



LOWER MEKONG RIVER BASIN DEVELOPMENT PLAN PROGRAMME (2001– 2006): AN INTRODUCTION

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Mekong River Commission Secretariat*

TOPICS FOR PRESENTATION

1. LMB: INTRODUCTION
2. BDP: ACHIEVEMENTS

1. LMB: INTRODUCTION

1.1. WATER RESOURCES IN LMB

1.2. WHAT IS BDP AND WHY DO WE
NEED BDP ?

1.1. WATER RESOURCES IN LMB



Abundance:

Annual runoff averages
around 475 km³ / year.

8500 m³/person/year –
compared with

- 2200 for the Nile;
- 1400 for the Rhine;
- 2265 for the Yangtze
- 1700-4000 for the Ganges

1.1. WATER RESOURCES IN LMB



Low level of exploitation for extractive uses:

Average annual withdrawals
60,000 million m³ (12%
of total annual flows)

The total volume of
regulated storage in the
basin (*including the
Upper Basin*) is less
than 20,000 million m³
(6% of annual flows).

1.1. WATER RESOURCES IN LMB



High dependence on in-stream uses:

The Mekong fishery is the largest inland fishery in the world, (\$US 2,000 million annually)

Inland navigation is an important mode of transport for many areas where road access is limited.

There is an urgent need to balance in-stream uses against extractive demands as agricultural production in the LMB is expanding rapidly.

1.1. WATER RESOURCES IN LMB



Extreme seasonality:

Flows in the driest three months is less than 10% of total annual flows;

Flows in the wettest three months is over 50% of total annual flows

1.1. WATER RESOURCES IN LMB



Importance of the floodplain :

During the wet season, between 1 and 4 million hectares of floodplain are submerged, including the Tonle Sap.

1.1. WATER RESOURCES IN LMB



Dry season water shortages:

As a result of the rainfall seasonality, concentration of extractions in the driest period and drought events during the onset of the wet season.

1.1. WATER RESOURCES IN LMB

Water quality:

In general, it is good and is rarely a constraint to water use.

The exception is saline intrusion, acid sulphate drainage and pollution in areas of the Mekong Delta



1.1. WATER RESOURCES IN LMB



Groundwater:

Widely used as a source for domestic and industrial supply.

Use for irrigation is limited, but expanding.

Groundwater systems in the flood plain are closely coupled to the river.

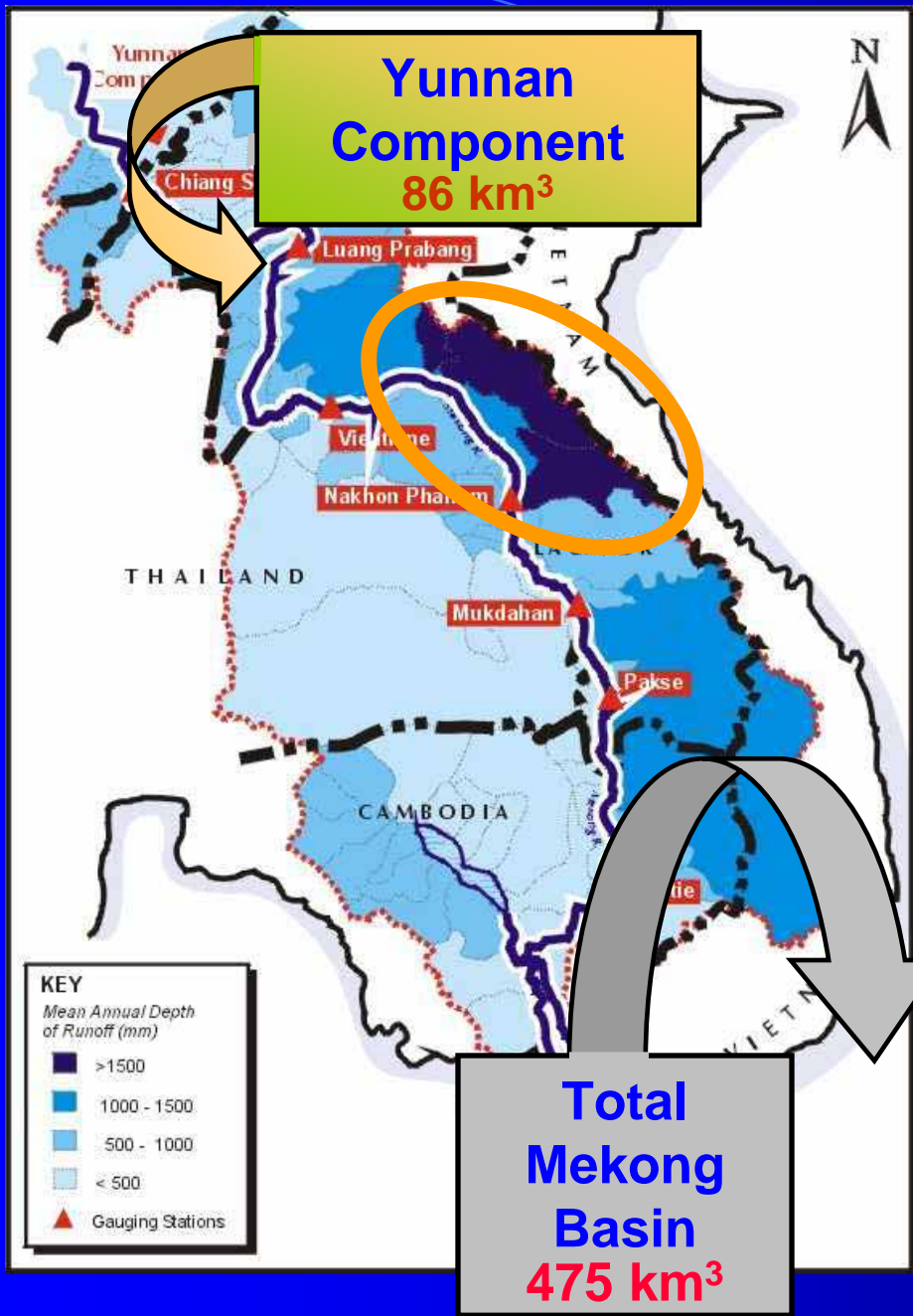
1.1. WATER RESOURCES IN LMB



Upper basin:

Flows from China and Myanmar constitute around 18% of total Mekong flows.

The proportion is higher in the dry season, when snow melt contributes a significant component of flow



Lower Mekong water balance

Average annual inflow from **China** into the lower Mekong basin is 86 km³ . . .

. . . . which is **around 18%** of the total Mekong mean annual flow of 475 km³

The **largest proportion** of total flow is contributed by the major left bank tributaries in **Laos**

MAIN IMPACTS

Major dams in China

Small to medium dams in LMB

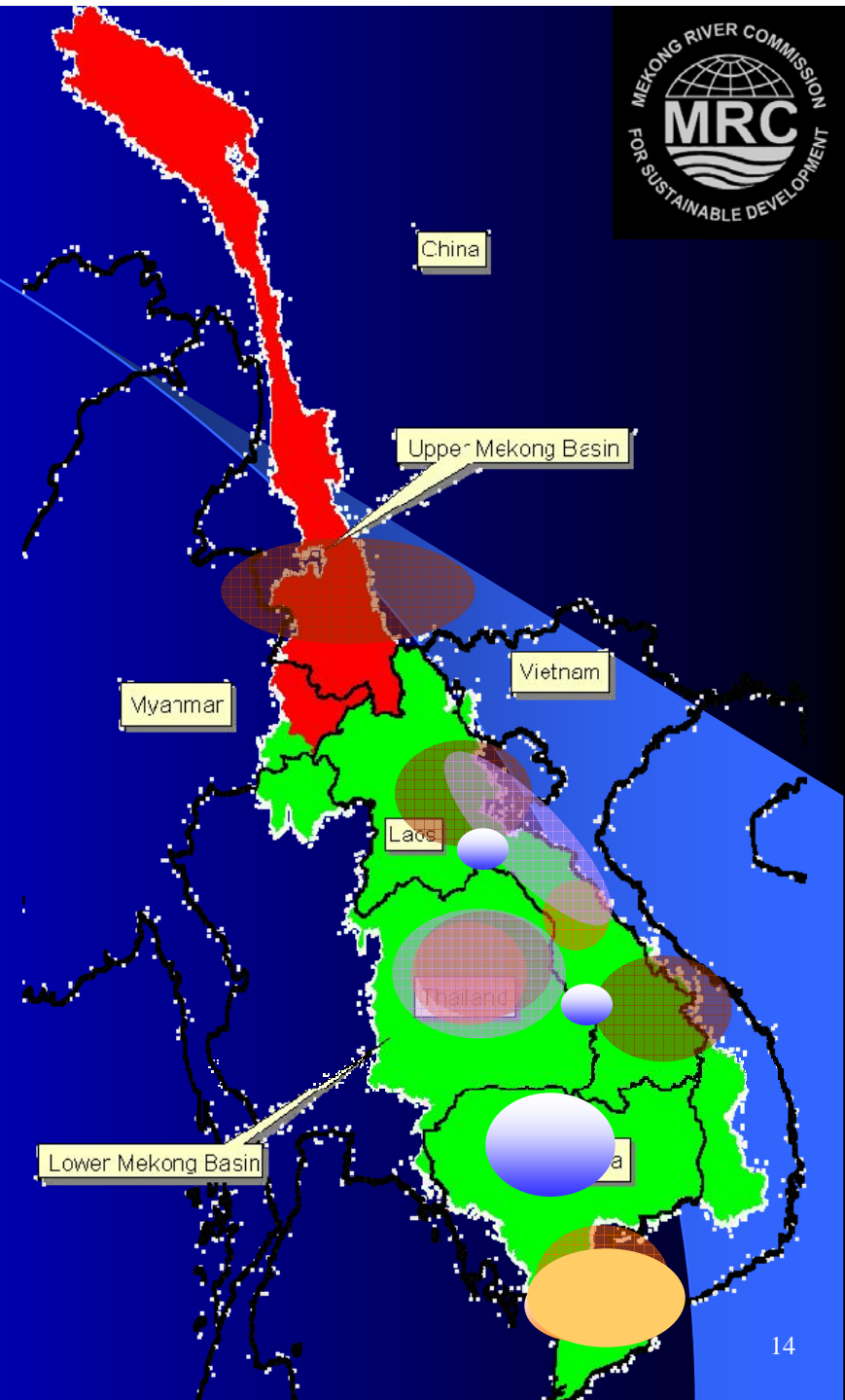
Irrigation development

Forest cover reduction

Freshwater fisheries

Brackish water fisheries

High population densities



... Change will continue



Population pressures



Environmental awareness

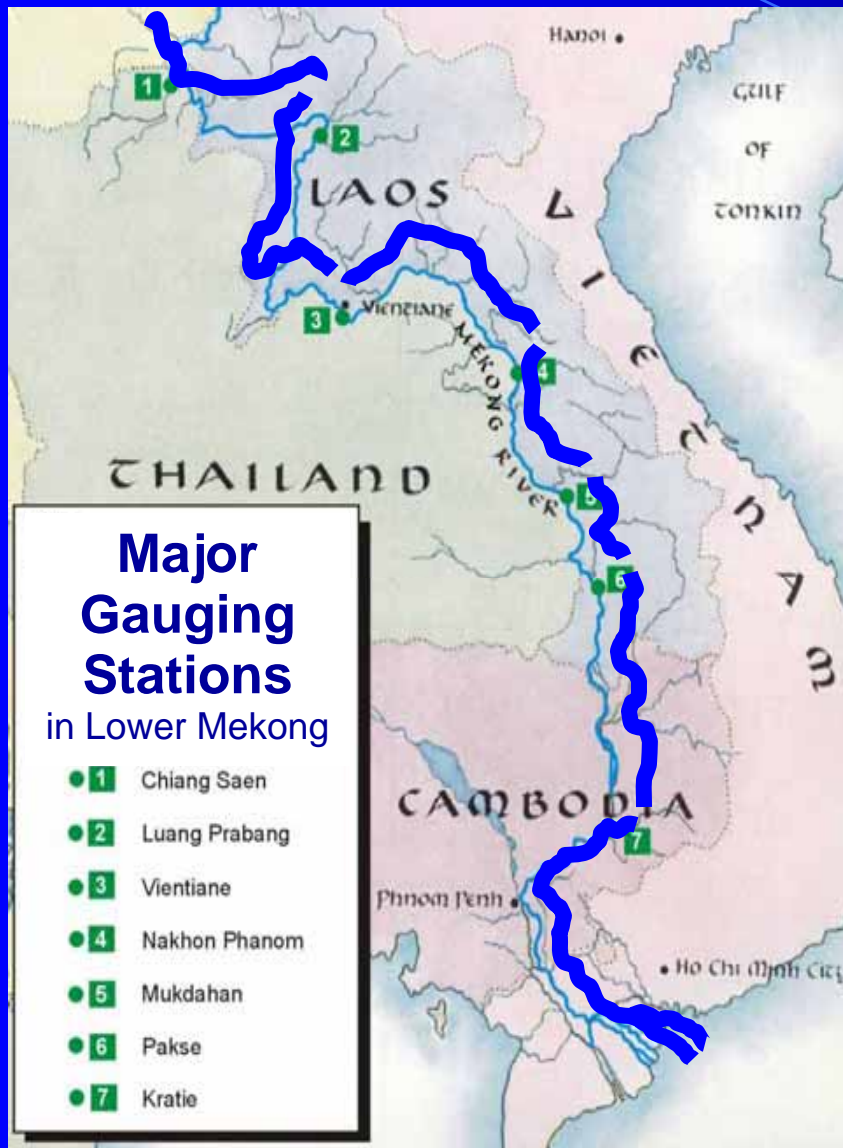


Climate change



Development opportunities

Understanding the hydrology of LMB



Initial assessment of seven main reaches :

- 1) Chiang Saen to Luang Prabang
- 2) Luang Prabang to Vientiane
- 3) Vientiane to Nakhon Phanom
- 4) Nakhon Phanom to Mukdahan
- 5) Mukdahan to Pakse
- 6) Pakse to Kratie
- 7) The system downstream of Kratie (the Cambodian Floodplain, Tonle Sap and the Delta)

1.2. WHAT IS BDP ? AND WHY DO WE NEED BDP ?

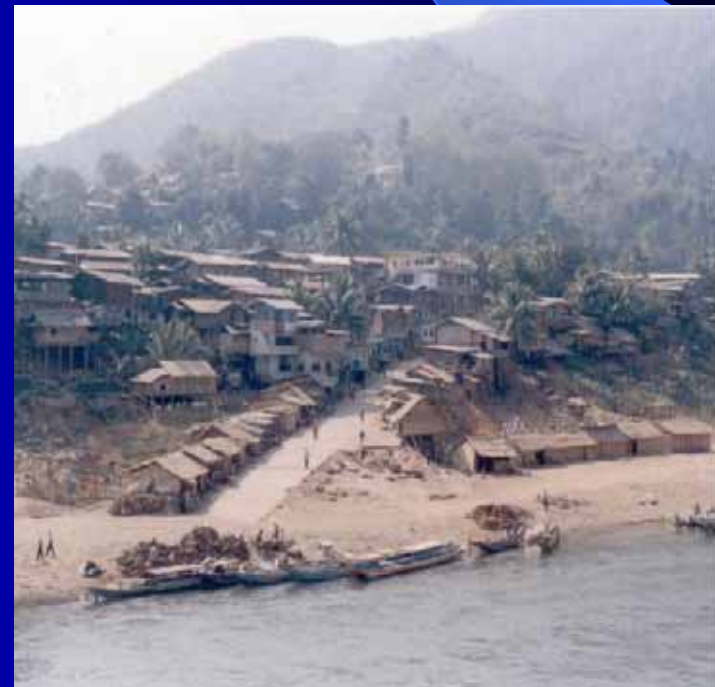
BASIN
DEVELOPMENT
PLAN

Basin Development Plan

VISION : Contribute to economic growth through a participatory process that encourages investment and sustainable development of the shared resources of the Mekong River

(1995 Agreement)

BDP : Planning process & tools to identify, categorise & prioritise joint or basin-wide projects and programs



BASIN DEVELOPMENT PLAN



MRC Programmes

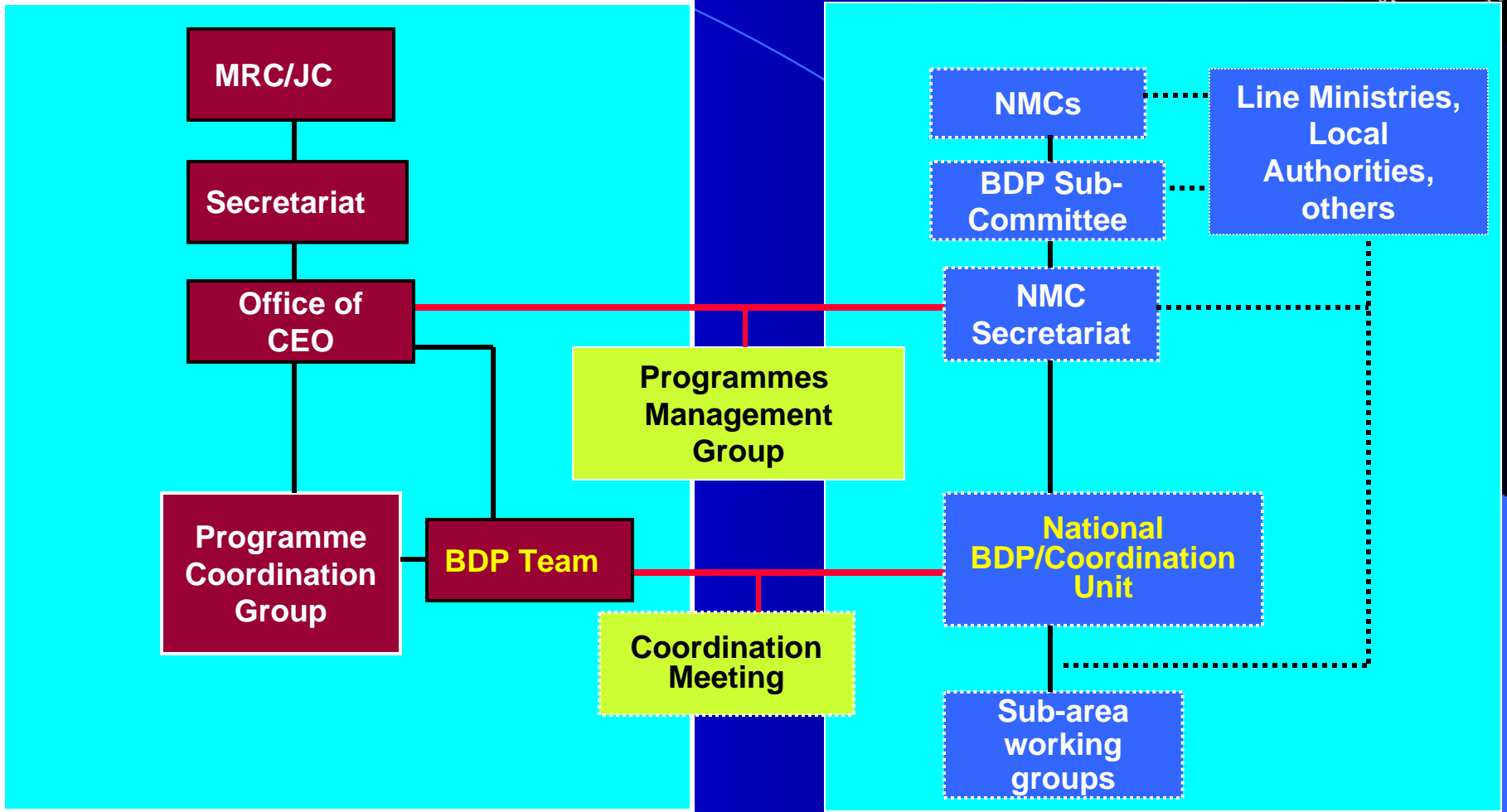
WUP, EP, FMMP,
AIFP, TSD, HRD,
Fisheries,
Hydropower, WRMP,
Navigation, Tourism

National Programmes

NMCs, Line Agencies,
Universities, Research
Inst, Bi-lateral, NGOs;
Private Sector; Other
Stakeholders.

Regional Programmes

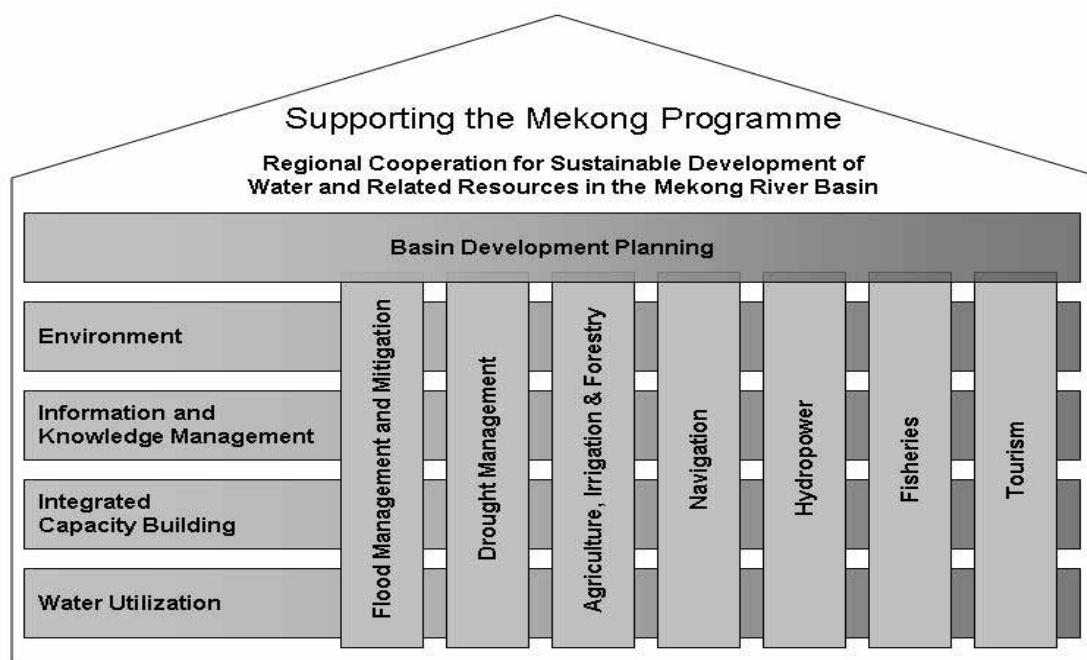
Greater Mekong Sub-region
(GMS), ASEAN-Mekong



BDP ORGANISATION

ROLE OF BDP IN MRC

(as in MRC Strategic Plan 2006 – 2010)



KEY OBJECTIVES



- A **participatory planning process** established and ongoing; and
- A **Basin Development Plan** drafted and agreed on



... aimed at a balanced mix of social, economic and environmental factors

KEY OUTPUTS

OBJECTIVE 1:

- 1.1. Planning Process
- 1.2. Guidelines
- 1.3. Data System
- 1.4. Trained Staff
- 1.5. Reporting
- 1.6. Workshops

OBJECTIVE 2:

- 2.1. Sub – area Studies
- 2.2. 20 – year Scenarios
- 2.3. Sub – area Strategies
- 2.4. Basin – wide Strategy
- 2.5. Project Long-list
- 2.6. Project Short-list
- 2.7. Implementation Plan

2. BDP: ACHIEVEMENTS

2.1. **OBJECTIVE 1**: A participatory basin planning process established and ongoing;

2.2. **OBJECTIVE 2**: A BDP aiming at a balance mix of social, economic and environmental factors drafted and agreed on

OUTPUT 1.1. PLANNING PROCESS

Indicator 1.1.2:

A network of institutional stakeholders established under each NMC



Achievements:

In CAMBODIA: 13 ministries and equivalents, in which:

BDP Sub – committee: 16 members

BDP Coordination Unit: 16 members

BDP / CNMC Unit: 04 members

SA Working Group: 90 members

WG-1 (6C&8C): 17 (3 provinces)

WG-2 (7C): 18 (3 provinces)

WG-3 (9C): 26 (9 provinces)

WG-4 (10C): 29 (9 provinces)

OUTPUT 1.1. PLANNING PROCESS

Indicator 1.1.2:

A network of institutional stakeholders established under each NMC



Achievements:

In LAO PDR: 06 ministries and equivalents, in which:

BDP Sub – committee: 09 members

BDP National W. Group: 12 members

BDP / LNMC Unit: 04 members

SA Working Group: 18 members

WG-1 (1L): 08 (8 provinces)

WG-2 (4L): 06 (6 provinces)

WG-3 (6L & 7L): 04 (4 provinces)

OUTPUT 1.1. PLANNING PROCESS

Indicator 1.1.2:

A network of institutional stakeholders established under each NMC



Achievements:

In THAILAND: 05 ministries and equivalents, in which:

BDP National W.G: 23 members

BDP / TNMC Unit: 09 members

SA Working Group: 67 members

WG-1 (2T): 15 (3 provinces)

WG-2 (3T-1): 17 (4 provinces)

WG-3 (3T-2): 16 (5 provinces)

WG-4 (5T): 19 (5 provinces)

OUTPUT 1.1. PLANNING PROCESS

Indicator 1.1.2:

A network of institutional stakeholders established under each NMC



Achievements:

In VIETNAM: 05 ministries and equivalents, in which:

BDP Sub – committee: 08 members

BDP National W.Group: 21 members

BDP / CNMC Unit: 03 members

SA Working Group: 32 members

WG-1 (7V): 14 (3 provinces)

WG-2 (10V): 18 (8 provinces)

OUTPUT 1.1. PLANNING PROCESS

Indicator 1.1.3:

An agreed planning cycle endorsed by the JC



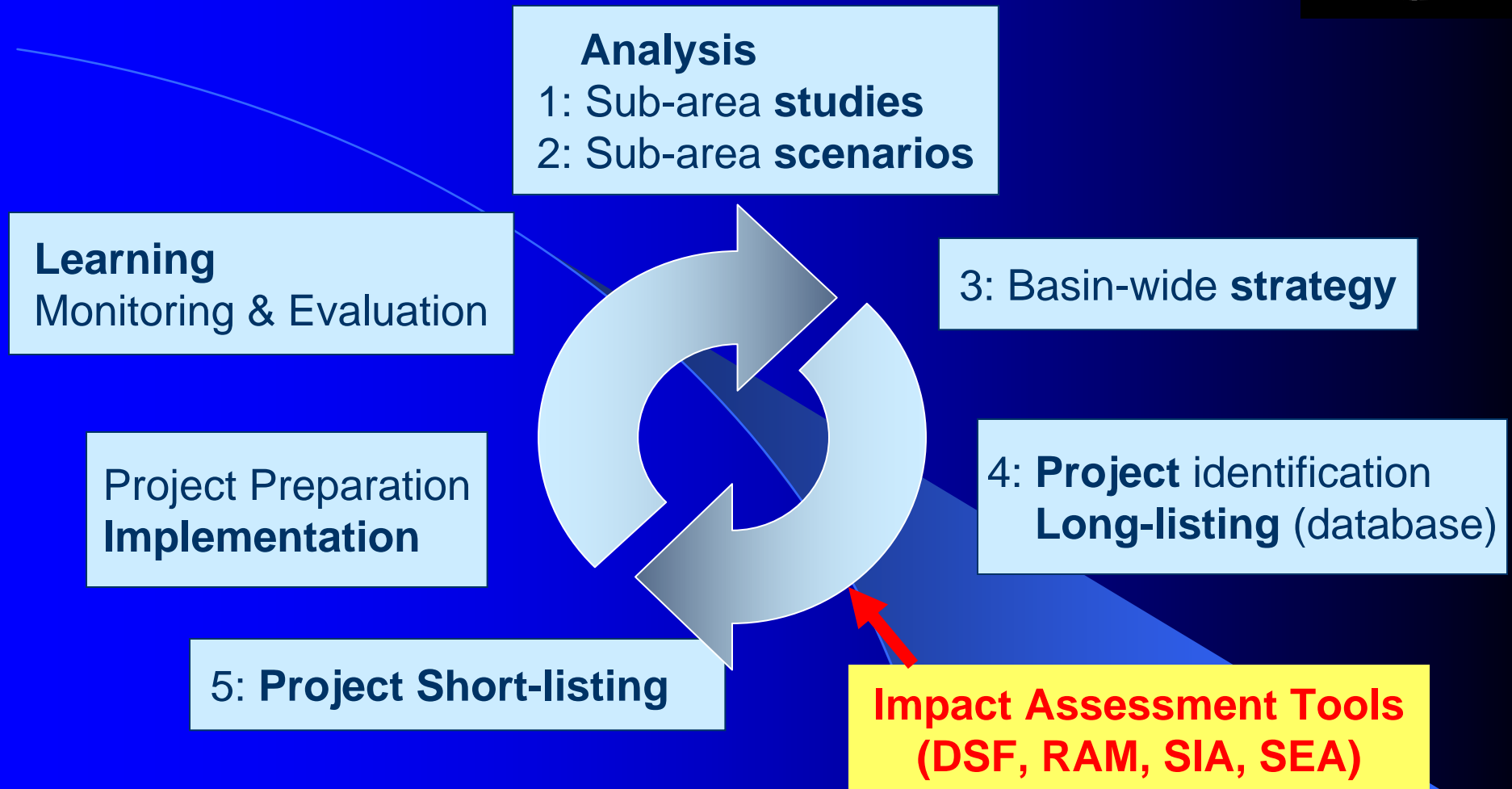
Achievements:

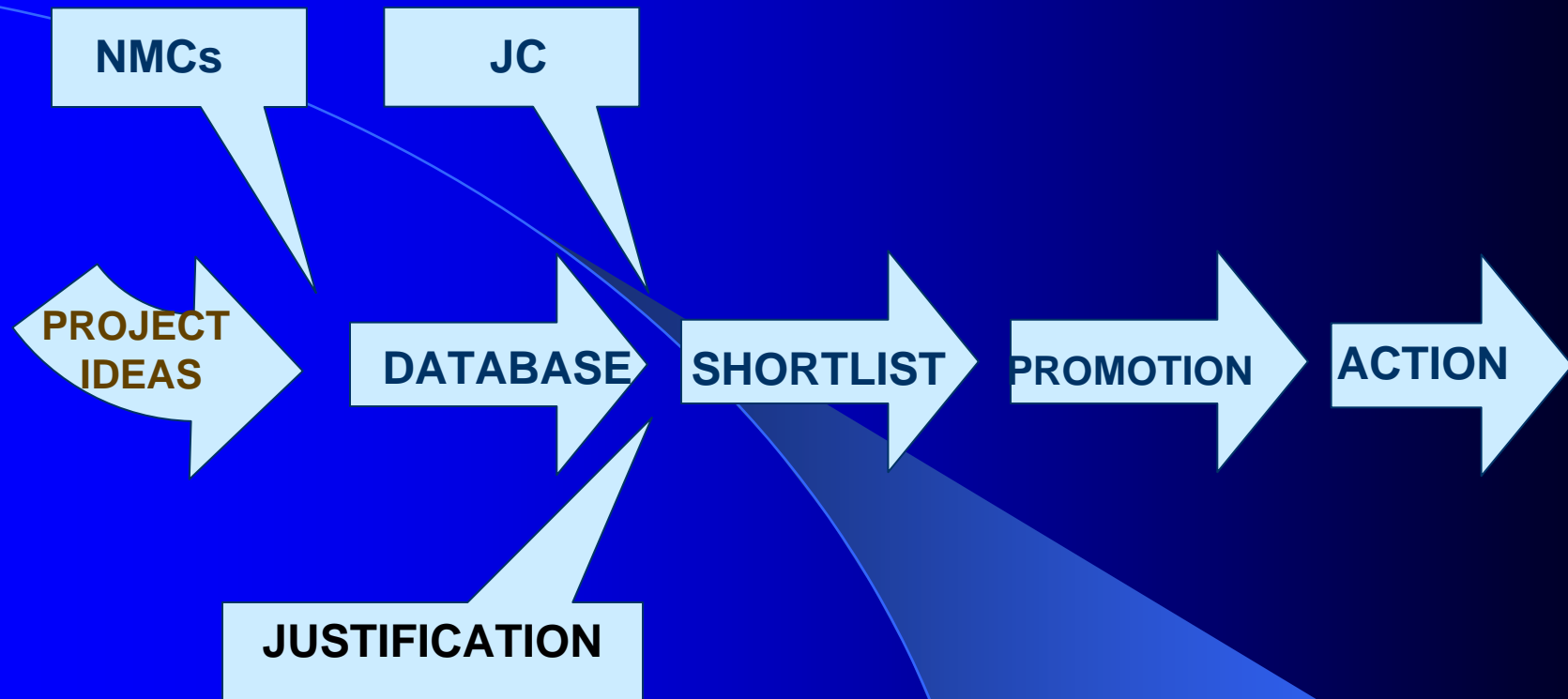
The document “ *The BDP Planning Cycle following principles of Integrated Water Resources Management*” was endorsed by the Joint Committee in March 2005

The format of PIN were proposed and developed in this document

The document “ *The process from long-listing to short-listing and the prioritization process of projects*” was endorsed in August 2005 by the JC and approved in November 2005 by Council

PLANNING CYCLE





FROM IDEA TO IMPLEMENTATION

Classification criteria

Criterion	Rating
1. Harmony with IWRM strategy	A - E
2. National priority and support from member countries	A - E
3. Potential value, costs, side effects, risks, uncertainties	A - E
4. Completeness of decision basis	A - E
5. Implementation aspects	A - E
<i>(Details are given in Volume 1 – Planning Process)</i>	

PRIORITIZATION OF PROJECT

1. Update Projects Database / Long-list
2. Negotiation through transboundary meetings
3. The Regional Working Sessions are convened regularly to agree the list of projects need to be screened
4. Screening projects by applying 5 criteria in Planning Cycle, by using the Screening Toolkits
5. Classification of these projects leads to the draft Short-lists prepared by BDP MRCS
6. Review by NMCs, readjustments by BDP MRCS
7. Submission of the draft Short-lists to JC
8. JC decision on the Short-lists and follow up decisions of JC

OUTPUT 1.1. PLANNING PROCESS

Indicator 1.1.4:

Quality management procedures



Achievements:

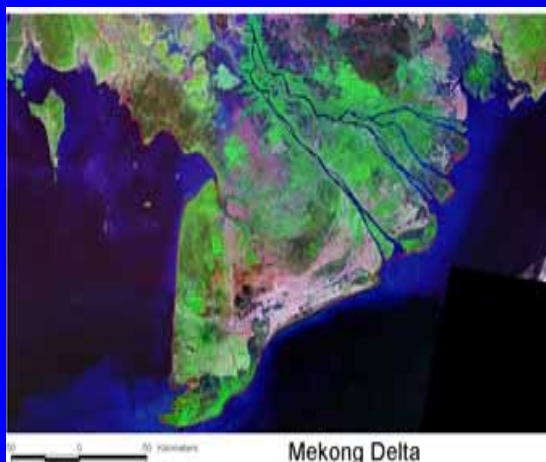
The Guideline '**BDP quality plan**' was prepared in September 2003 & revised in February 2004. It was submitted to NMCs in May 2005.

See the **List of Core Library** in Output 1.2. Guidelines

OUTPUT 1.2. GUIDELINES

Indicator 1.2.1:

Sub – area guideline
was prepared and
implemented



Achievements:

BDP 005 Sep. 2002 Sub-area analysis

**BDP 026 Nov. 2003 (Rev) Sub-area
reporting (draft format – indicative),
September 2003**

**BDP 001 Mar. 2004 (Rev) Identification of
Sub-area of the LMB for the BDP,
December 2001**

**Dec. 2004 - Report on Sub-area
Transboundary Meetings**

13 Sub – area reports was completed

OUTPUT 1.2. GUIDELINES

Indicator 1.2.2:

Full set up
documentations
in the BDP final
document



Achievements:

- *More than 100 technical reports and papers*
- *08 six- monthly progress reports*
- *19 Coordination meeting records*
- *BDP Archive, version 3 (May 2005) contains 281 documents*
- *BDP Core Library*
- *BDP Planning atlas (10 SAs)*

OUTPUT 1.3. DATA SYSTEM & KNOWLEDGE BASE

Indicator 1.3.1:

Database established, continuously expanded and updated



Achievements:

CNMC, LNMC, TNMC and VNMC have established national BDP data management systems

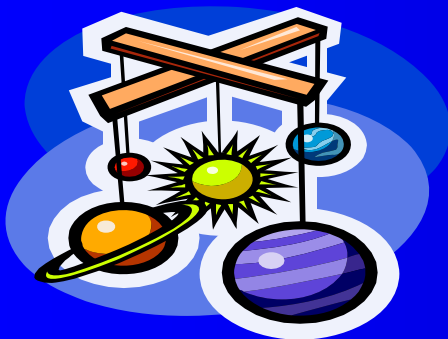
BDP / MRCS have established and updated **Project Database (new activity)** with more than 400 projects

BDP / MRCS have established the **Hydropower Database (new activity)** with 90 projects

OUTPUT 1.3. DATA SYSTEM & KNOWLEDGE BASE

Indicator 1.3.2:

Impact Assessment Tools were applied in BDP process



Achievements:

*Applied DSF for 5 scenarios: **Baseline, Upper dams, Irrigation, Low and High developments***

*Applied RAM for 4 scenarios: **Baseline, Irrigation, Low and High developments***

*Prepared **the Project Screening Toolkit** by using **Economic, Social and Environmental factors***

Applied for prepare short-list

***Training for using Toolkits** in MRCS for 4 riparian countries (October 2005)*

OUTPUT 1.4. TRAINED STAFF

Indicator 1.4.1:

M.Sc. Study

Indicator 1.4.2:

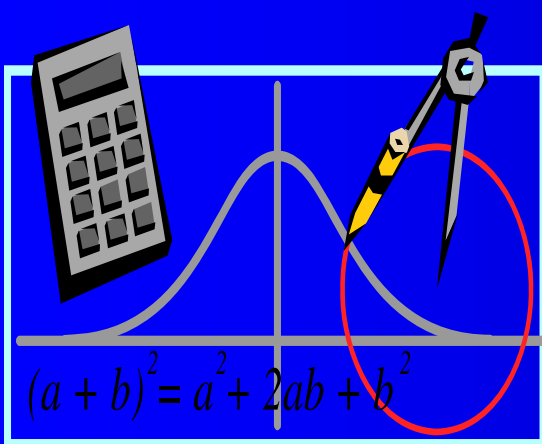
Training Needs
Assesments

Achievements:

*6 students have completed their
MSc studies (1 female)*

*TNA made in all four countries
(2002 – 2004)*

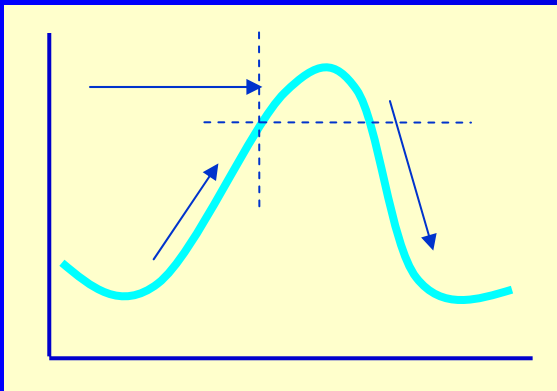
*Formal training programmes have
been conducted in all riparian
countries*



OUTPUT 1.4. TRAINED STAFF

Indicator 1.4.3:

Regional Training Programme



Achievements:

The MDBC training completed included four modules + an additional study tour to Tonle Sap.

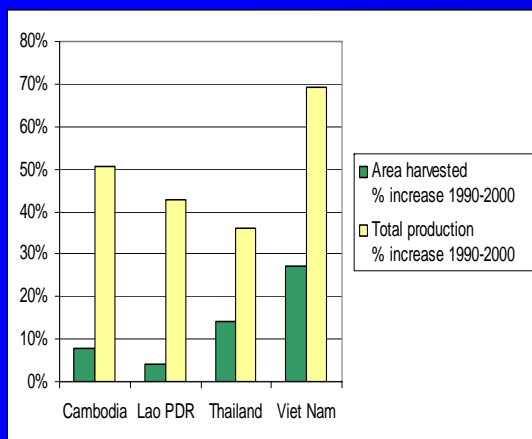
12 regional workshops have been conducted

IRBP training curriculum (8 training modules) tested and training conducted based on curriculum (November 2005)

OUTPUT 1.5. REPORTING

Indicator 1.5.1:

Scheduled reporting



Achievements:

*Eight semi-annual BDP Progress Reports have been produced integrating NMC national progress reports (From **PR N°1: April – Sep. 2002** to **PR N°8: Oct. 2005 – Mar. 2006**)*

Reporting prepared for the CPMG, PMM, JC, Council meetings; donors' missions

OUTPUT 1.6. WORKSHOPS / MEETINGS

Indicator 1.6.1:

Coordination and planning meetings conducted



Achievements:

<i>REGIONAL MEETINGS:</i>	46
<i>Coordination Meetings:</i>	19
<i>Others (Cons. TB ...)</i>	27
<i>NATIONAL MEETINGS:</i>	119
<i>SAs MEETINGS / FORUMS:</i>	120

OUTPUT 2.1. SUB-AREA STUDIES

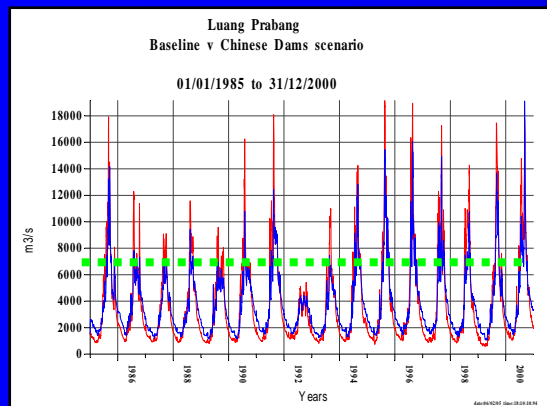
Indicator 2.1.1:

Public Participation
and Stakeholder
Forums

Achievements:

Cambodia, Lao PDR and Viet Nam have BDP Sub-area Working Groups. In Thailand, sub-groups of RBCs are responsible for BDP implementation in collaboration with TNMC

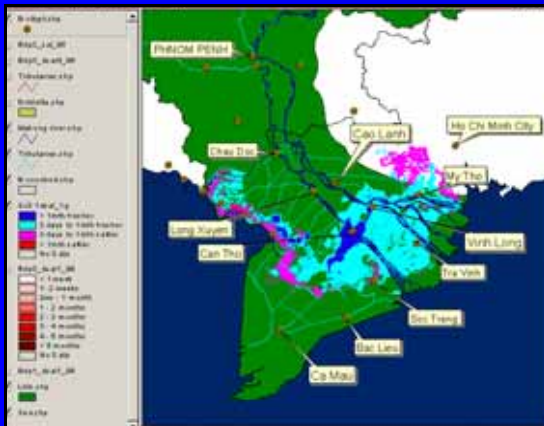
Forum 1 & 2 have been conducted.



OUTPUT 2.1. SUB-AREA STUDIES

Indicator 2.1.2:

Sub – area study and analysis



Achievements:

13 Sub – area Reports were completed

10 Sub – area for Planning Atlas were completed in 2 CDs

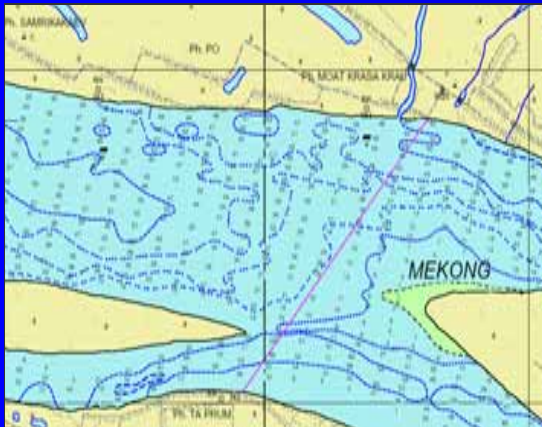
There are 14 sections in each SA:

- 1. Introduction*
- 2. Population and socio-economic conditions*
- 3. Water resources*
- 4. Physical features and environment*
- 5. Planning and the BDP*
- 6. Major water related sectors (7 sectors)*

OUTPUT 2.1. SUB-AREA STUDIES

Indicator 2.1.2:

Sub – area study
and analysis



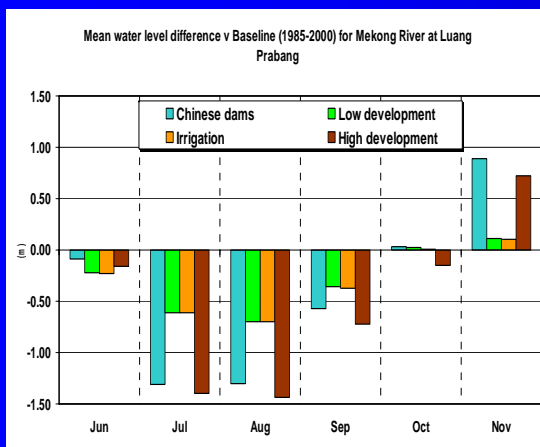
Achievements:

- 7. Watershed management**
- 8. Strengths, weaknesses, opportunities and threats**
- 9. Identified transboundary issues**
- 10. Scenarios for development**
- 11. Sub-area development strategies**
- 12. Proposed projects**
- 13. Case study**
- 14. Information sources**

OUTPUT 2.2. 20 YEARS SCENARIOS

Indicator 2.2.1:

Scenario analysis prepared



Achievements:

Five scenarios have been tested in conjunction with the World Bank under the heading “**Modelled Impacts of Scoping Development Scenarios in the LMB**”.

Four initially development-planning scenarios (baseline, irrigation, low and high) have been run using the RAM.

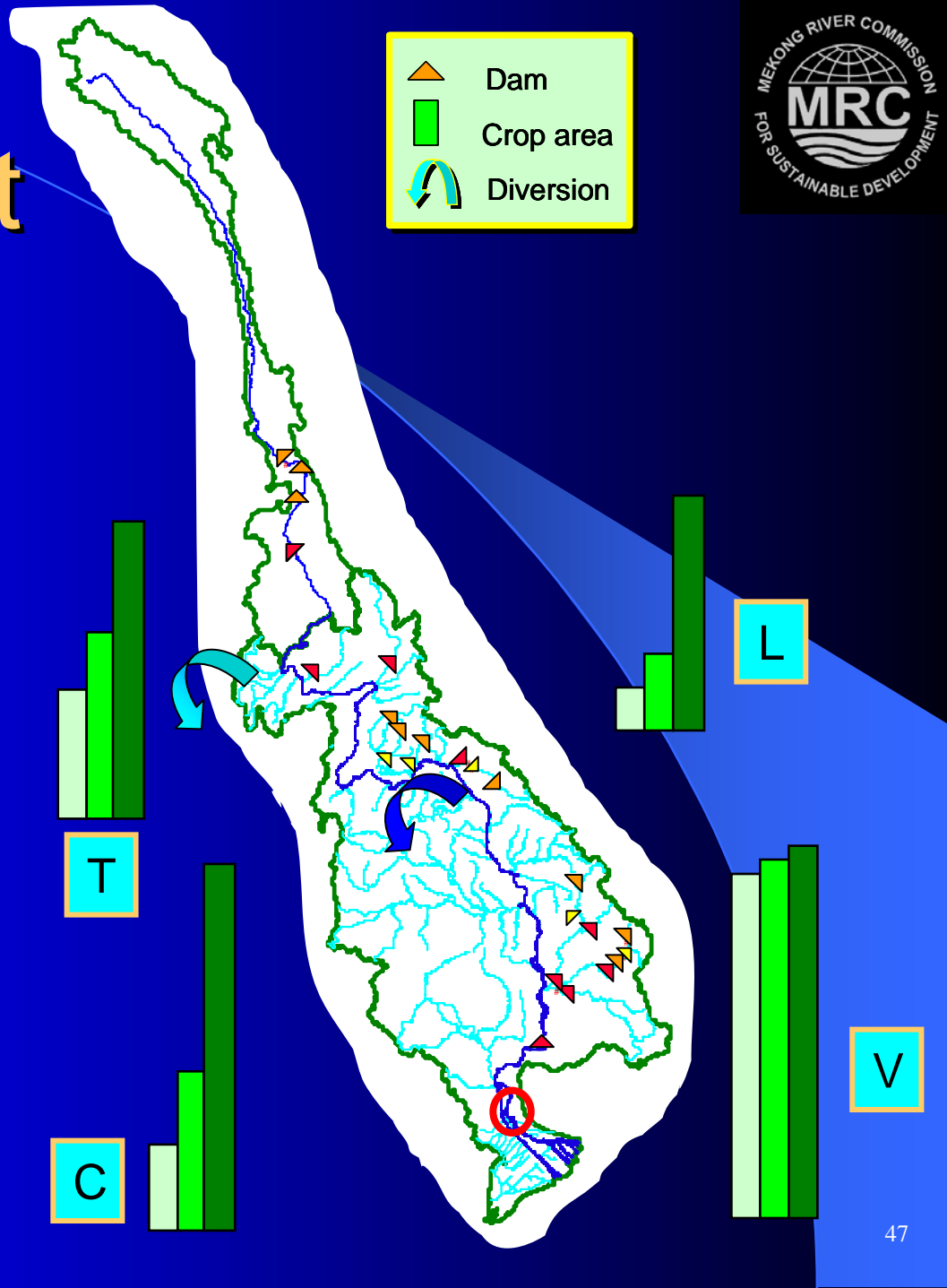
Development scenarios



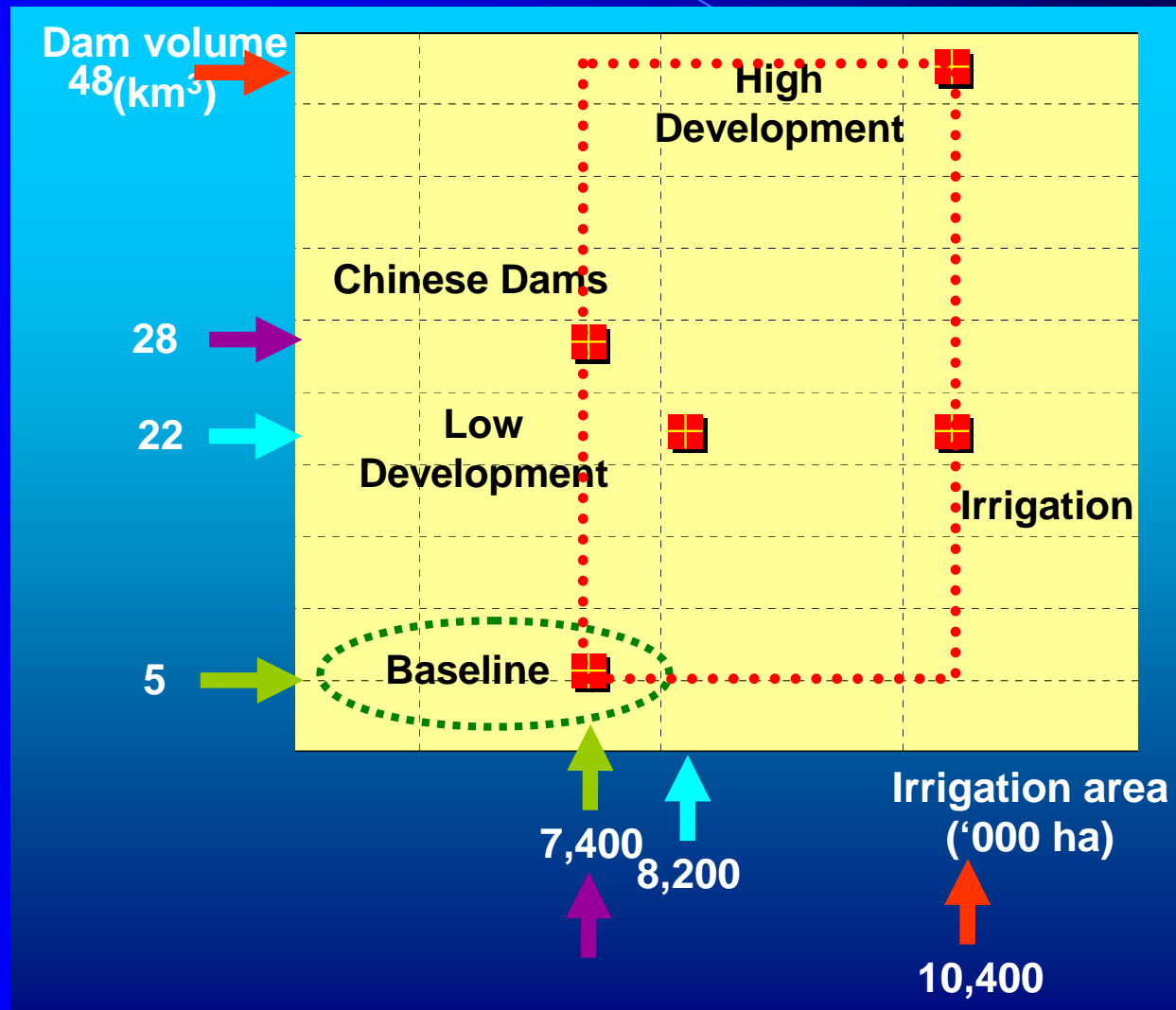
Legend:

- Dam (orange triangle)
- Crop area (green rectangle)
- Diversion (blue curved arrow)

- Baseline
- Upper dams
- Low development
- Irrigation
- High development



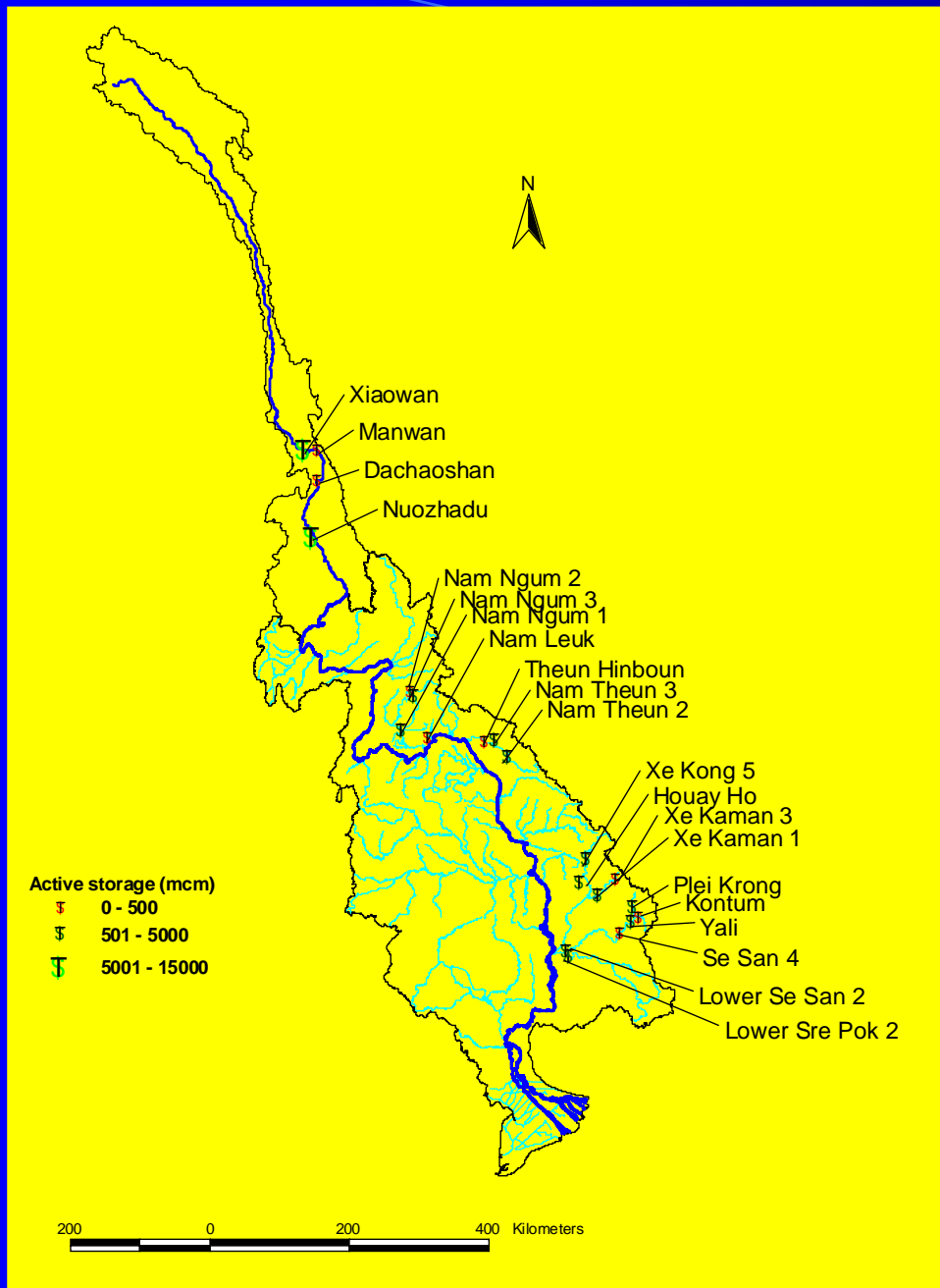
5 DEVELOPMENT SCENARIOS



Scenario details

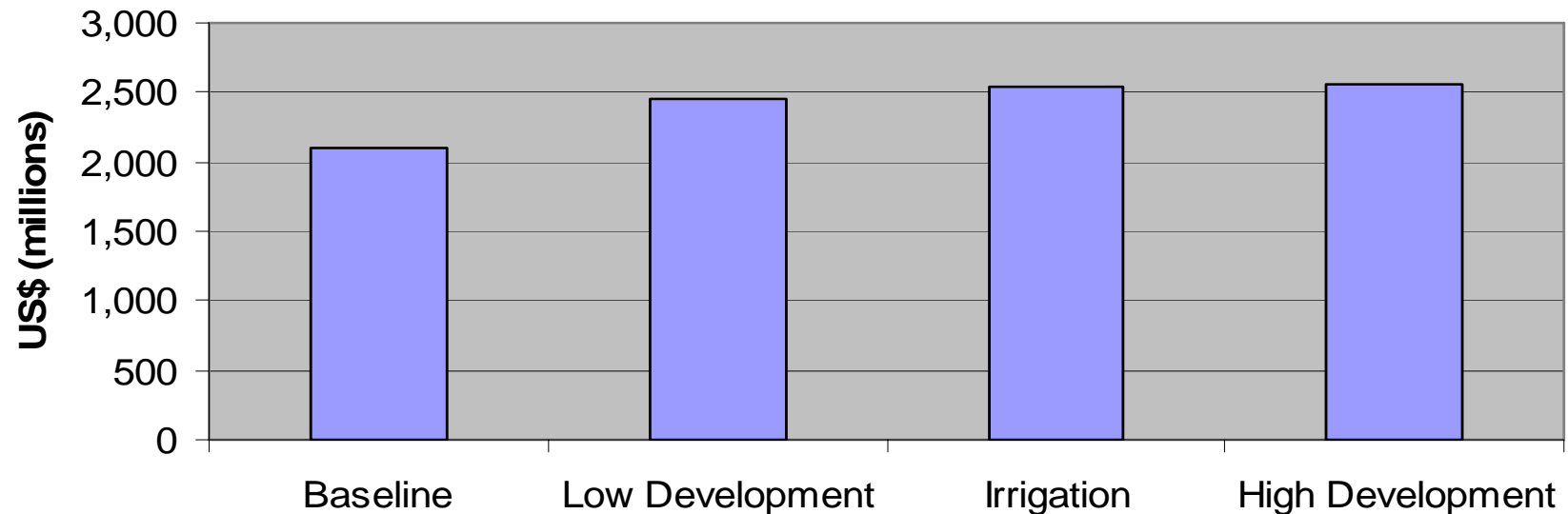
Scenario	Domestic and industrial demand (mcm)	Irrigated Areas ('000 ha)	Hydropower active storage (mcm)		Basin diversions (mcm)	
			LMB	China	Intra	Inter
Baseline	1,620	7,422	6,185	0	0	0
Upper dams	1,620	7,422	6,185	22,700	0	0
Low Development	3,109	8,316	12,443	10,300	0	0
Agriculture	4,194	11,349	12,443	10,300	2,200	3,262
High Development	4,194	11,349	26,778	22,700	2,200	3,262

Location and relative active storage of hydropower dams modelled for scenarios (Upper dams and High development scenarios)



COMPARATIVE TOTAL VALUE ADDED BY WATER TO THE LMB ECONOMY BY 4 SCENARIO

Comparative total value added by water to the LMB economy, by scenario



VALUE ADDED BY WATER

Country	Value added by water (US\$ millions)				Change (Baseline to High)	
	Baseline	Low Development	Irrigation	High Development	Value added %	US\$ per capita
Cambod	356	381	399	391	10	2.1
Laos	279	551	561	584	104	39.0
Thailand	569	596	648	602	6	1.1
Viet Nam	904	930	932	993	10	4.1
TOTAL	2,107	2,458	2,540	2,570	21	6.0

OUTPUT 2.3 – 2.4. STRATEGY

Indicator :

Basinwide
strategy
agreed



Achievements:

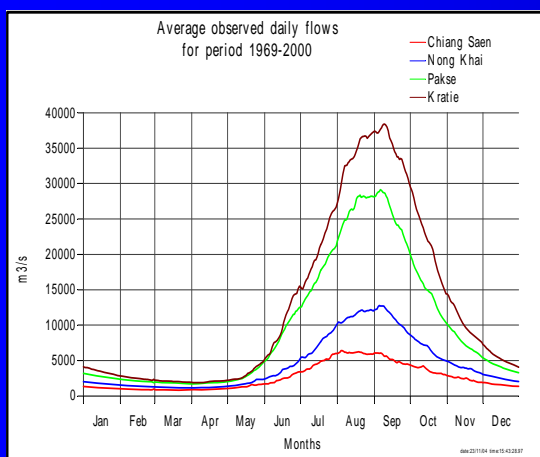
A series of national and regional consultations were carried out on the revised document (June and August 2005)

*The document **“Strategic Direction for Integrated Water Resources Management in the LMB”** was endorsed by JC (August 2005) and approved by Council (November 2005)*

OUTPUT 2.5. PROJECT LONG - LIST

Indicator :

First long-list
agreed



Achievements:

*P.I.N. format was accepted through the document “**The BDP Planning cycle following principle of IWRM**” after it was improved by MRCS~ Task Force (P.I.N)*

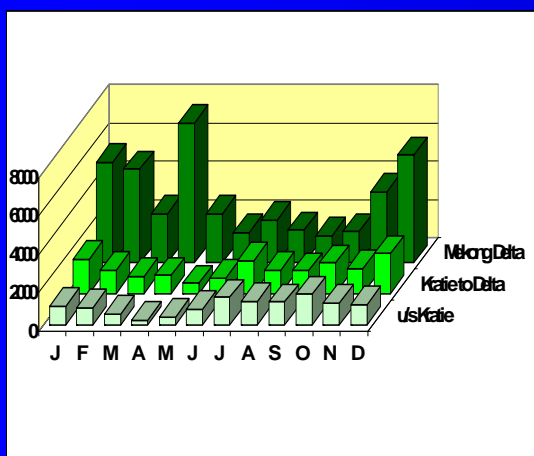
Identification and collection of projects / programmes were carried out.

*At the end of Phase 1, **there are more than 400 projects / programmes in MRC / BDP Project Directory***

OUTPUT 2.5. PROJECT LONG - LIST

Indicator :

First long-list
agreed



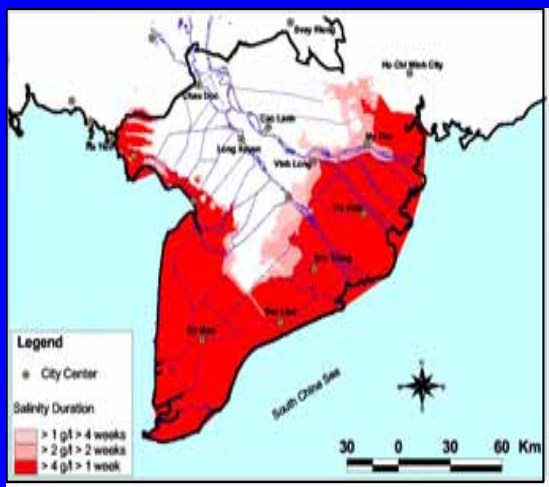
Achievements:

<i>Joint Projects:</i>		69
<i>National Projects:</i>		250
• <i>Cambodia:</i>	115	
• <i>Lao PDR:</i>	91	
• <i>Thailand:</i>	9	
• <i>Vietnam:</i>	35	
<i>MRCS projects:</i>		65
<i>Notified projects:</i>		24
<i>Group projects:</i>		07

OUTPUT 2.6. PROJECT SHORT - LIST

Indicator :

First short-list
agreed



Achievements:

The 22nd JC meeting (August 2005) endorsed the 1st batch of screened projects / programmes to be placed on the BDP shortlist.

The BDP's Process of Prioritization of Joint Projects to be placed on the BDP shortlist

Agreed : *the same procedure should be applied to national projects*

The 23rd JC meeting (April 2006) took note the 2nd batch of projects to be placed into the BDP shortlist.

PRIORITIZATION PROCESS

(Cycle to be repeated)

1. Projects / Programmes Data Base / Long-list which will be **continuously updated**, and gradually contain all projects in LMB and initial checking within MRCS.
2. (Optional) **Negotiation through transboundary meetings**
3. Regional Working Sessions are convened regularly to **agree on the list of projects / programmes** that need to be screened / maintained in the Short List.
4. **Screening of projects / programmes** by applying 5 criteria of the Planning Cycle by using the Screening Toolkits (social, environmental and economic checklists) by BDP MRCS, together with sector experts (in MRCS, NMCs, other organizations)

PRIORITIZATION PROCESS (cont)

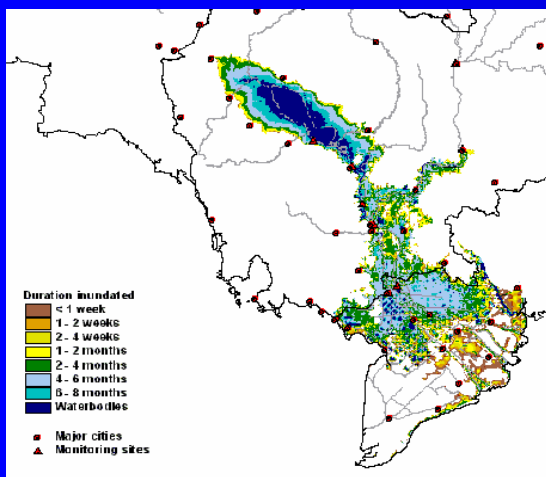
(Cycle to be repeated)

5. **Classification** of these projects / programmes leads to the draft Short-lists prepared by BDP MRCS (considering recommendations of the Regional Working Sessions)
6. **Review by NMCs, readjustments by BDP MRCS; agreement by NMCs**
7. **Submission** of the draft Short-lists to JC for decision – making
8. JC decision on the Short-lists and **follow up of decisions made by JC**

OUTPUT 2.7. IMPLEMENTATION PLAN

Indicator :

Implementation plan for priority initiative short-listed



Achievements:

One example was prepared **“Capacity Building in Integrated River Basin Planning and Management”**

1. *The full P.I.N.*
2. *The draft P.I.P.*
3. *Based on:*
 - *The short P.I.N.*
 - *The added information*
 - *The screening results*



BDP 1 was Implemented in a particularly active collaboration with the NMCs, line agencies and the MRC Programmes

Financial support and contributions in kind to BDP Phase 1 has kindly been granted by Australia, Denmark, Japan, Sweden and Switzerland

**Thank you
very much
for your attention**

**Dr. Vu Van Tuan,
Associate Professor,
Team Leader,
Basin Development Programme
M.R.C.S.**

