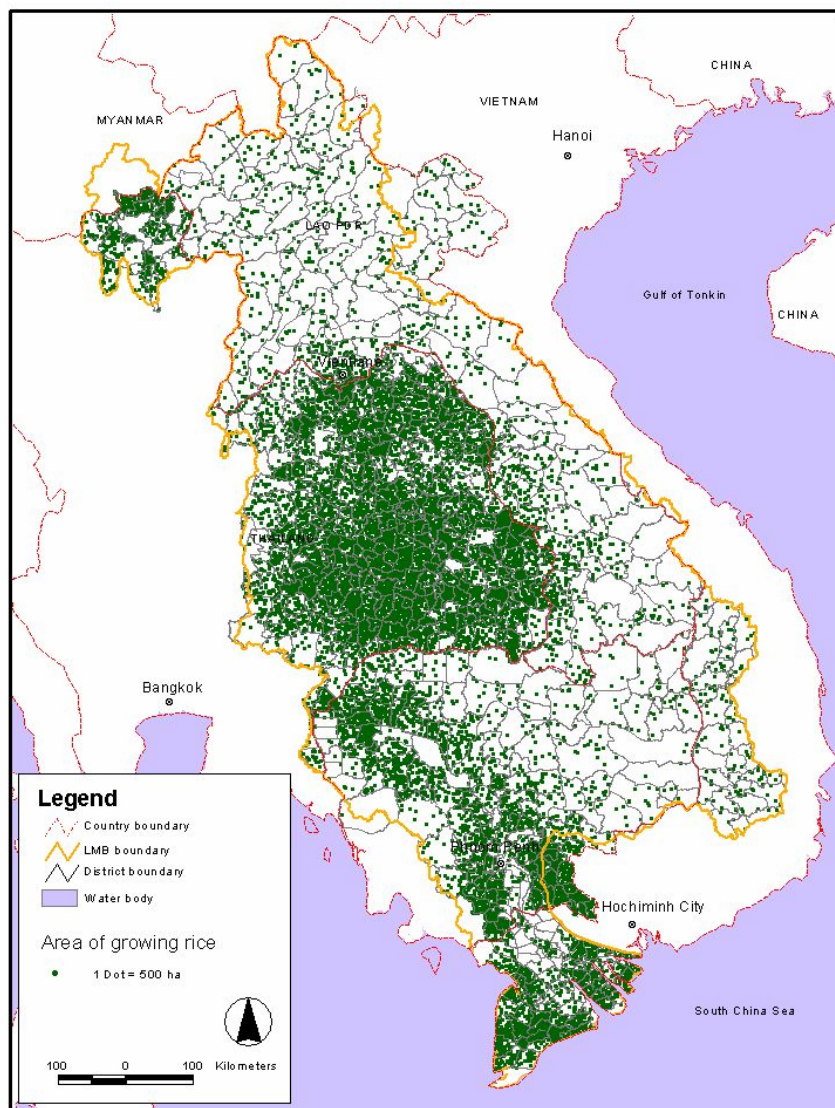




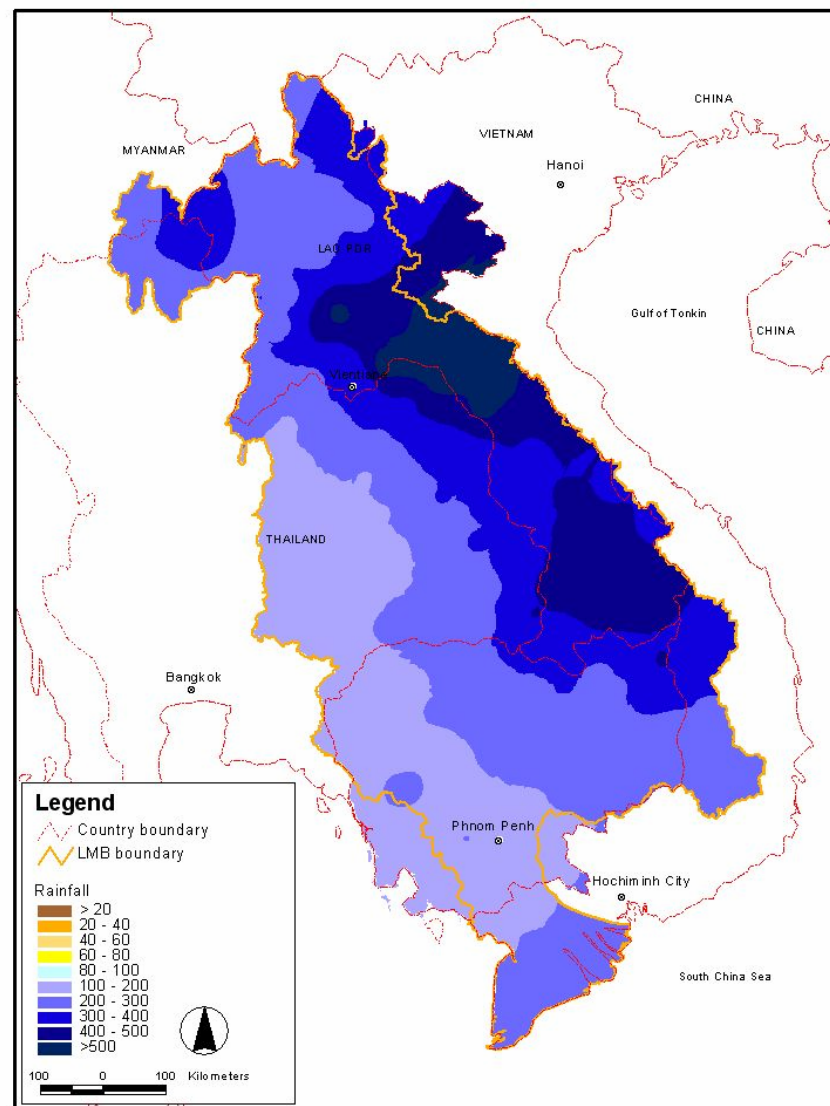
# 水分配(供給と消費)の問題

- 場所が異なる -

Rice Planted Areas in August



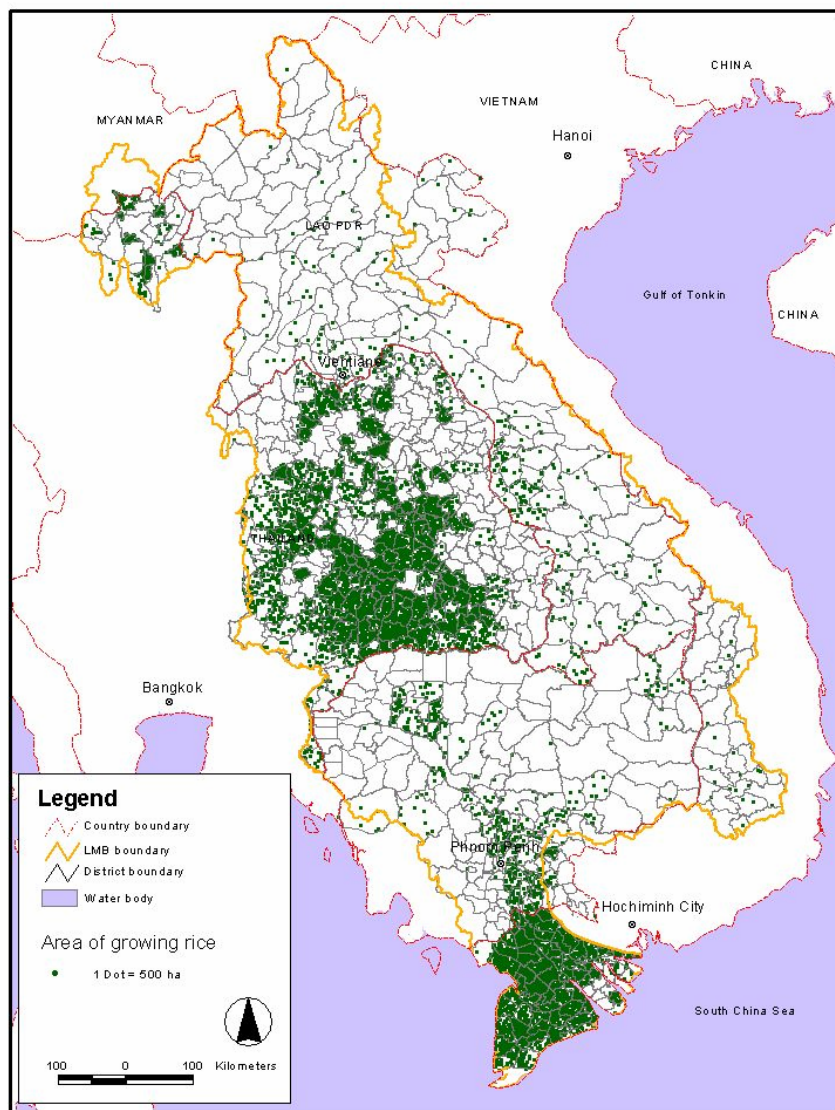
Rainfall in August



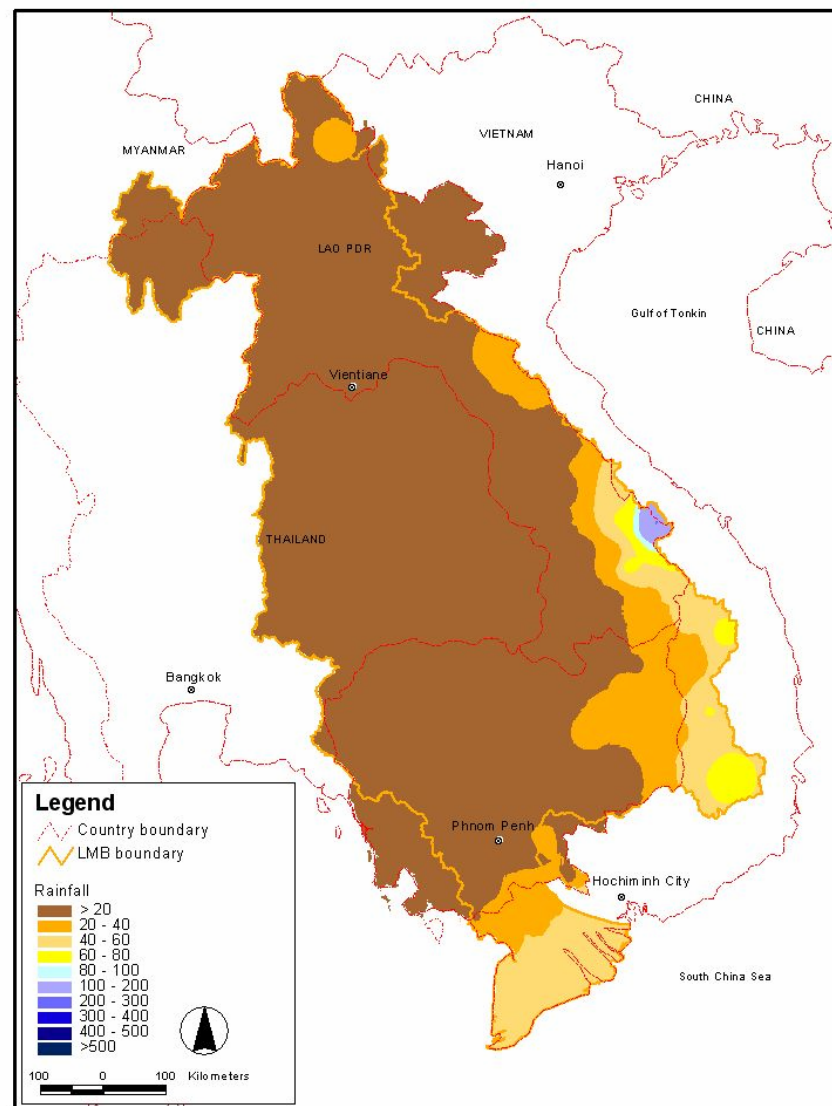
# 水分配(供給と消費)の問題

- 時期が異なる -

Rice Planted Areas in December



Rainfall in December



各国の利害の違い

上流中国の本川ダム開発

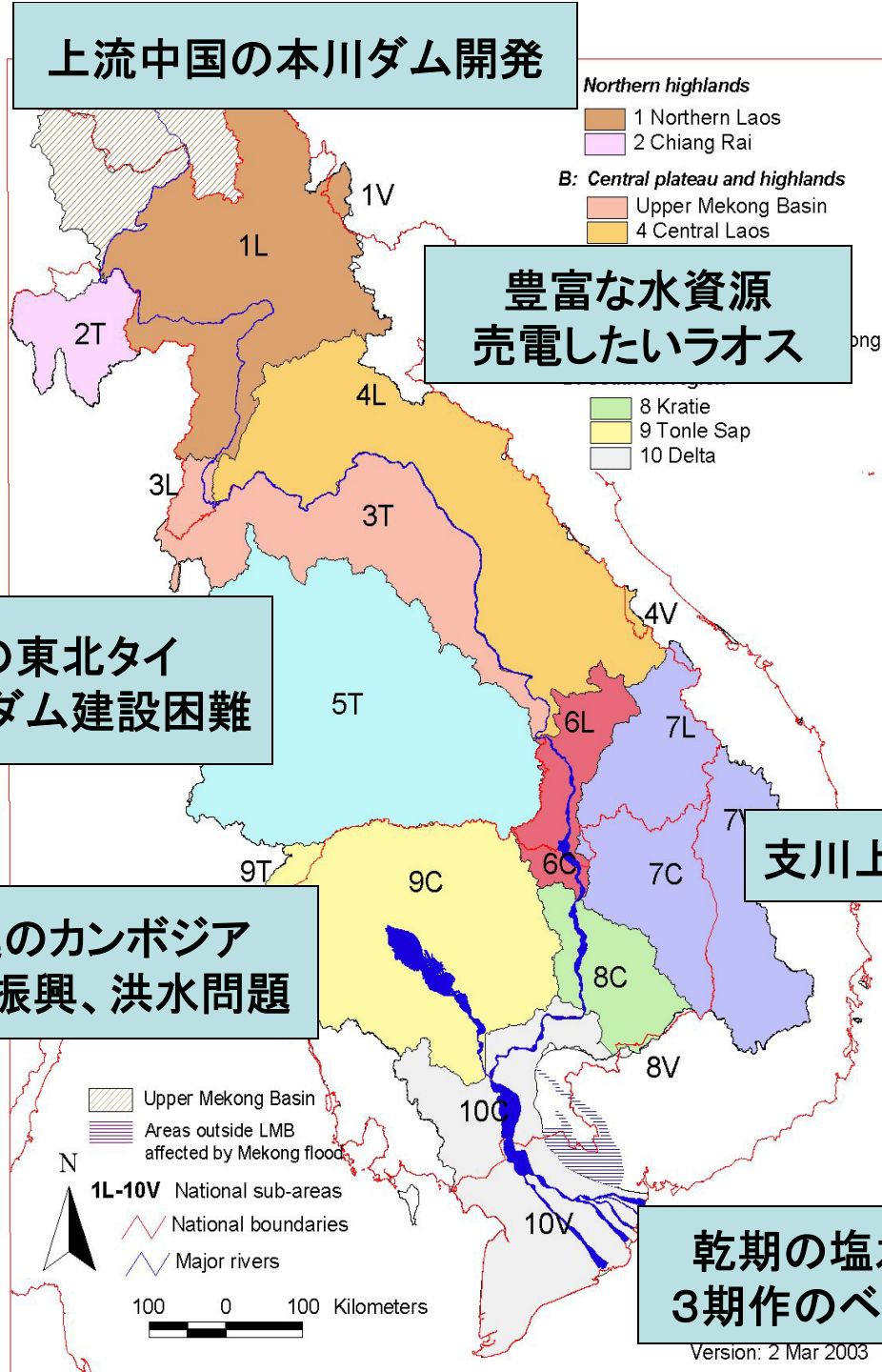
豊富な水資源  
売電したいラオス

水不足の東北タイ  
環境問題でダム建設困難

開発後進のカンボジア  
農業・漁業振興、洪水問題

支川上流での水力開発

乾期の塩水遡上問題  
3期作のベトナムデルタ





各国ベースの個々の開発では水紛争が起こる。

持続可能な発展のために  
流域内の利害調整をどう図るかが課題