

Water Resources Management in Cambodia

Siem Reap, Cambodia

25-26 September 2007

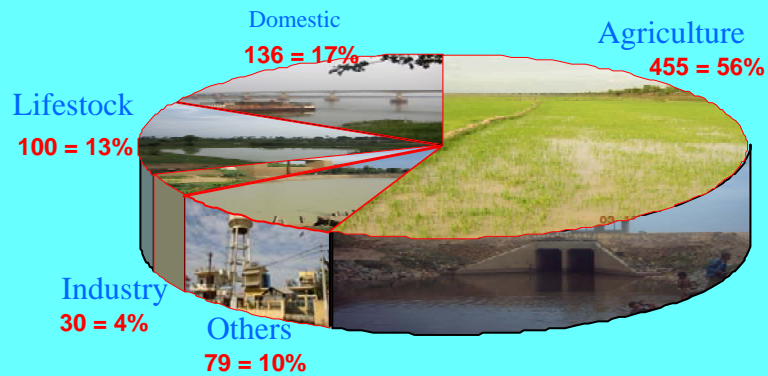
Country information

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- Total area 181,035 km²
- Population 13,524,000 million, 52.% are female and 48% are male.
- density of 74.7 per km²
- average growth 2.4%.
- **Wet (May-October)**
- **dry (Nov-April)**
- **rainfall 1300 mm/year**
- 85 % of total population are farmers.
- **Rice is the most important crop in Cambodia.**
- **yield less than 1.8T/ha**

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Water Use In Cambodia (Million m³ /Year)



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Institutional Involve with River Basin Management .

1. Ministry of Water Resources and Meteorology
2. Ministry of Industry, Mine and Energy
3. Ministry of Rural Development
4. Ministry of Public Work and Transport
5. Ministry of Environment
6. Ministry of Agriculture, Forestry and Fisheries
7. Cambodia National Mekong Committee
8. Cambodia National Disaster Management Committee

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Vision for Water Resources in Cambodia

1. Access for all to safe, adequate and affordable drinking water hygiene and sanitation .
2. Freedom for all from the threat of loss of life and livelihood as a result of floods and droughts .
3. Sufficient water where it is needed, to provide for food security, peoples livelihood and economic activity.
4. A water environment that is unpolluted and support healthy fisheries and aquatic ecosystems.

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Process to achieve Vision for water resources management

1. Formulating:
 - National water resources policy,
 - Law on water resources management and the supporting sub-degrees required for implementation,
 - National water sector profile,
 - Water resources Road map,
 - National water resources strategy and
 - Development of strategy and action plan in specific sub-sector.

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National Policy on Water Resources

- . Adopting by the Council of Minister in January 2004.
- . Preparing by MOWRAM with technical assistance by ADB.
- . It covers all aspects of Cambodia's water resources (surface and ground water), including seawater and associated marine resources.
- . Water for agriculture is given high priority.

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Goals of Water Resources Policy

The goals of water Resources policy is to ensure effective and sustainable management of water resources in the further 20 years.

More specifically are:

- To protect, manage and use of water with effective, equitable and sustainable manner,
- To foresee and take measure to assist related institution to settle the facing problems which might be occurred in water sector,

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Goals of water policy (Cont)

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- To develop and implement the national strategy and formulate the national policy and sector policy on water resources management;
- To direct the water resources development, management and utilization in the Kingdom of Cambodia to all activities of institutions, private sector and public sector,
- To improve and uplift the people living to achieve the national policy on poverty reduction and sustainable national economy development.

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Priorities Direction of NWRP

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1. To provide farmers with the quantity and quality of water they need, when and where they need it, and within the limits of available water resources and technology.
2. To promote the rehabilitation and construction of irrigation, drainage, and flood management infrastructure, in order to provide sufficient water for agricultural production and to alleviate the adverse consequences of excess water.
3. To promote the development and extension of appropriate water management technologies that are particularly suited to rain-fed agricultural areas, such as water harvesting, improvements to the moisture-holding capacities of soils and use of farm ponds.

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4. To strengthen and expand Farmer Water User Communities, to enable them to participate in water management and allocation and to maintain irrigation infrastructure with effectiveness and sustainability.
 5. To minimize the impact on the water resources caused by the uses of chemical substances in the agricultural production by encouraging people to implement diversified agriculture and Integrated Pest Management (IPM).
 6. Introduction and implementation of IWRM concept into the Priority river basin by establishing RBO.

A number of other policy points in the NWRP have much relevance to water management for agriculture, related to resource management on the basis of river basins, equitable sharing and allocation of water, and the sustainability of aquatic ecosystems.

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Law on Water Resources Management

was adopted by:

- Council Minister since April 2002
- National Assembly June 2007
- Senate June 2007
- sign by King 29 June 2007

4 Sub-decrees were identified :

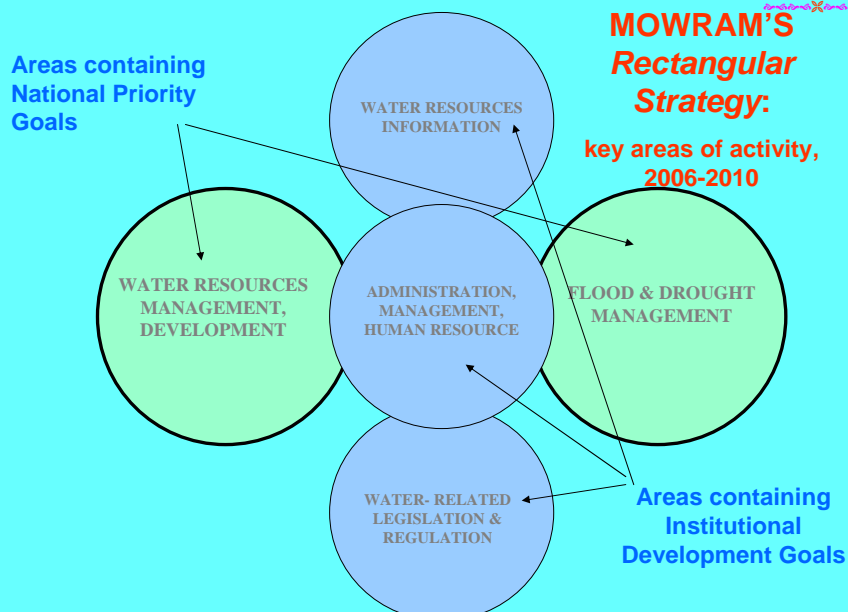
- River Basin Management
- Water Allocation and Licensing
- Water Quality
- Farmer Water User Community

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Implementation of Water law

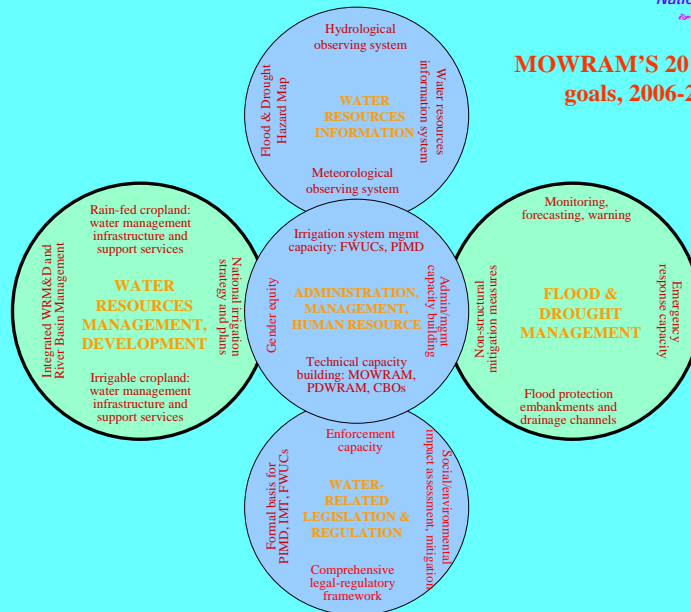
- The water law effective on 29 June 2007
- In order fully Implementation the law need to formulate some sub degrees and others related
- Law implementation is a long process and needs patience to undertake. However, the implementation process is still slow.

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MOWRAM'S 20 strategic goals, 2006-2010



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Context for IWRM and River Basin Management in Cambodia

Integrated Water Resources Management

Sub-Decree 58: MOWRAM's mandate	RGC Strategic Framework for D&D	MOWRAM SDP-WS 2006-2010	National Water Resources Policy	Law on Water Resources Management
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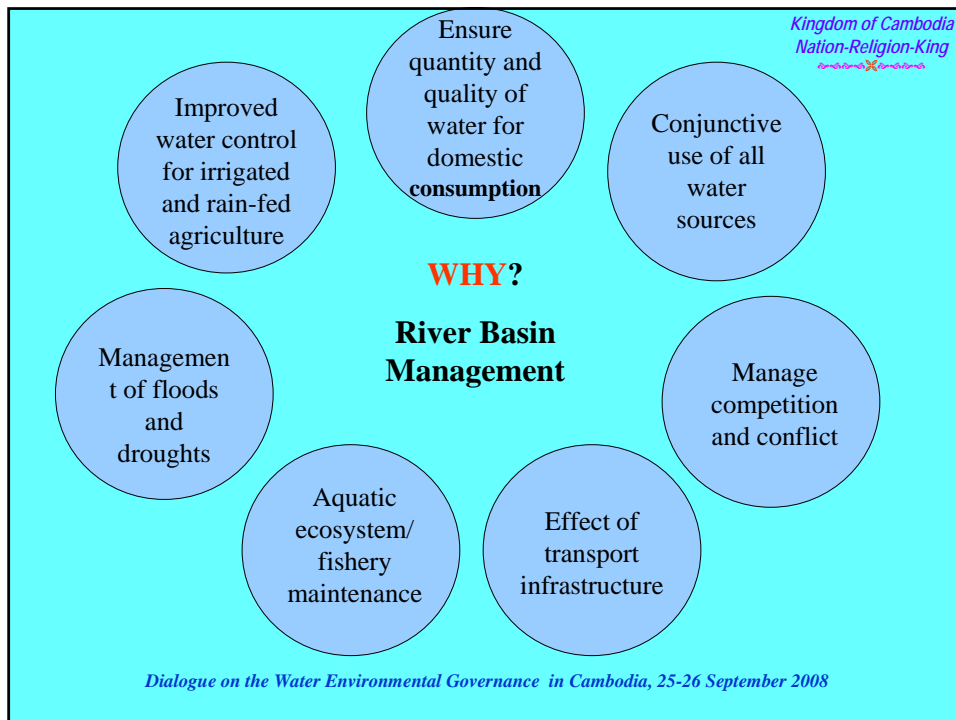
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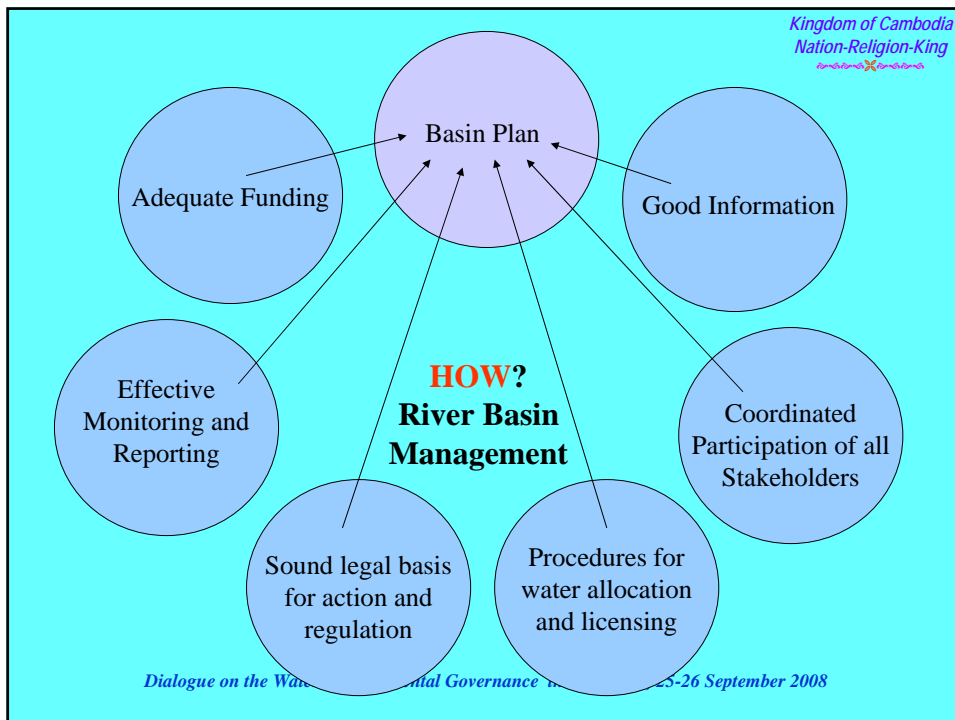
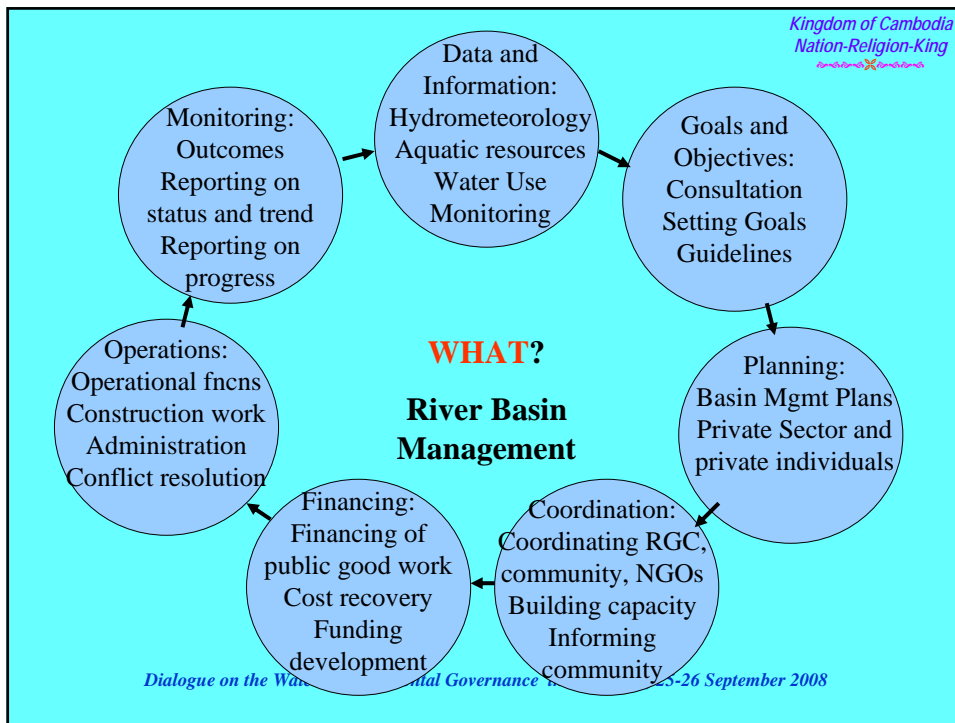
The nature concept of River Basin Management

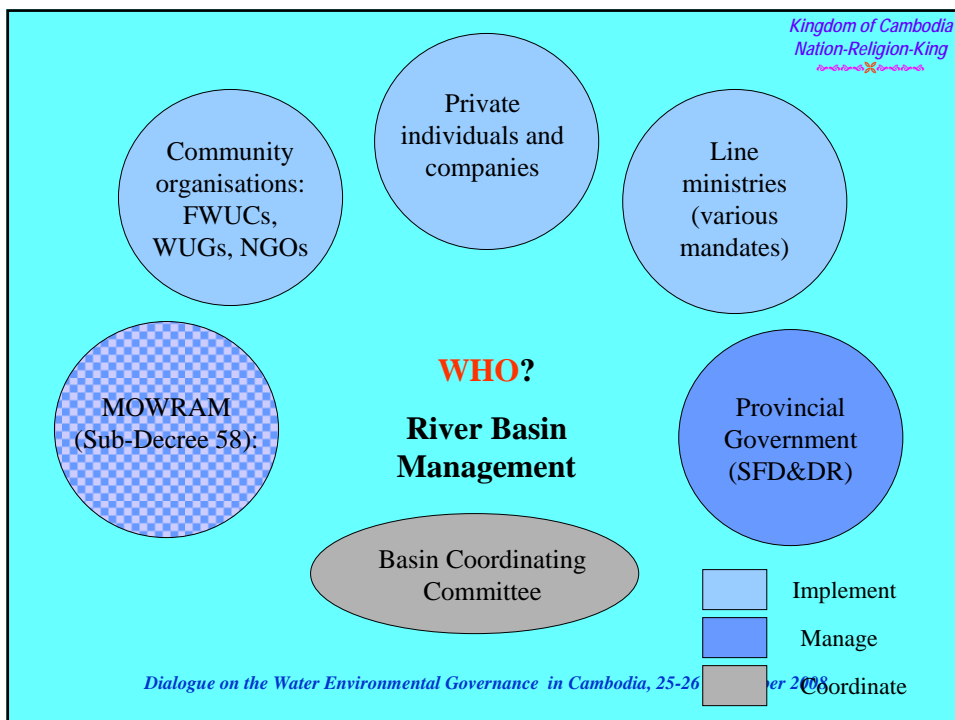
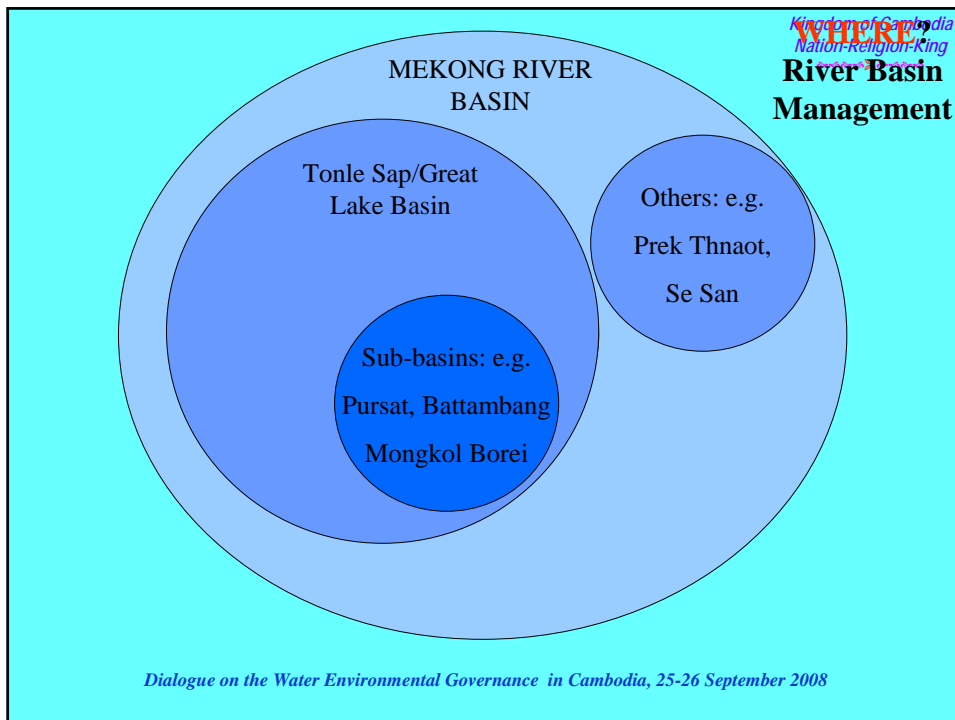
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For
Cambodia,
need to
define the
NEED:
Why?
What?
How?
Where?
Who?

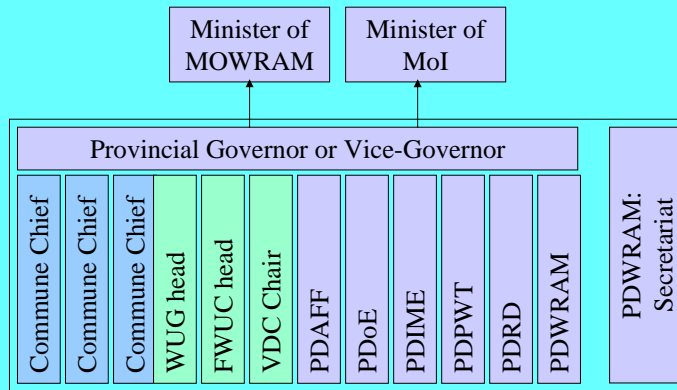
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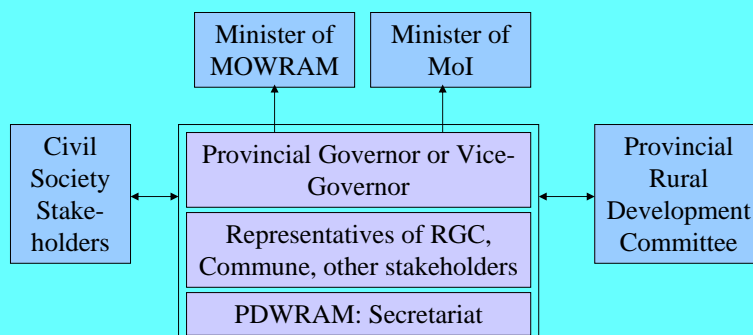


Composition of RBC:



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Lines of reporting of RBC:



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1-On-going Experience of IWRM Implementation in Cambodia

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Previous and On-going Major Water Projects

- (1) Northwest Irrigation Sector Project
- (2) Study on Comprehensive Agricultural Development of Prek Thnot River Basin
- (3) Basin-wide Basic Irrigation and Drainage Master Plan Study
- (4) Water Resources Management (Sector) Project
- (5) Establishment of a Master Plan of Water Resources Development in Cambodia
- (6) Krang Ponley River Basin management and development

Most of the previous/on-going projects/studies cover a comprehensive range of components not only water resources and irrigation infrastructure, but also rural infrastructure, agriculture extension services, formation and strengthening FWUC, capacity building of government staff, etc. A harmonization of hardware and software components is regarded as important based on the many experiences and lessons learnt in water resources development projects in many countries.

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2. Technical Approach to River Basin Water Resources Management & Development

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The problems in the river basin, in general, can be categorized by main problem as follows for example:

- i) The river basin in which water deficit is a main problem
 - ii) The river basin in which flood and inundation is a main problem
 - iii) The river basin in which water pollution is a main problem (some kind of diseases caused by germs which spread over by water is also included)
 - iv) The river basin in which soil erosion and or sediment transport is a main problem
- The executor of the technical study, at first, is strongly recommended to consider carefully a core problem of the river basin, and to clear main theme of the study to solve the core problem. Of course, the other problems and subjects should not be neglected completely. Those, however, may not be a core problem.
 - The following descriptions are one of the typical features of technical study for water resources development which is an important measure to reduce water deficit problem. The others typical feature can be set up referring to the following feature by adding issue related to the problem.

3. Formulation of Basin-Wide Plans for Irrigated Agriculture Development

- (1) Data and Information Collection
- (2) Field Survey
- (3) Analyses and Studies
 - i) Potential assessment of natural resources
 - ii) Potential assessment of human resources
 - iii) Assessment of constraints for development
 - iv) Exclusion of protected area
 - v) Problem analysis of irrigated agriculture development
- (4) Formulate Framework of Master Plan
 - i) Major causes to problems such as major causes abstracted by PCM, RRA, socio economic survey, site inspection by experts, etc.
 - ii) Basic concept such as infrastructure projects, cross subjects programs or interventions

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Next Steps:

- Develop 5 program under Strategic Plan on Water and Agriculture
- Sub-Decree on Basin Management
- Sub-Decree on Water Allocation and Licensing
- Sub-Decree on Farmer Water User Community
- Sub-Decree on Water Quality
- Consult widely - ensure it will meet needs and circumstances
- Pilot test proposed mechanisms, particularly:
 - Basin Management and Planning
 - Basin Coordination Committee

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THANK YOU !