

Status of Existing Discharge and Sediment Monitoring the Mekong River and Tributaries

21st October 2008, Vientiane, Laos PDR

Thailand Country Report

Status of Existing Discharge and Sediment Monitoring the Mekong River and Tributaries

Objective: address the issue

- 1. Methods**
- 2. Equipment**
- 3. Frequency of measurements and location**
- 4. laboratory analysis of Sediment samples**
- 5. Recommendation**

Status of Existing Discharge and Sediment Monitoring the Mekong River and Tributaries

1. Methods

1.1 Discharge measurement:

- Point method

1.2 Sediment:

- Integrated method

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2. Equipment

2.1 Discharge measurement : Current meter

- propeller type and
- cup type

2.2 Sediment measurement : Sediment sampler

- US-DH 48 and 49

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3. Frequency of measurements and location

3.1 Frequency of measurements

- **Mainstream**

- **Dry season** 2 times/ month
- **Rainy season** 4 times/ month

- **Tributaries**

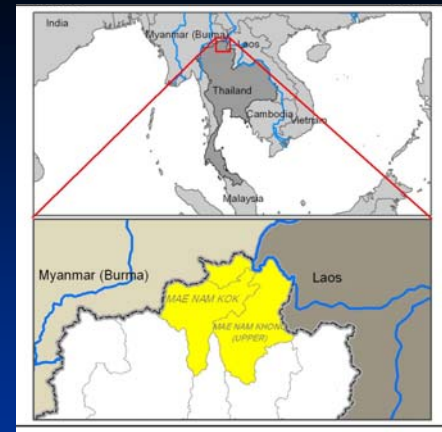
- **Dry season** 2 times/ month
- **Rainy season** 4 times/ month

Location of measurements on Mekong River Mainstream and Tributaries in Thailand

Item	Line Agency	Main Stream	Tributaries	Observe Type
1.	RID	-	46	Q&S
2.	EGAT	-	8	Q&S
3.	DWR	7	67	Q&S
4.	TMD	-	-	-
	Total	7	121	

Location of measurements on Mekong River Mainstream (7 stations)

Item	Station Name	Province	Observe Type
1	Chiang Saen – Ton Pheung	Chiang Rai	Q & S
2	Ban Pak Huai – Khone Pheung Checkpoint	Loei	Q & S
3	Chiang Khan – Sanakham	Loei	Q & S
4	Nong Khai – Thanaleng	Nong Khai	Q & S
5	Nakhon Phanom – Thakhek	Nakhon Phanom	Q & S
6	Mukdahan – Savannakhe	Mukdahan	Q & S
7	Ban Dan Mai (Khong Chiam) – Ban Mai Singsamphan	Ubon Ratchathani	Q & S

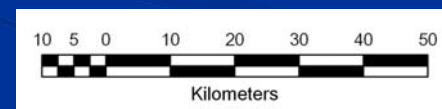



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Streamflow measuring station where sediment samples are taken

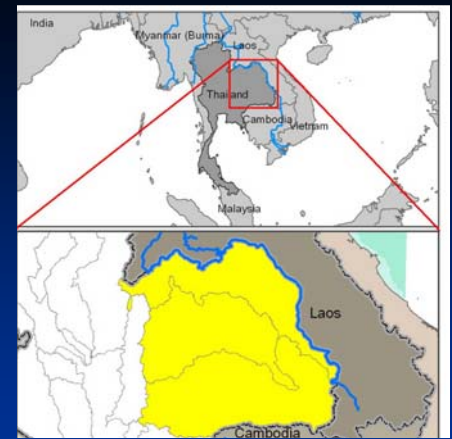
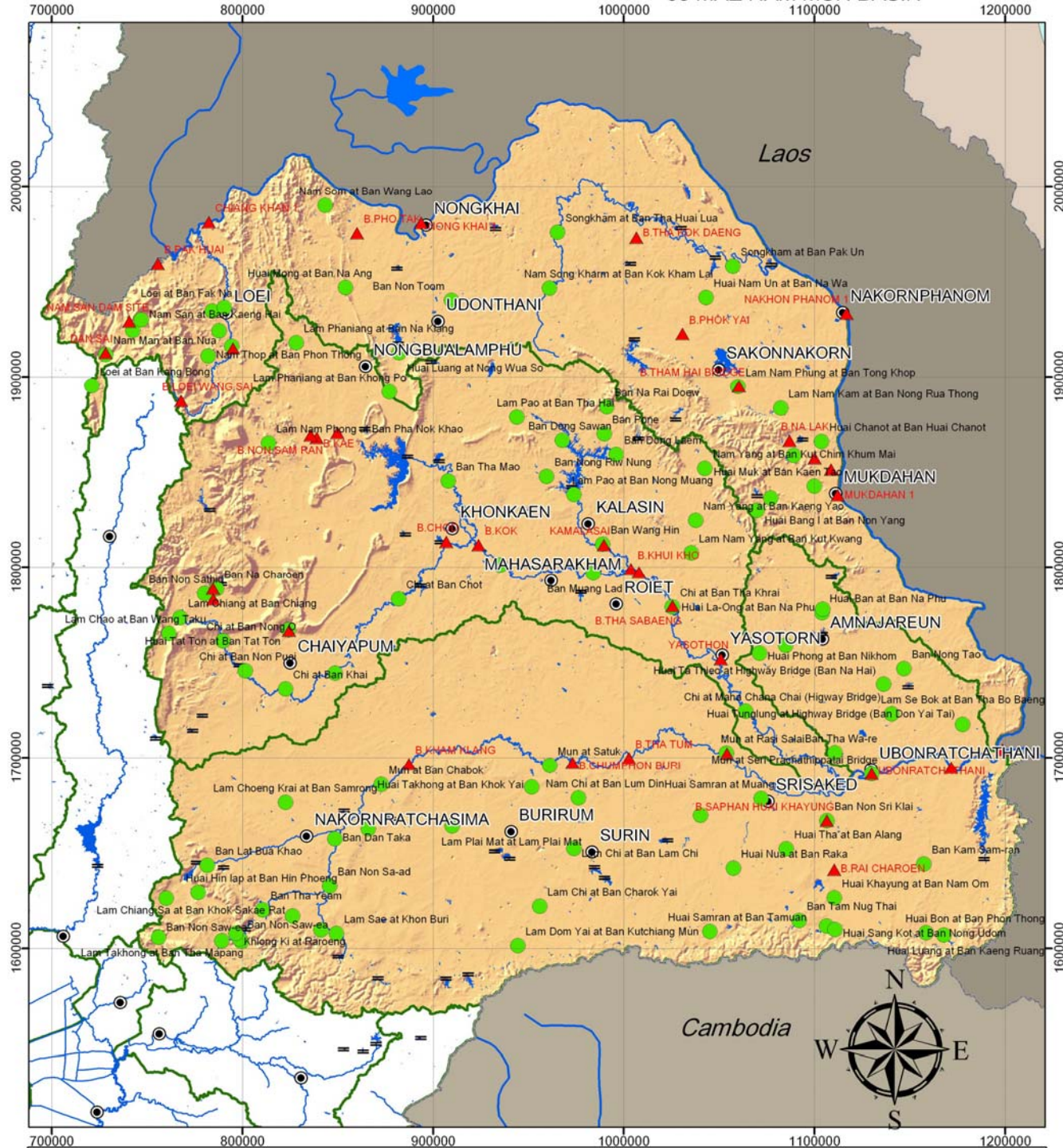
- ▲ Station DWR
- Station RID

- = Dam
- ⊙ Province
- International boundary
- River
- Reservoir, Pond, Swamp
- Basin boundary



 Projection: UTM Zone 47 N
Spheroid : WGS 84
Datum : WGS 84

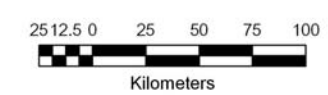
Data as of October 2008
Bureau of Research, Development, and Hydrology
Department of Water Resources
Ministry of Natural Resources and Environment



LEGEND

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4. Laboratory analysis of sediment:

4.1 Chiang Rai Hydrological Center

4.2 Khonkane Hydrological Center

4.3 Ubon Ratchatani Hydrological Center







កម្រិតទឹកជ្រៅ		ទិន្នន័យសម្រាប់ការវាស់ស្ទង់										
ទំហំទឹក		ទំហំទឹក		ទំហំទឹក		ទំហំទឹក		ទំហំទឹក		ទំហំទឹក		
លេខសម្រាប់	លេខ	លេខ	លេខ	លេខ	លេខ	លេខ	លេខ	លេខ	លេខ	លេខ	លេខ	
14000	14000	14.20		14.20		994.00	0.58	4.3	4.10	0.045	2.175	2.725
35000	17000	13.80		13.80		1400.00	0.56	4.5	3.50	0.045	1.350	2.490
42000	14000	12.60		12.60		1805.00	0.04	4.5	6.10	0.038	2.875	2.675
670	124.95			6.30		1223.00	0.25	4.3	4.30	0.045	1.394	1.426

Discharge Measurement MK-Nong Khai







Discharge Measurement MK-Mukdahan



Equipment for Discharge Measurement, Current Meter, echo sounder, sextant, etc.



MK-Khong Chiam



MK-Chiang Sane



MK-Chiang Sane



Current Meter, Cup Type



Sediment Measurement, MK-Nong Khai



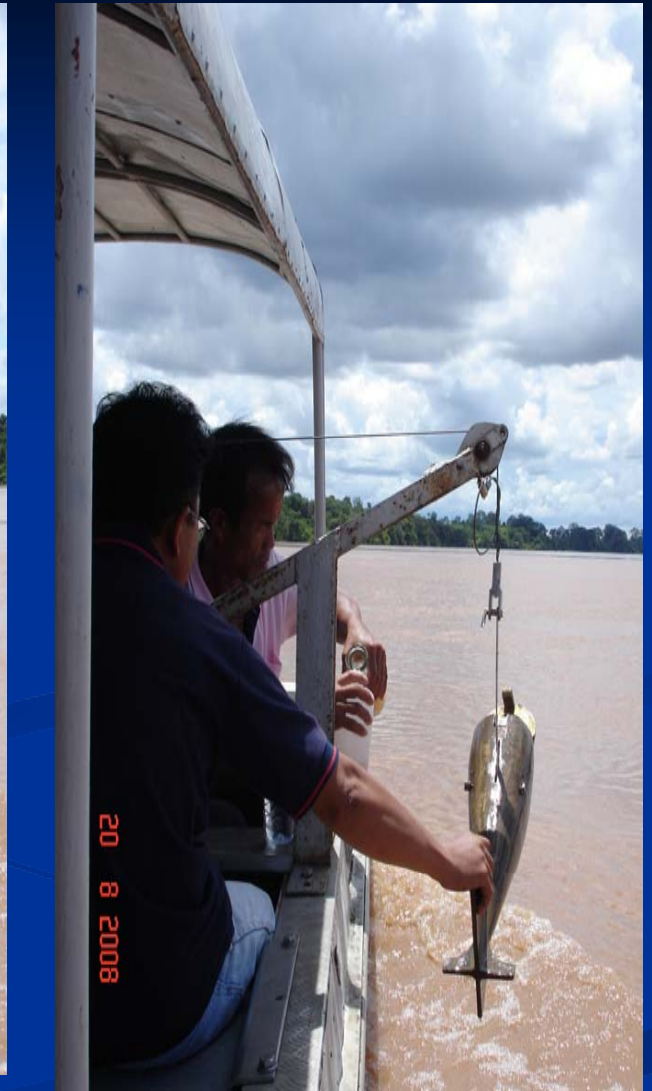
Filtration suspended sediment in the bottle sampler



Sediment sampling, MK-Khong Chiam



Taking sediment from sediment sampler



Taking sediment from sediment sampler



Pour sediment sample to water sampler



Wash the bottle and put in the sediment sampler



US-DH 49



US-DH 48





Sediment Laboratory at Ubon Hydrological Center

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5. Recommendation

- Improvement equipment and its' concerns
 - ADCP or ADP
 - Boat and engine
 - Set up sediment laboratory
- Training
 - Principal and operation
 - Equipment
 - New Method or technology analysis/software
 - Calibration and sop

Thank You for Your Kind Attention