Context Paper for Briefing Note Series

In China, competition for water resources is increasing at an alarming rate and, in many areas, demand for water resources is outstripping supply even in years with good rainfall. Increasing levels of water pollution are also a major cause of concern. Reduced access to sufficient safe water resources for domestic and productive purposes is impacting on the livelihoods of, in particular, poorer and more marginalised social groups. Integrated Water Resources Management (IWRM) is perceived by many as part of a long-term solution to the water-related challenges faced by China.

This Briefing Note is the first of a set of thirteen Briefing Notes, and it describes different aspects of IWRM and the more specific experiences of a recent project, namely the Water Sector Development Project (WSDP), that attempted to pilot different approaches to IWRM in four Chinese provinces. The project began in 2001 and was a technical cooperation project between the British Government's Department for International Development (DFID) and the Chinese Ministry of Water Resources (MWR). The project was restructured and has gone on to successfully develop models for participatory approaches to community managed rural water supply schemes. The purpose of the Briefing Notes is to provide a concise introduction to current knowledge and policy on various aspects of IWRM. The Briefing Notes attempt to summarise several lessons learned from the WSDP, and to help disseminate knowledge gained from the project. The Briefing Notes are intended for decision makers and graduates who are working in the water sector who have some knowledge or experience in the subject or discipline related to individual Briefing Notes. Each Briefing Note sets out the general theoretical basis of a topic, compares the WSDP Phase I project experience to the theory, and then gives lessons for similar projects. Experiences from Phase 2 of the project are consolidated into a series of manuals for developing and supporting community-based management of rural water supply schemes.

The specific aim of this Briefing Note is also to provide an introduction to the set of 13 Briefing Notes. The Briefing Notes frequently refer to water policy, although many examples and principles mentioned also apply to implementation and management of sanitation facilities.

A. What is integrated water resource management (IWRM)?

Integrated water resources management (IWRM) can be described as a process which promotes the co-ordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. The IWRM concept is based on principles that include:

- Water should be allocated to its 'most valuable' uses and priced at 'full economic cost', but everyone should be supplied with enough water to meet their 'basic human needs';
- The proper functioning of aquatic eco-systems should be maintained;
- An allocation licensing system should be established with rights of use specified according to sustainable yield and social priority;
- Water abstraction, use and waste disposal should be integrated and the 'polluter pays' principle should be adopted.

B. How can IWRM be implemented?

Implementing an IWRM process is really a matter of getting the three 'IWRM pillars' in place: moving toward an ***enabling environment*** of appropriate policies, strategies and legislation for sustainable water resources development and management; putting in place the ***institutional framework*** through which policies, strategies and legislation can be implemented; and setting up the ***management instruments*** required by these institutions to do their job [1]. The three IWRM pillars are illustrated in Figure 1.

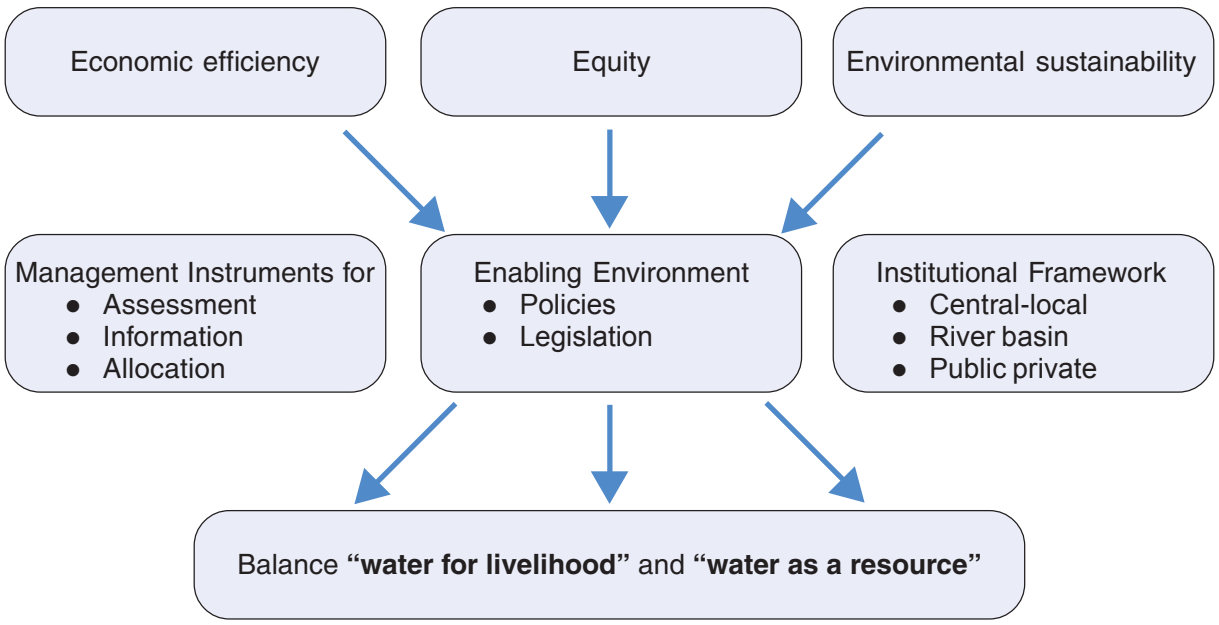

Figure 1: The 'three pillars' of IWRM: enabling environment, institutional framework and management instruments.

C. What was the role of the WSDP?

Although the approach has great appeal, the challenge of implementing IWRM is huge. This is why, in most countries, IWRM is still a goal rather than a reality [2]. Establishment of improved water laws and the IWRM principles that they articulate is obviously an important step. However, implementing new policies and, in particular, gaining compliance with them, is a much bigger challenge than devising them. China has already taken an important step in the direction of implementing IWRM by developing new water-related legislation in 2002. However, there is still much to do. The WSDP was designed in part to contribute to the process of adapting, developing and piloting IWRM practices that are matched to China's geographical, historical, cultural and economic context.

D. What is the current context in China?

China is in the throes of two transitions from a command economy to a market-based one, and from a rural agrarian society to an urban industrial one. So far both transitions have been highly successful. China is the fastest growing economy in the world. Although swift growth and economic structural changes have resolved many problems they have also created new challenges: employment insecurity, growing inequality, persistent poverty, mounting environmental pressures, rising cost of food self-sufficiency, and periods of macro-economic instability stemming from incomplete reforms. Unmet these challenges could undermine the sustainability of growth [3].

In recent years China has recognised the need to develop Integrated Water Resource Management methodologies and to shift the emphasis more towards managing demand. A crucial milestone along this path was reached on 1 October 2002 with the enactment of the revised Water Law in which added emphasis was given to such issues as water resource planning, protection of water resources, water use efficiency and conflict resolution [3]. The Water Law marks a transition from focusing on water resources development towards management. This is a major shift in water governance, which includes institutional and policy arrangements, and the way in which decisions are made.

Water Law

In 2002 the revised Water Law was approved and issued. The Water Law constitutes an enabling environment for integrated water resources management, including:

- management,
- utilization,
- conservation and protection of water resources, and
- development of water resources.

The Water Law covers both surface water and groundwater sources, and both quantity and quality of water. It states that the policy of the Government of China is to move from supply driven management towards increased management of demands. To implement the policies of the Water law is a priority task of the Ministry of Water Resources (MWR). The MWR is putting particular emphasis on strengthening integrated water resources management (IWRM) through more efficient allocation of water, implementing water resources demand management with regulatory and economic instruments, and strengthening water resources protection.

Specific MWR priorities are water allocation (including drought planning), permitting, economic measures and water savings for regulation of demand, and strengthening water resources protection by putting into effect all the related systems and comprehensively implementing the regulatory functions. [4]

E. The relevance of the WSDP to the current situation in China

Water shortage is a major cause of poverty in China, and the Chinese government has made poverty alleviation its top priority for action. Poor people suffer disproportionately from increasingly severe water shortages, especially in western and northern China. An important goal of the Water Sector Development Project was equitable and sustainable use of water resources for poverty reduction in areas experiencing competition for water resources [3].

The WSDP was a single project with two main technical strands: Water Resources Demand Management (WRDM), and Rural Water Supply and Sanitation (RWSS). The areas selected for implementation of both the RWSS and WRDM components of the Water Sector Development Project were where there was a close link between poverty and availability of water resources. Access to water for domestic purposes was becoming increasingly unreliable in these areas, where competition for water for domestic and productive purposes was becoming more intense. Both components of the WSDP were therefore timely and highly relevant.

The relevance of the RWSS component of the WSDP

RWSS project work was undertaken in two provinces, Sichuan and Yunnan, where local government reported that water shortages were the primary factor affecting poverty in rural areas. The Government of China is giving priority to provision of drinking water supplies in rural areas, and to the decentralization of operation and maintenance of water systems. In addition, Ministry of Water Resources (MWR) staff have

expressed commitment to the introduction of a new participatory approach, recognising that participation is important for RWSS schemes to be sustainable. Sanitation and hygiene promotion components of the WSDP also received strong endorsement from all project participants, who are well aware of the benefits of an integrated approach to water supply, hygiene promotion and sanitation provision [5].

The relevance of the WRDM component of the WSDP

The MWR is aware that people in many parts of the country are facing increasingly severe water shortages for domestic and productive use. The MWR believes that the best way to solve or alleviate the problem is to put increasing emphasis on managing water demand.

Introduction of WRDM principles requires changes to institutional structures and decision-making processes. Legislation has prepared the way for the introduction of WRDM, and the WRDM component of the WSDP aimed to help develop subsidiary legislation, including specific policies for implementing the Water Law. The main outputs of this component of the WSDP were the studies and consultative processes that were carried out in Liaoning and Gansu Provinces.

F. WSDP experience

The Water Sector Development Project (WSDP) was both a demonstration and a research project, and has provided some limited experience for the implementation of IWRM policies in China. It aimed to develop relevant implementation policies and practicies for China, and to serve as an example to demonstrate the benefits of these. Stated aims of the WSDP were that access to, and use of, water resources should be ***sustainable***, that there should be a particular focus on ***poor people*** as project beneficiaries, and that effective methodologies should be both ***developed*** and ***disseminated***. In addition, the project emphasised specific outputs, including:

- institutional capacity-building, at national and provincial levels;
- equitable WRDM, tested through case-studies; and
- community-based RWSS models, tested through pilot case-studies.

Project experiences for RWSS and WRDM

The WSDP aimed to demonstrate the benefits of implementing a pro-poor and participatory approach, although conventional procedures for implementing water supply projects were followed in Sichuan and Yunnan, with little community participation. Project implementation was influenced by the urgency given by the Chinese Government to solving rural drinking water problems. This, together with beneficiary expectations, created pressure for construction work to be completed as quickly as possible. Water supply was given greater priority than other aspects of the work, with less attention given to co-ordination of the various other inputs of sanitation, hygiene promotion based on an understanding of social dynamics and analysis.

Activities for the WRDM component of the project concentrated on the promotion of WRDM approaches and methodologies, and planning for case studies. As a result of discussions at project workshops to reach a common understanding of what WRDM entails, the approach outlined in GWP TAC Paper No. 4 was accepted as the framework for project WRDM activities. WRDM was defined as IWRM (as defined in GWP TAC Paper No. 4) with a particular emphasis on Demand Management. This experience informed development of a subsequent project, the Water Resources Demand Management Assistance Project (WRDMAP).

Review of WSDP progress

Major reviews of the WSDP were undertaken in 2002 and 2003, including three audits, looking at Technical, Management and Financial aspects. Following these reviews a decision was taken to restructure the project and to reflect on lessons learned from experience of working on it.

Project progress was less than anticipated for various and complex reasons, which were not the sole responsibility of any individual person or organisation. WSDP was a very ambitious project, with project activities in four different provinces.

Both project components (RWSS and WRDM) were in areas where there was a close link between poverty and availability of water resources, but the two components were geographically and conceptually separate from each other.

G. Lessons for the future

This series of Briefing Notes attempts to summarise a number of useful and cautionary lessons learned from the project.

This series of Briefing Notes is intended to disseminate knowledge gained from the WSDP and thereby to inform debate on IWRM principles. They are intended to provide useful lessons to inform:

- those planning or implementing IWRM projects in China, and
- those implementing future DFID projects in China.

The Briefing Notes do not attempt to be either definitive or comprehensive, but can serve as guides, based on current knowledge, to assist in the development of improved planning and implementation procedures for IWRM projects in China. They provide practical advice, based on experience, for project staff planning and implementing IWRM projects for China. It is hoped that the Briefing Notes will stimulate discussion of various issues, that they will be revised and updated as more experience of IWRM projects in China is acquired, and that experience will be shared freely between IWRM projects in China. Although the Briefing Notes can be read individually to provide guidance on specific topics, the subjects covered should be considered as topics that need to be integrated into IWRM projects, rather than being considered as separate, isolated topics.

This Briefing Note comments on issues that have wider application than to a single Briefing Note, so minimising the need for repetition of material in other Briefing Notes. Cross-cutting issues of this nature, which apply both to IWRM projects and to project implementation in general, include the following:

- Resistance to change. Incremental improvement and flexibility are key to addressing the reluctance of individuals, communities and organisations to accept change. New reforms have to be workable, and need to produce obvious benefits. Changes need to be clearly explained to those involved in the project, as do other project requirements such as the project time-frame. Changes need not be comprehensive and integrated across all areas and sectors, and can be introduced incrementally. System flexibility and responsiveness are critical, as the requirements of the system will change, probably quite quickly, as users respond to the system and become more sophisticated. For example, regulatory instruments to control water use, minimise pollution and improve water management practices cannot be introduced suddenly, but need to be developed over time, starting with existing policy, and gradually developing policies and practices that are appropriate and responsive to cultural and institutional requirements. Similarly, it is necessary to consider current practices, attitudes and the performance of existing facilities. Rather than introduce completely new policies, it is better to use current practice as a basis, and to adapt it when planning new, improved water and sanitation facilities.
- Establishing a clear communication and reporting policy between the client and consultant, so that both parties maintain regular contact with each other, and are kept fully informed of progress, problems, and any decisions affecting the project.
- Ensuring that all staff involved, whether working for the client or consultant, and at all levels from national to local level, share a common vision for the project, and share a common understanding of the project aims and objectives.

- Mentoring of staff. For staff having little or no previous experience of comparable projects, mentoring arrangements would be beneficial, enabling them to seek and receive guidance, and to learn from more experienced colleagues.
- Adopting an integrated project approach. Components of Monitoring and Evaluation, and Social Development, should be fully incorporated at all stages of the project, from the planning stage to project completion. Lessons learned from these and other components should then provide feedback, guiding modifications to policy and practice.
- Including a clear and manageable Inception Phase. This provides an opportunity to assess and review progress, and so that decisions about continuing the project can be made before committing further substantial resources and investment to the project.

References

1 GWP TEC 10 (2004)
2 OECD (2003)
3 WRDM Phase 1 Report.
4 Water Resources Demand Management Project Memorandum. Annex A; Technical Appraisal. (March 2004)
5 Water Sector Development Project, China. Monitoring Report. Alistair Wray, Bill Leathes, Jillian Popkins, Clare Roberts and Peng Yan. DFID, January 2003

The Briefing Note Series

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The Water Sector Development Project (WSDP) attempted to pilot different aspects of IWRM in four Chinese provinces. The project began in 2001 and was a technical cooperation project between the British Government's Department for International Development (DFID) and the Chinese Ministry of Water Resources (MWR).

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Ministry of Water Resources (MWR)

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