

China-UK Water Resource Demand Management Assistance Project

Project Summary

Central Project
Management Office

June 2010

**WRD
MAP**



Outline

1. Project Purpose
2. Project Content
3. Project Features
4. Project Challenges
5. Project Management
6. Major Practices
7. Project Achievements
8. Project Experiences
9. Conclusions

1. Project Purpose

- **Goal:**

Improved livelihoods through equitable access and sustainable use of water resources, particularly for poor women and men.

- **Purpose:**

Replicable integrated water resource management approaches and methods for implementation of the Water Law, responding to stakeholder and beneficiary demands, and tested, documented and promoted as best practices nationwide.



Water Demand Management:

adaptation and implementation of a strategy (policies and initiatives) by a water institution to influence the water demand and usage of water in order to meet any of the following objectives: economic efficiency, social equity, environmental protection, sustainability of water supply and services, and political acceptability

Integrated Water Resources Management:

a process which promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems



New Water Law was issued in 2002. It reflects that Chinese government are trying to give more emphasis on integrated water resources management and water demand management, which are regarded as a more equitable and efficient way. *2002 Water Law* also set social development as one of the main objectives.



2. Project Content

- **Central Case Study**

- **Gansu Case Study**
 - 1) IWRM Planning in the Shiyang River Basin (G-1)
 - 2) Water Saving Society in Jinchang and Wuwei (G-2)
 - 3) Improved Water Management in Minqin County (G-3)

- **Liaoning Case Study**
 - 1) IWRM Planning in the (L-1)
 - 2) Joint Abstraction and Discharge Permit Management in Chaoyang Municipality (L-2)
 - 3) Tariff Design and Water Saving in Beipiao WSC (L-3)



Central Case Study

- **Content:**
- **IWRM best practices documented and promoted nationwide by MWR**

- **Goal:**
- **Enabling legislation for integrated water resources management in place nationwide**

- **Purpose:**
- **Best practices in IWRM documented and communicated within the water sector in China**



Gansu Case Study 1

- **Content:**
 - IWRM planning in the Shiyang River Basin
- **Goal:**
 - River basin organizations applying IWRM principles and methods promoting equitable and reliable access to water in future river basin planning, management and development
- **Purpose:**
 - IWRM principles and methods fro river basin planning, developed, testes, documented and applied to water management by water resource management agencies in the Shiyang river basin



Gansu Case Study 2

- **Content:**
 - **Water saving society in Wuwei and Jinchang**
- **Goal:**
 - **Sustainable and efficient use of water resource in Shiyang river basin**
- **Purpose:**
 - **Wuwei and Jinchang WRBs apply and enforce water demand management tools to balance water resources availability and demand and set up water saving society**



Gansu Case Study 3

- **Content:**
- **Improved water management in Minqin county**

- **Goal:**
- **Effectively community participation in management of surface and groundwater resources**

- **Purpose:**
- **Minqin WRB and WUAs cooperating on sustainable abstraction and conjunctive use of surface and groundwater**



Liaoning Case Study 1

- **Content:**
 - IWRM planning in the Upper Daling Basin
- **Goal:**
 - Improved equity and transparency in river basin planning and management by applying IWRM principles
- **Purpose:**
 - IWRM principles and methods for river basin planning, developed, tested, documented and applied to water management by water resource management agencies in the Daling river basin



Liaoning Case Study 2

- **Content:**
- **Joint abstraction and discharge permit management in Chaoyang Municipality**
- **Goal:**
- **Improved water environment and livelihoods through equitable management of water resources**
- **Purpose:**
Municipal water resource and environment agencies manage and enforce integrated water abstraction and wastewater discharge permitting system reflecting social, economic and environment objectives for the use of water



Liaoning Case Study 3

- **Content:**
- **tariff design and water saving in Beipiao WSC**

- **Goal:**
- **Improved livelihood through reliable, financially sustainable and affordable water services**

- **Purpose:**
- **Improved regulation, management, delivery and financing of water services in cooperation between WATER Affairs Bureaus, Water Supply Companies and community representatives**



3. Project Features

- **Closely combine with the water resources management practices in China**
- **Provide Support to China's economic development goals**
- **Emphasis on capacity building**
- **Chinese side plays a major role in the implementation process**
- **Stakeholders participation**
- **Challenging**



4. Project Challenges

- **Need to make all participants aware that the focuses of project are capacity building, change and innovation;**
- **Stakeholders' active participation and supports are required;**
- **Need implementation staff participate more widely and actively;**
- **Need central case study and provincial case study work closely with each other**



Water Resources Demand Management Assistance Project WRDMAP

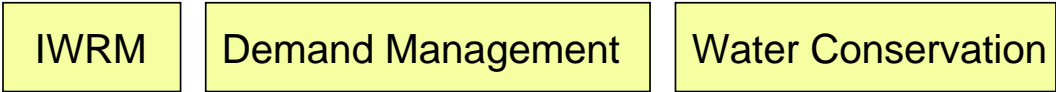
Goal

Improved livelihoods through equitable access and sustainable use of water resources, particularly for poor women and men.

Purpose

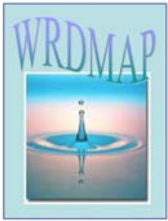
Replicable integrated water resources management approaches and methods for implementation of the water law that respond to stakeholder and beneficiary demands developed. Approaches to be tested, documented and promoted as best practices nationwide

Main Concepts



Key Processes

- Communication
- Participation
- Knowledge Management
- Dissemination



Important Factors

- Institutions
- Economics
- Poverty
- Gender
- Environment

Main Drivers

INNOVATION : CHANGE : COMMITMENT

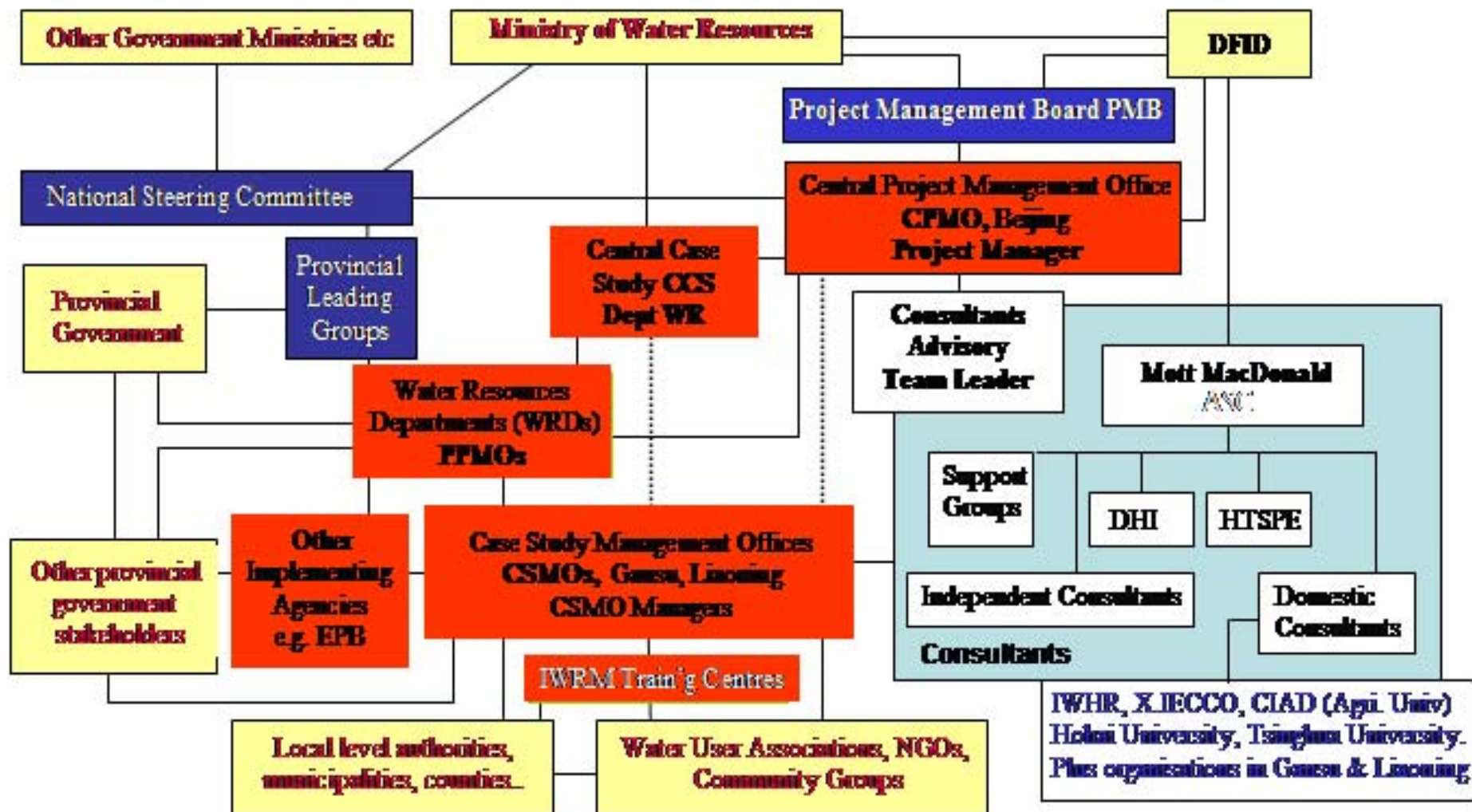


5. Project Management

- **Project Steering Committee/Leading Group**
- **Project Management Office**
- **Case Study Office**
- **Project Management Board**



WRDMAP : Simplified Organisation Chart



- **Implementation**
- **Consultancy**
- **Co-ordination**

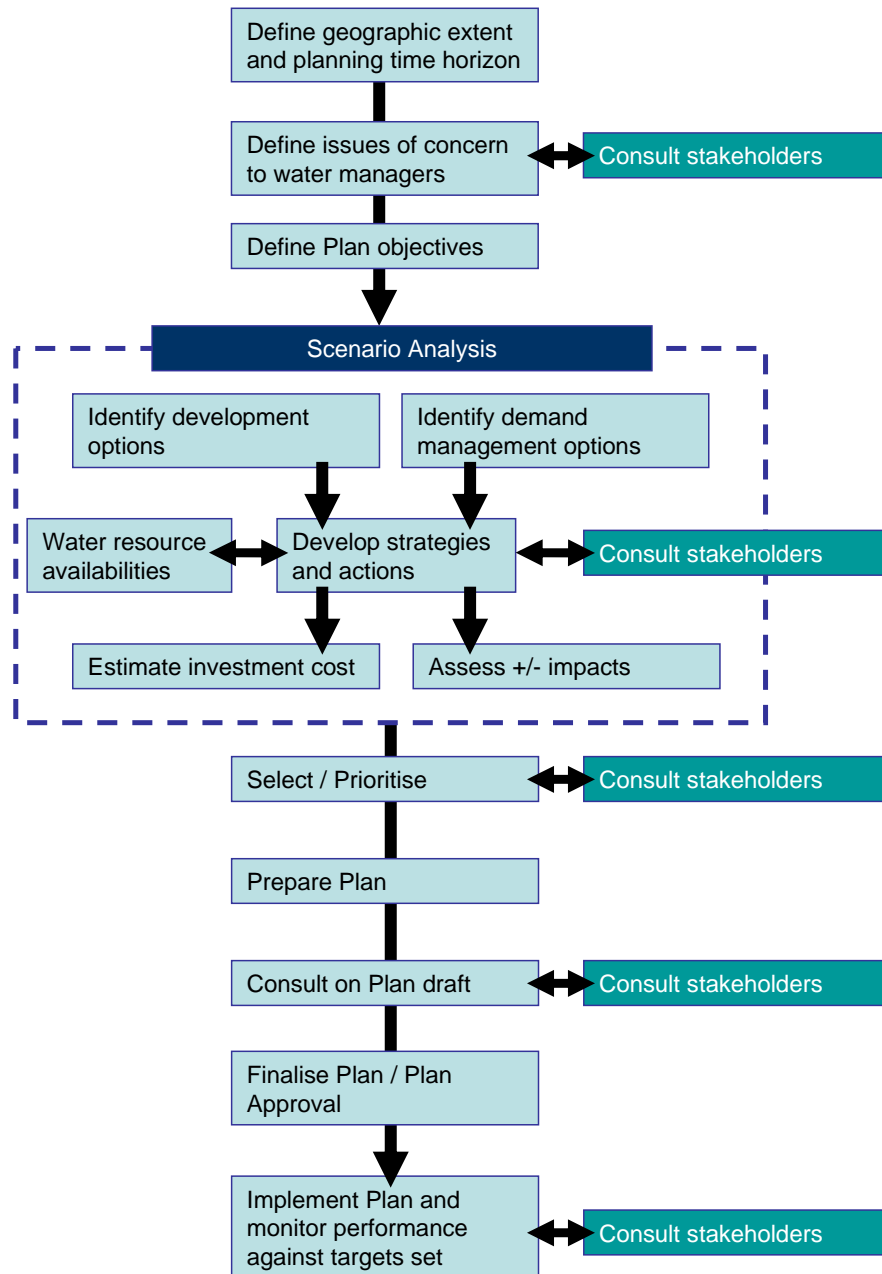
6. Major Practices

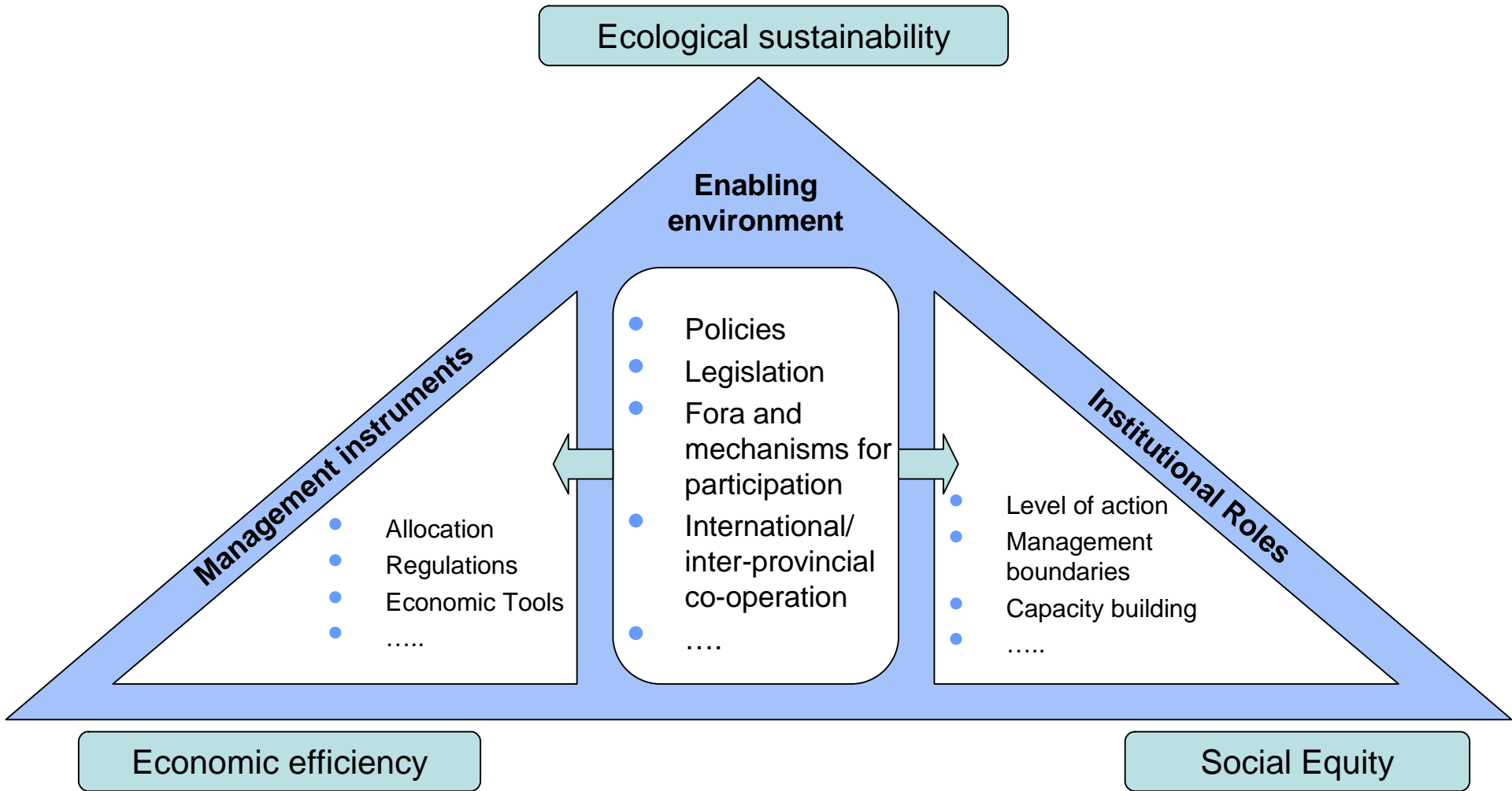
1. Innovative Water Resources Management System

(1) Launch IWRM Plan

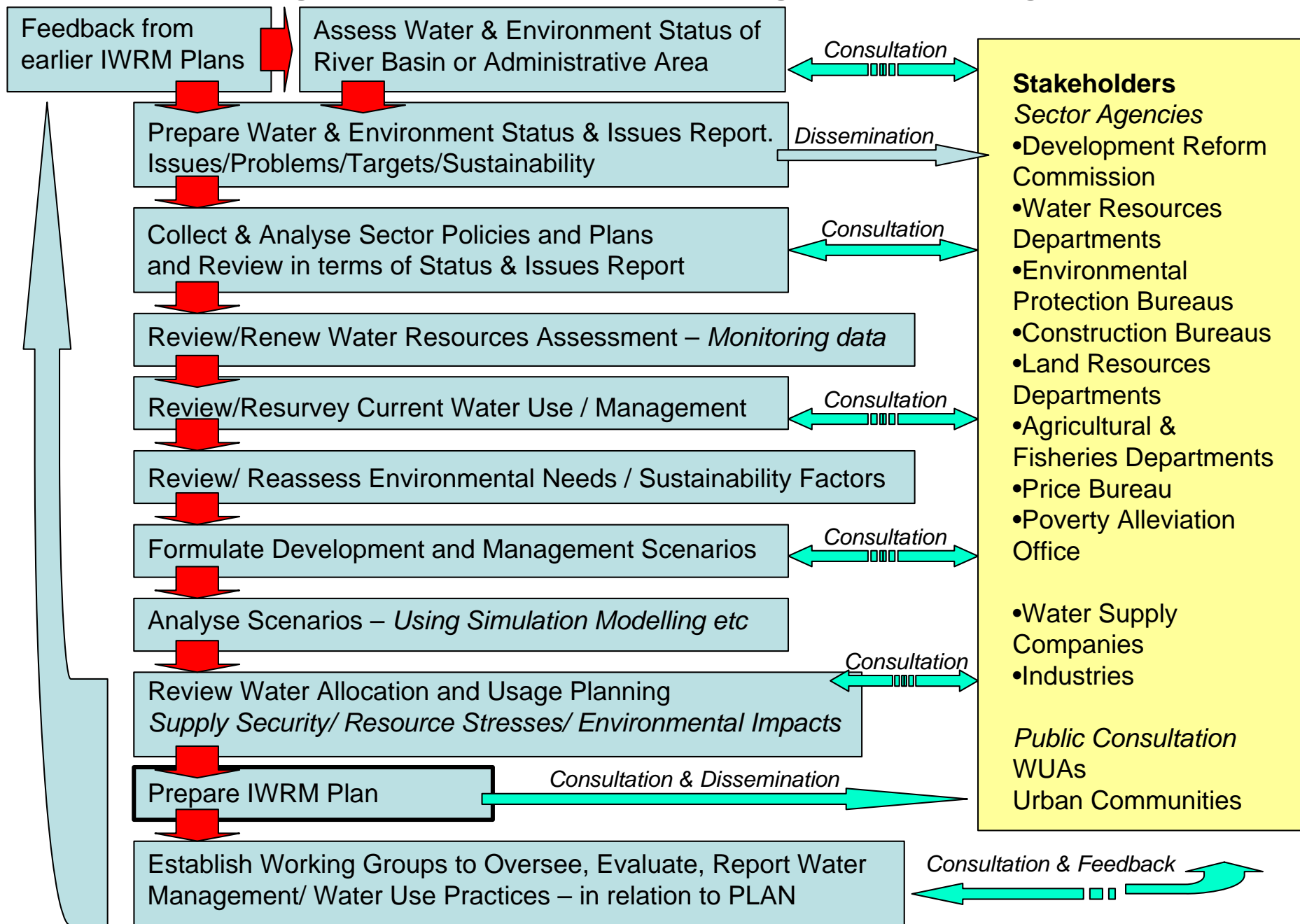
- Traditional top-down, fragmented and supply led approach to water management is unsustainable and imposes high economic, social and ecological costs on human societies and the natural environment.
- Meeting “water-demands” in an economically efficient, socially equitable and environmentally sustainable way is a daunting task that is seen internationally to require an integrated water resources management approach.







Integrated Water Resources Management Planning



6. Major Practices

1. Innovative Water Management System

(2) Improvement of Information Exchange

- Water resources agencies at all levels establish a regular information exchange system;
- Cooperation between Chaoyang WAB & EPB and set up a shared water abstraction and drainage information system;
- In Wuwei and Jinchang, water resources departments reach a preliminary data sharing agreement with environment and urban construction departments.



6. Major Practices

2. Application of WDM methods

(1) Improve the efficiency of water use

- Undertake activities to improve efficiency of agricultural water use and urban water supply;
- In addition to promote tradition structural measures, non-structural measures also introduced (such as pipeline network leakage detection, IC card, WUA self-management).



6. Major Practices

2. Application of WDM methods

(2) promote water price reform

- Take willingness to pay and ability to pay surveys and introduce participatory methods to water price reform



6. Major Practices

3 Improved management techniques and tools

- Introduction of WEAP and Mike Basin model and development and calibration of water resources model for Daling river and Shiyang river basin provide effective support for water resources assessment, demand evaluation, scenario comparison and preparation of IWRM planning.
- Introduce advanced GIS software and GPS equipment to improve management of abstraction permitting and administrative efficiency.
- Purchase groundwater monitoring equipments and leakage detection apparatus to provide reliable information for water resources management.



7. Project Achievements

- **Effectively promoted IWRM in project area;**
- **Improved water resources management level for the river basin;**
- **Enriched water saving society activities in project area;**
- **Strengthen managing skills and capacity of counterpart institutions.**



8. Project Experiences

1. Legislation

The basic legislative framework for IWRM is in place. It is recommended to prepare legislation plan at different administrative levels to facilitate changes in water resources managements to match a planned change process in water resources management under the framework of *Water Law* .



8. Project Experiences

2. Enhance institution capacity building

- A key aspect of the project activities was in identifying responsibilities of various water related organizations, improve their capacities to perform duties and strength coordination among each other.
- Need to establish some guidelines and statutory interpretation to specify cooperation.
- Inter-agency agreement can be used to promote institution cooperation.



8. Project Experiences

3 Stakeholder participation

- IWRM entails a coherent package of measures which need to be designed through a consultative, participatory process to manage water, to ensure that the usage does not exceed the sustainable availability of the resource, and that it is used in accordance with an agreed system on allocation.
- Water resources departments should actively promote the effective participation of stakeholders . Stakeholders participation at various levels can improve water management and water saving, ensure effective communication between the parties.



8. Project Experiences

4. Pay more attention to environmental issues

- Environmental issues will be more important as the water stress increasing;
- Over-use and water contamination increases the vulnerability of eco-environment and also aggravate the conflicts between economic development and environment conditions;
- Impacts of water allocation and utilization on environment should be fully considered.



8. Project Experiences

5. Improve water resources planning

Through IWRM planning and management process, followings need to be ensured:

- **Treat surface water and groundwater with the perspective of the whole;**
- **Water allocation should be prepared based on water availability assessment;**
- **Focus on water quantity and quality at the same time.**



8. Project Experiences

5. Improve water resources planning

Through integrated water resources planning and management process, followings need to be ensured:

- Consider broad factors during land and water development process in order to protect people's livelihoods and minimize conflicts;
- Resolve environmental problems and meet relevant requirements carefully;
- Take economic and investment requirements into account.



8. Project Experiences

6. Improve water resources assessment and modeling

Improve water resources assessment methods and modeling capacity and ensure:

- water resources planning can be based on sufficient data and analyses;
- Prepare and optimize plausible scenarios with models to avoid over-allocation.



8. Project Experiences

7. Enhance Water Demand Management

- Prepare demand management plan based on agricultural, industrial and urban water use demand to save more resources;
- Increase public awareness of water saving. Inform public why we need to save water, how to save and how to use the water we saved.



8. Project Experiences

8. Strengthen Administrative and Economic Management

- **Strict implementation of the water permit system;**
- **Strength managements of water use, drainage and groundwater;**
- **Comprehensively use economic tools and social tools to ensure the interests of poor and vulnerable groups.**



8. Project Experiences

9. Conflict Resolution

These conflicts may be between members of the public, between the public and government organizations or between organizations. Introducing the participation of water users can improve information and management systems and reduce the risks of conflicts, which will facilitate resolving conflicts.



9. Conclusions

- **WRDMAP is aligned to the tendency of water resources management reform;**
- **Water resources management has been extended to all areas of social life. It needs to use a global view to solve water related**
- **Although there will be many challenges and obstacles, reform is a necessity;**
- **WRDMAP has achieved great progress in sustainable water resources management and produce lots of outputs, including a series of booklets and films.**
- **Project related information can be obtained from <http://www.wrdmap.org/>**



Thanks



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