IWMI RESEARCH R E P O R T

131

Implementing Integrated River Basin Management:

Lessons from the Red River Basin, Vietnam

François Molle and Chu Thai Hoanh











Research Reports

The publications in this series cover a wide range of subjects—from computer modeling to experience with water user associations—and vary in content from directly applicable research to more basic studies, on which applied work ultimately depends. Some research reports are narrowly focused, analytical and detailed empirical studies; others are wide-ranging and synthetic overviews of generic problems.

Although most of the reports are published by IWMI staff and their collaborators, we welcome contributions from others. Each report is reviewed internally by IWMI staff, and by external reviewers. The reports are published and distributed both in hard copy and electronically (www.iwmi.org) and where possible all data and analyses will be available as separate downloadable files. Reports may be copied freely and cited with due acknowledgment.

About IWMI

IWMI's mission is to improve the management of land and water resources for food, livelihoods and environment. In serving this mission, IWMI concentrates on the integration of policies, technologies and management systems to achieve workable solutions to real problems—practical, relevant results in the field of irrigation and water and land resources.

IWMI Research Report 131

Implementing Integrated River Basin Management: Lessons from the Red River Basin, Vietnam

François Molle and Chu Thai Hoanh

The authors: François Molle is a Principal Researcher at the "Institut de Recherche pour le Développement" (IRD), France, and has been collaborating with the International Water Management Institute (IWMI) during the last ten years. His work focuses on issues of river basin management, water governance and water policies. He is theme leader for water policies in the Mekong Program on Water, Environment and Resilience (www.mpowernet.org/mweb.php?pg=60) and the co-editor of Water Alternatives; and Chu Thai Hoanh is a Principal Researcher at IWMI and is based at the Southeast Asia office in Vientiane, Lao PDR. His work focuses on regional water management and development scenario analysis in the Mekong Basin. He is theme leader for irrigation in the Mekong Program on Water, Environment and Resilience (www.mpowernet.org/mweb.php?pg=60).

Molle, F.; Hoanh, C. T. 2009. *Implementing integrated river basin management: Lessons from the Red River Basin, Vietnam.* Colombo, Sri Lanka: International Water Management Institute. 33p. (IWMI Research Report 131)

/ river basin management / water resource management / development projects / governance / water law / water policy / institutional development / organizational change / Vietnam /

ISSN 1026-0862 ISBN 978-92-9090-708-4

Copyright © 2009, by IWMI. All rights reserved. IWMI encourages the use of its material provided that the organization is acknowledged and kept informed in all such instances.

Cover photograph shows Red River Basin with its delta in North Vietnam (Source: Hole-filled seamless SRTM data V1, 2004, International Centre for Tropical Agriculture (CIAT), available from (gisweb.ciat.cgiar.org/sig/90m_data_tropics.htm).

Please send inquiries and comments to: iwmi@cgiar.org

A free copy of this publication can be downloaded at www.iwmi.org/Publications/IWMI_Research_Reports/index.aspx

Acknowledgements

The authors would like to express their sincere and warm thanks to all the persons that have provided time and information to this study: Colin Steley, Nguyen Chi Cong, Ly Minh Dang, Do Hong Phan, Ha Luong Thuan, Pham Xuan Su, Nguyen Van Sinh, Nguyen Xuan Tiep, Le Van Hoc, Bui Nam Sach, Truong Trong Luat, Thai Gia Khanh, Nguyen Thuy Hang, Nguyen Thi Thu Thuy, Bui Cong Quang, Pham Quoc Hung, Tran Thi Le Anh, Nguyen Minh Son, Ta Quang Toan, Lan Anh, Pham Van Lam and Olivier Gilard.

Project



This paper presents findings from project number 50 titled "Multi-scale Mekong Water Governance: Inter-disciplinary Research to Enhance Participatory Water Governance from Local Watershed to Regional Scales" of the CGIAR Challenge Program on Water and Food (CPWF) which is implemented under the M-Power network.

Partners

The following organizations collaborated in the research conducted for this report:



International Water Management Institute (IWMI), Southeast Asia Regional Office (IWMI-SEA), Vientiane, Lao PDR.



Institut de Recherche pour le Développement" (IRD), Montpellier, France.

Donors

Funding for project number 50 of the CGIAR Challenge Program on Water and Food is provided by the following organizations.



International Fund for Agricultural Development (IFAD), Rome, Italy.

Echel-Eau, Montpellier, France.

Contents

Acronyms and Abbreviations	vi
ntroduction	vii 1
ntegrated Water Resources Management in the Red River Basin: Starting a Process	7
Analysis and Lessons Learned	12
Conclusion and the Way Forward	19
References	23

Acronyms and Abbreviations

2RRBSP Second Red River Basin Sector Project

ADB Asian Development Bank
CSBO Cau Sub-Basin Organization

DARD Department of Agriculture and Rural Development (Provincial level)

DoNRE Department of Natural Resources and Environment (Provincial level)

DSBO Day Sub-Basin Organization

DWR Department of Water Resources, MARD

DWRM Department of Water Resources Management, MoNRE

DWR(HWM) Department of Water Resources and Hydraulic Works Management, MARD ESCAP United Nations Economic and Social Commission for Asia and the Pacific

GWP Global Water Partnership

IWRM Integrated Water Resources Management
IWARP Institute for Water Resources Planning, MARD

LWR Law on Water Resources

MARD Ministry of Agriculture and Rural Development
MoNRE Ministry of Natural Resources and Environment

MOST Ministry of Science and Technology
NEA National Environmental Agency, MOST
NWRC National Water Resources Council
PPC Provincial People's Committee
RBM River Basin Management

River Basin Organization

RBPMB River Basin Planning Management Board

RRBO Red River Basin Organization

RRC Red River Committee

S-RBO Sub-RBO

RBO

ONWRC Office of the National Water Resources Council

VEPA Vietnam Environment Protection Agency

Summary

In the last decade many Southeast Asian countries have remodeled part or all of their water policies. Development banks, notably the Asian Development Bank (ADB), and multilateral cooperation agencies have been guite influential in supporting the adoption of policies and reforms that embody principles held as modern and internationally sanctioned. This includes the drafting of national policy and laws, the creation of 'apex bodies', the establishment of river basin organizations (RBOs), the privatization of public companies, and increased financial contribution from users (e.g., through water pricing and the formation of water user groups). While these principles and reforms provide sound and useful guidelines for national water policies at a certain level of generalization, their confrontation with reality has more often than not yielded disappointing results.

Vietnam has recently adopted several of these policy recommendations. A new Law on Water Resources released in 1998 was followed by the creation of an 'apex body' (the Office of the National Water Resources Council (ONWRC) in 2000), and three RBOs (in 2001), before the Ministry of Natural Resources and Environment (MoNRE) was set up in 2002. Although institutional changes are often gradual, these few years of experience in reforming the water sector offer an opportunity to examine the implementation of these new policy frameworks. The present report focuses on the establishment of the Red River Basin Organization (RRBO), but expands its analysis to the wider transformations of the water sector that impinge on the formation and effectiveness of this organization. A few reflections on the policy process are drawn from this analysis, albeit in a tentative form given the relatively limited period of time considered here.

The report shows that the promotion of IWRM icons such as RBOs by donors has been quite disconnected from the existing institutional framework. In contradiction with IWRM principles, RBOs were established under the Ministry of Agriculture and Rural Development (MARD), with little means and power, while the ONWRC remained dormant. The RRBO was set up on the premise that a RBO was needed, but it was soon found that basin-wide participation was both difficult and unnecessary, with the focus being shifted to lower sub-basin levels.

The report also shows that if policy reforms promoted by donors and development banks have triggered some changes, these changes may have come not as a result of the reforms themselves but, rather, due to the institutional confusion they have created when confronted with the emergence of the MoNRE, which itself was largely destined – at first - to solving land rather than water issues. For the MoNRE, the river basin scale became crucial for grounding its legitimacy and finding its roles among the established layers of the administration, while for MARD, RBOs became a focal point where power over financial resources and political power might potentially be relocated at its expense. Thus, the collision of donor-driven projects to establish RBOs and the conflict between MARD and MoNRE helped strengthen changes in the direction of a better separation of duties and integrated planning. It is too early to assess whether this transition towards a separation of the operation and regulation roles will be sustained, and whether RBOs will be endowed with substantial power. However, institutional change is shown to result from the interaction between endogenous processes and external pressures, in ways that are barely predictable.

Implementing Integrated River Basin Management: Lessons from the Red River Basin, Vietnam

François Molle and Chu Thai Hoanh

Introduction

In the last decade, many southeast Asian countries have remodeled part or all of their water policies. This is due to recurring crises (water shortages, flood damage, pollution, etc.) and also due to global initiatives and networking that have given greater public salience to water issues, and the influence of development banks and cooperation agencies that have been pushing for reforms (Molle 2005). In Asia, principles of Integrated Water Resources Management (IWRM) and river basin management (RBM) have been fostered by several organizations, among others, the ADB, the World Bank, the Global Water Partnership (GWP), and United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and also by regional events (e.g., Southeast Asian water forums) and networks (e.g., Network of Asian River Basin Organizations). The ADB, in particular, has been quite active in supporting the adoption of policies and reforms, from member countries, that embody principles held as modern and internationally sanctioned. This includes the drafting of national policy and laws, the creation of 'apex bodies' (i.e., inter-ministerial councils, supported by permanent offices, that define overall guidelines and policies on water issues) (ADB 2000; Birch 2004; Arriens 2004), the establishment of RBOs, the privatization of public companies, and increased financial and other contributions from users (e.g., through water pricing and the formation of water user groups).

While these principles and reforms provide sound and useful guidelines for national water policies at a certain level of generalization, their

confrontation with reality has frequently yielded disappointing results. Water reforms have been marred by physical, environmental and sociopolitical complexities that had generally not been anticipated (Sampath 1992; Mollinga and Bolding 2004); water pricing reforms have seldom, if ever, achieved the gains anticipated (Dinar and Saleth 2005; Molle and Berkoff 2007); IWRM has gained wide acceptance but has proved hard to operationalize (Biswas 2004; Molle et al. 2007); the promotion of 'apex bodies' and RBOs in Asia has also yielded mixed results (Newborne 2006). Many analysts have discussed and questioned the conditions and the possibility of transfers. For example, the Australian experience to the Mekong River Basin (Chenoweth 1999; Pigram 2001; Malano et al. 1999; Birch et al. 1999), in particular, the possibility to "leapfrog" from one particular situation to a model developed in another country (Shah et al. 2001).

Vietnam has recently adopted several of these policy recommendations. A new Law on Water Resources (LWR 1998), in 1998, was followed by the creation of an 'apex body' (the ONWRC) in 2000, and three RBOs in 2001, before MoNRE was set up in 2002. Although institutional changes are often incremental, these few years of experience in reforming the water sector offer an opportunity to examine the implementation of these new policy frameworks. The present report first provides some information about the water sector in Vietnam, then focuses on the establishment of the RRBO but expands its analysis to the wider transformations of the water sector that impinge on

the formation and effectiveness of this organization. A few reflections on the policy process are drawn

from this analysis, albeit in a tentative form given the relatively limited period of time considered here.

Institutional Change in the Vietnamese Water Sector

The transformations of the Vietnamese water sector have dovetailed with both historical and political events and, more recently, economic reforms. Figure 1 provides a quick bird's-eye view of its main benchmarks during the past 60 years. It is interesting to note that a Red River Committee was established in 1961, under the then Ministry of Water Resources, and that its permanent office later transformed into the Institute for Water Resources Planning and Management. The main current actor in the water sector, MARD, emerged in 1995 with the merging of three ministries: Agriculture-Food Industry, Forestry, and Water Resources.

The Law on Water Resources

Work on the drafting of the Law on Water Resources began after the policy changes (*Doi Moi* – 'reform' in Vietnamese) of 1986 and was supported by the World Bank through the provision of legal experts. As many as 17 drafts were developed before the final version was approved by the National Assembly of Vietnam in April 1998 and enacted on January 1, 1999 (Malano et al. 1999).

The Law does not mention "integrated management" and there are only two occurrences of "Integrated use of the water resource" stated. The principle of managing of water resources by river basin is enshrined in the Law, but not prominently. Article 20 merely states that "The regulation and distribution of water resource for use purposes must be based on the planning of the river basin and the real potential of the water source and must ensure the principle of fairness, reasonability and priority in the quantity and quality of water for living." Article 64 enjoins the

government to make "concrete provisions for the organization and activities of the agency managing the planning of the river basin". State management functions are clearly assigned to MARD, line agencies, and People's Committees of the provinces: Article 58 of Chapter 7 specifies that "The Ministry of Agriculture and Rural Development is answerable to the government for the carrying out of the State management function on water resource".

Two years after the passing of the Law, in June 2000, the National Water Resources Council (NWRC) was established as an apex body that was meant to advise the government on strategies and policies regarding national water resources, major river basin plans and inter-basin water transfers, management of international water sources and resolution of water-related conflicts between ministries and agencies, or ministries and provinces. It was to be chaired by the Vice Prime Minister, assisted by the Minister of MARD, and had 18 members belonging to the various ministries concerned. The ONWRC was established within MARD (under the Department of Water Resources and Hydraulic Works Management) in June 2001 and received its annual budget from this ministry.

One year later, River Basin Planning Management Boards (RBPMB) were created in three major river basins, namely the Mekong (Cuu Long), Dong Nai and Red-Thai Binh, to manage, i.e., to coordinate, river basin **planning** management, pursuant to Article 64 of the Law on Water Resources. The RBPMB were three-tiered RBOs with a governing Board, a managing Office or Secretariat (placed under the Institute for Water Resources Planning (IWARP)), and stakeholders. Their role was only defined later by a decision on their regulation issued in 2004.

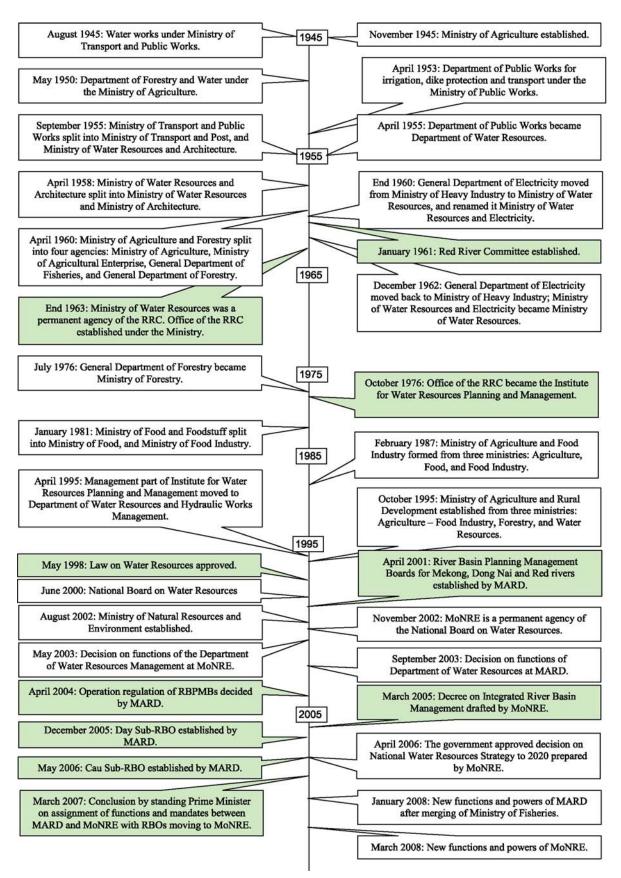


FIGURE 1. Summary of institutional change in the water sector. Note: Boxes with green color relate to RBO activity.

The Advent of the Ministry of Natural Resources and Environment

The creation of MoNRE in August 2002 was an important part of the reforms aimed at 'modernizing' the State, separating public administrative agencies from public service delivery agencies and promoting the separation of regulation/management (handled by MoNRE) from operation or construction (handled by line agencies), that were launched in 2001 (Su et al. 2004; Hydrosult and Arcadis 2005). This created a somewhat odd situation due to the fact that RBOs were being implemented at the same time under the purview of a sectoral ministry (MARD), with the support of donors who had launched the Second Red River Basin Sector Project (2RRBSP) approximately a year prior to the advent of MoNRE. This raises the question of why the MoNRE emerged in a context that it was not, apparently, ready for (in particular, it was not envisioned in the Law on Water Resources and that made it hard to transfer the water resource management functions and responsibilities for RBM - that had just been entrusted to MARD - to MoNRE). Partial answers to this riddle are that MoNRE was established mainly to deal with the pressing issues at the time of integrating land administration and environmental management, especially pollution control, that were beyond the capacity of the former General Department of Land Administration; and that the role of MoNRE in water management was initially not a major concern. On November 11, 2002, Government Decree No. 91 specified the functions, responsibility, authority and the organizational structure of MoNRE as a "government body to exercise the state function of management over the land, water resources, minerals, environment, meteorology, hydrogeography, measuring and mapping in the national scope..." (GoV 2002).

This was followed by the MoNRE Decision No. 600/2003/QD-BTNMT of May 8, 2003 on the functions and responsibilities of the Department of Water Resources Management (DWRM) that readily put MoNRE on a collision course with MARD. The Decision specified that the DWRM was an agency within MoNRE with the "function to assist the Minister in **implementing state**

management of water resources including rainwater, surface water, groundwater, and seawater in river basins, in land and sea territory of the Socialist Republic of Vietnam" (MoNRE 2003; emphasis added). Among other things, the department was made responsible for developing "legal documents, policies, strategies, long-term, five-year, and annual plans, programs, and projects on water resources protection, exploitation, utilization and development."

MARD versus MoNRE: Turf Battle over Roles

Two months after Decision No. 600, in July 2003, Government Decree 86/2003/ND-CP on the "Functions, tasks, powers and organizational structure of the Ministry of Agriculture and Rural Development" confirmed MARD's duty with regard to "state management functions over agriculture, forestry, salt industry, water resources and rural development nationwide" (GoV 2003a; emphasis added). It must submit drafts of laws, ordinances and other legal documents, and also strategies, master plans of development, long-term, five-year term and annual plans, and key programs, projects on the domains being put under its management to the government and Prime Minister.

Perhaps, as a means of repositioning itself within this new administrative environment and bolstering its claim to a management role, the MARD Minister issued a Decision on September 4, 2003 that specified the functions and organization of the Department of Water Resources (DWR), in replacement of the Department of Water Resources and Hydraulic Works Management. Its state management function over water resources in the entire nation included exploration, operation and protection of water resources for hydraulic works, rural water supply and drainage, RBM, protection from waterlogging and drought in the whole country. In response to donors, MARD also designed operational regulations for the RBOs that were placed under its purview (MARD 2004).

With both ministries claiming "state management functions" for water, the confusion and inter-ministerial conflict heightened and led to

several strategic moves. MARD issued a Decision in April 2004 which established a General Office for River Basins Planning Management with the mandate to assist the Director of the DWR in collaborating with ministries, agencies and provincial people's committees (PPC) to implement the functions and responsibilities of the RBPMBs. The structure of the Office provided space for the Director of the DWRM of MoNRE on a seemingly equal footing as the DWR and the IWARP (of MARD). However, the Director of DWRM reportedly shunned the initiative and sent representatives to attend the meetings.

With the confusion created with reference to "State management functions" in both government decrees (Nos. 91/2002 and 86/2003), MARD endeavored to establish semantic distinctions based on its legal role as the host' of RBOs. Since water management had to be carried out at the basin level and since the Law on Water Resources provided for RBOs to be hosted by MARD, all the State functions related to planning and construction, in particular, would be based on basin plans prepared by that Ministry. MoNRE, in turn, would be responsible for state water management at the national level, and not at the river basin level. Presumably its role would be confined to designing national strategies and regulation norms, such as rules to allocate water and pollution standards. It would not be directly involved in basinwide development plans and construction, activities which traditionally drain the largest parts of the state budget. MoNRE's perception, on the other hand, was that "the function of state management of water resources has been handed over from MARD to MoNRE" (Trang 2005; Cong 2007).

Other arguments in this turf battle referred to the respective weaknesses of the two ministries. MARD, on the one hand, was decried as being narrowly focused on irrigation and flood issues, heavily biased towards structural and engineering approaches (Nghia 2004a), and its involvement in regulation issues were contrary to the principle of separation of power between regulation and operation. MoNRE, on the other hand, was held as being technically weak (especially at the provincial level, with its incipient departments: DoNRE), without the competence needed to monitor and

regulate water allocation, water quality, and environmental changes altogether.

At the peak of these debates, in June 2003, a task force including representatives from MARD, MoNRE and several donors published its recommendations to solve the gridlock between the two ministries in a report titled "Transition of Water Resource Management from MARD to MoNRE" (GoV 2003b). Integrated planning (basin master plans) and operational management was left to MARD, with its RBOs and line agencies. Although the report advocated a transfer of the responsibility for supporting RBOs from IWARP to DWRM, the "degree to which a planning capability is built up in MoNRE or whether the IWARP or part of it is transferred" was left unspecified (GoV 2003b).

In late 2004, the government requested MoNRE (in coordination with MARD) to prepare a government decree on RBM (CRDE and IESD 2006) that would, in particular, modify Government Decree 86/2003 and "remove the function of coordinating river basin management of MARD" (Hydrosult and Arcadis 2005). MoNRE, in turn, requested and received support from ADB and DANIDA to draft the decree. In March 2005, the draft of the Decree on "River Basin Management" challenged MARD's "ownership" of management at the basin level (GoV 2005). MoNRE is to lead the appraisal of a ten-year river basin plan (which "sets the broad objectives, policies and priorities on water resources protection, exploitation, development and utilization and protection of water-related environment in the basin"), seek comments from NWRC, and submit final appraisals to the prime minister. The decree also dramatically reshuffled responsibilities by introducing advisory River Basin Councils, shifting decision-power to MoNRE, and limiting MARD to performing actions defined and monitored by MoNRE.

Competing Strategies

In April 2006, MoNRE tried to re-establish ownership of the policy process and published a "National Water Resources Strategy towards the year 2020" (MoNRE 2006), which acknowledges that "The Law on Water Resources... has not been

effectively applied and is now not suitable to deal with new situations." It re-asserts the principles of IWRM, notably the separation of functions (regulation and operation), integrated RBM, licensing of water use and discharge, and the protection, efficient exploitation and sustainable development of water resources. It entrusts MoNRE with the task of establishing "river basin plans and water resources plans for all regions and managing the implementation of the plans" and calls for a review and amendment of the Law on Water Resources.¹

This strategy re-asserts the prime importance of river basin planning and management as a layer of decision-making that both clearly rests with MoNRE and defines the conditions under which operational agencies will have to perform their tasks and duties. This view was, unsurprisingly, not shared by MARD which issued its own Strategy for sustainable national water resources management and development (MARD 2006a). The MARD strategy recapitulates past public investments in water resource development in different regions, the achievements in terms of irrigation, drainage and flood control, the staffing of water services, and reviews all the projected water demand and investment needs for each region. The focus is clearly on the conventional management of supply in order to respond to new and growing needs, including the requirements induced by cities, industries, tourism, aquaculture, salt production, or agricultural diversification, and the necessity to ensure environmental flows (or at least minimum flows to downstream areas). This is what distinguishes the new approach from earlier planning studies that "were mainly implemented to meet development requirements of the agricultural sector" (MARD 2006a). The strategy markedly differs from the strategy of MoNRE and does little to enlarge the scope of MARD beyond its traditional role.

After all, this could be good news. If MARD's role is about structural development and operation of waterworks, why would it conflict with MoNRE, which conceives of management at a higher level, with more consideration to environmental health? Both also agree with the necessity to reason water resource development and management at the basin level. As discussed later, the conflict revolves around the decision-making power on planning, what is to be done or not, and the implications in terms of budget flows within the bureaucracies.

In the face of such recurring contradictions, Standing Prime Minister Nguyen Sinh Hung convened a meeting on March 5, 2007 to hear the opinion of ministers from MARD and MoNRE. The Notice 43/2007/TB-VPCP on the conclusion of that meeting (GoV 2007) confirmed the intention of transferring basin planning to the latter and requested MoNRE to prepare a new draft decree on RBM and modifications of decrees 86/2003/ND-CP and 91/2002/ND-CP.

Internal Tensions within MARD and MoNRE

If the lack of institutional clarity severely affected the two ministries and their relationships, it also impacted the distribution of roles and duties within each of the two ministries. The responsibility for RBM was first entrusted to the IWARP of MARD because of the 1998 Law on Water Resources (see Figure 2). While in 2003 the IWARP, in its capacity as the Office of the RRBO, had been selected as the Implementing Agency (IA) of the orientation phase of the 2RRBSP, the (second) design phase of the project saw the DWR insisting on playing this role, arguing that the IWARP as a (technical) planning institute devoid of state management functions could not play such a role. This move may suggest a desire to keep control of

¹ The strategy also includes conventional orthodox views of a change in "water management from a subsidized, supply-focused approach into a demand-focused approach that recognizes the commercial nature of water service products," emphasizes pricing, cost recovery and even trading of entitlements in a market, but does little to underline the intrinsic necessity of hard choices and trade-offs in water management, sticking to a depoliticized and non-conflicting view of IWRM.

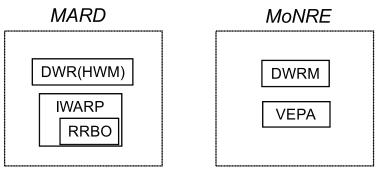


FIGURE 2. Schematic summary of main government organizations involved.

the fringe benefits associated with projects but also a more profound concern for a possible dilution of decision power over infrastructural planning.

This reaffirmation of the power of the DWR had also been paralleled by a claim to relocate RBOs under the DWR. However, since the department's main duty was to manage dams, sluices and pumps – often through the intermediary of semi-independent companies – the justification for such a move would be quite weak and would overtly come into conflict with the principle of separation of duties.

MoNRE was also affected by the unclear definition of the mandates of its different departments. Because it was mainly created from an aggregation of various departments and agencies of existing ministries and agencies, water quality fell under the responsibility of both the DWRM and the Vietnam Environment Protection Agency (VEPA). However, the conflict between these two departments has been limited, possibly because the functions of both departments have not been fully implemented yet.

Integrated Water Resources Management in the Red River Basin: Starting a Process

The First Red River Basin Organization

The Red River is the second largest river in Vietnam. It is an international river that originates in China and traverses Vietnam before emptying into the East Sea. Administratively, the Red River Basin covers or overlaps 26 provinces and its population totals 28 million (in 2002), including Hanoi, the capital city. It supports a large irrigated area (650,000 hectares (ha), mostly in the delta) and is subject to recurrent problems of flooding.

Not surprisingly, the basin was given priority in the process of establishing RBOs in the country.

During the final phase of the passing of the new Law on Water Resources,² the ADB approached the Vietnamese Government and proposed a three-year (1998-2000) TA (Technical Assistance) titled "Red River Basin Water Resource Management Project" which, according to Wright (1999), would "assist the government to establish a 'river basin commission' for the Red River Basin, to manage the planning of water resource

² According to Wright (1999) "The government has requested the Asian Development Bank to provide support for improving water resources management in the Red River Basin, in view of its importance to the national economy."

management and facilitate improved stakeholder involvement and agency coordination in the process". Other goals included improved coordination between provinces, capacity building, the establishment of the Red River Basin Resources Data Directory, and the writing of a "basin profile". Re-affirming that the strong "legal backing" of the law sets the stage for RBM, the TA tried to set things in motion.

On April 9, 2001, the MARD created the Red-Thai Binh River Basin Planning Management Board (more simply RRBO). In the same year, another ADB TA (3528-VIE) was started and dedicated to capacity building for water resource management including three sub-projects, the first of which was meant to build the capacity of the NWRC and the incipient RBOs through study tours, awareness raising workshops, assistance in drafting official documents, and by "carrying out activities to expose key people to the meaning and benefits of IWRM" (ADB 2001b).

Although MARD had agreed to the establishment of the NWRC and the RBOs, which remained under its full control, its lack of interest was manifest. After a few initial meetings in 2000, the NWRC did not meet for nearly two years. The lack of funding, office facilities, and operational guidelines for the RRBO, were held as the main constraints to proper data management and communication, and to field investigations of the current status of the basin (Nghia 2004b).

In 2001, another TA (the 2RRBSP) funded by the ADB and the Governments of the Netherlands and France was signed but its inception workshop was only held two years later, in October 2003. Seven percent of this US\$156 million project was targeted for capacity building for the RRBO, public awareness, and a pilot water licensing and wastewater discharge permit system (in the Cau River). Although the 2RRBSP was initially designed as a two-phase project (design and implementation) it was decided to start with an initial orientation phase that would clarify the issues at stake and their perception by, and level of priority for, stakeholders in the basin's provinces (Shearwater 2003). During the second half of 2003, the Office of the RRBO organized 25 workshops involving key staff from water relevant sectors and decisionmakers from the 26 provinces intersecting the Red River Basin. Three top priority issues with regard to water resource management in the entire Red River Basin emerged from these workshops: 1) irrigated agriculture; 2) water supply and sanitation combined with pollution; and 3) flood control together with reforestation and protection (Nghia 2004a).

The operation regulation of the first three RBOs (including the RRBO) was specified by a ministerial decision in April 2004 (MARD 2004). The role of the RBOs is unambiguously to serve as technical coordinating and advisory bodies to MARD, "assessing planning alternatives, basic investigation projects, inventory and assessment of water resources in the river basin; [and] submitting follow-up recommendations and proposals to MARD and authorized state agencies."- Other missions include data exchange and management, coordination with other ministries and agencies, capacity building, and awareness raising. RBOs are to meet twice a year, and are chaired by a Vice Minister of MARD, assisted by the General Director of the DWR and a department level leader of MoNRE. Members include leaders of PPCs from provinces located in the basin, leaders of DWR, IWARP, DWRM, and other water-related departments from other ministries as well as their provincial affiliates.

Phase I of the 2RRBSP served as a screening process which made it clear that the 25 provinces have a few issues in common (aside from those already taken care of, such as flood or dam operations) and that IWRM should be implemented to tackle actual problems at a lower scale. It was also hoped that the institutional conflict around the role of RBOs would be minimized when moving to a lower scale where agreements and arrangements among smaller groups would perhaps be easier. The Cau and the Day River sub-basins emerged as strong candidates for pilot testing RBM. In October 2004, phase II of the project started with five different components, addressing: IWRM in the Cau River Sub-basin, strategic flood management in the Red River Delta, IWRM at sub-basin level in selected upland provinces, IWRM in the Day-Nhue River Sub-basin (focused on water quality issues), and support to the Office of the RRBO (2RRBSP 2006).

The Cau Sub-RBO

As early as 1997, and, therefore, long before talks about RBOs began, the six provinces traversed by the Cau River (Figure 3) decided to jointly tackle the issue of water pollution in the basin. It resulted in the formulation of a Master plan on Environmental and Landscape Protection and the government subsequently gave the green light to

the creation of a Cau River Committee chaired by the PPC's chairmen. This initiative was undertaken by the then provincial departments of the Ministry of Science and Technology, under the Environment Programme, but did not catch the interest of the RRBO when this was later established (CRDE and IESD 2006).

In May 2006, MARD established the Cau Sub-Basin Organization (CSBO) as an advisory body



FIGURE 3. Location of six provinces in the Cau River Basin. Source: 2RRBSP (2006).

under direct control of the RRBO chaired by MARD. The CSBO is to be chaired permanently by the vice-chairmen of the Thai Nguyen PPC. In September 2006, the RRBO issued Decision No. 7 that defined the "Organization and Working Regulation for the Cau River Sub-basin Organization". The CSBO, located within the DARD, appears to be a mere appendix of the RRBO, with the main task of advising the RRBO in water resource assessments, planning options, monitoring of implementation, and definition of priorities (MARD 2006b). This Decision was passed rather hastily, so that phase III of the 2RRBSP would not be delayed further, and involved limited deliberation on the degree of autonomy of the CSBO and its relationship with line agencies.

As mentioned above, the Cau River Basin was selected because it presented a "real IWRM challenge" (ADB 2006) identified during the initial stages of phase II of the 2RRBSP. These challenges include water scarcity shared among the four lower provinces and conflicts in allocating the water of the Nui Coc Reservoir, which is used for a) irrigation, b) supplying water to Thai Nguyen City, c) diluting pollution in the Cau River, and d) supporting recreational and tourist uses in the reservoir itself. The project, thus, included several components that looked at varied issues such as water balance, storage potential, irrigation performance in the Song Cau system, aquaculture potential and crop diversification.

However conventional they may appear, these issues proved to be more intractable than expected and studies were hindered by the lack of data on water flows and land use, and the limited time and means available to carry out extensive fieldwork. Pollution issues were also not fully captured because of patchy data and an inadequate regulation framework. The polluter-pays principle enshrined in the Law on Water Resources clearly appeared insufficient to solve the problems, not only because of confusion over standard definitions and with monitoring but also due to inadequate enforcement capacity. Most polluting factories in the area are State enterprises, allegedly old and inefficient, which would be bankrupt overnight if they had to treat their effluents. This contributes to explaining why the effective definition and implementation of allocation rules, water quality monitoring, improvement of irrigation management or reservoir operation were left to phase III of the project which is due to start in early 2007.

The objectives of the Cau River component of phase III of the 2RRBSP included technical issues and governance (Shearwater 2007): Assess pollution emissions and associated environmental health impacts/risks; provide assessment of options; facilitate informed inclusive decisionmaking; support implementation by PPCs of agreed IWRM activities; assist in the periodic review of the mandate and structure of the CSBO; and help build its capacity. So far, the CSBO is heavily dominated by the Thai Nguyen Province and this might prove to be a weakness for solving inter-provincial issues. The strong subordination of the CSBO to the central level of MARD, through the RRBO, is also likely to annihilate any sense of ownership by the provinces concerned. While ADB's TA sees the active participation of the CSBO and other stakeholders in the sub-basin as essential in the resolution of problems, it is not clear who is going to participate and how.

Other issues are linked to the conflict in duties at the ministerial level. With the establishment of the CSBO, the existing Environmental Committee, for example, should ideally merge with the CSBO and incorporate its environmental master plan with the general plan for the basin in the future. This has not happened but the CSBO should include three staff from provincial DoNRE for environmental issues, two from DARD for irrigation and one with a NGO background for participatory irrigation policies. The Cau River Basin does face problems of water allocation, pollution control and interprovincial coordination. Whether these problems call for a Sub-RBO (S-RBO) with a permanent role or not is unsure. The fact that provinces have not been able to solve coordination problems in the past might indicate a need for some kind of intervention by the central government, at least to enable, and assist in, resolution mechanisms. But such an intervention may also meet with the passivity of provinces that feel subjected to central power.

The Day Sub-RBO

In 2003, following the example of the Cau River, the six chairmen of the PPCs concerned with the Day River met in an attempt to solve water quality and environmental problems in the basin. The Day River branches off the Red River upstream of Hanoi capital, although this natural connection was later sealed, transforming the river into the receptacle of Hanoi's main drain, the Nhue River (Figure 4). The Nhue and the Day rivers are, thus, the most polluted waterways in Northern Vietnam. Domestic and industrial pollution combines with agrochemicals used in agriculture. One of the polders traversed by these rivers (the Bac Nam Ha polder) is also subject to water shortages during the winter-spring crop season. A gate is, therefore, under construction at the head of the river in order to allow approximately 30-40 cubic meters per second (m³/s) of water to be transferred from the Red River into the Day River.

Planning and Investment of the provinces, DARD, DoNRE, Department of Science and Technology, etc., totaling 60 persons. The regulation for the DSBO was approved in September 2006.

A legitimate question is, what is the added value of the DSBO, compared with the earlier interprovincial committee? Is there a need to create new and permanent offices or would a more informal mechanism be sufficient? Officers in the DSBO reported several advantages of the new setting: First, the DSBO is officially recognized and carries more weight when requesting interventions such as the opening of the head reach of the Day River. Second, it allows coordination of actions and decisions. For example, the ban on floating vegetables (which obstructs the flow of water) in one province would be circumvented by people growing them in other provinces, if the interdiction was not taken jointly. Third, the DSBO offers better opportunities for officers from each province to be aware of what the other provinces plan in terms of

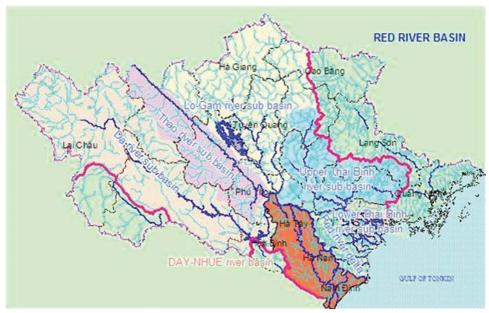


FIGURE 4. Location of the Day River Basin. Source: 2RRBSP (2006).

The Day Sub-Basin Organization (DSBO) was officially set up in December 2005. As with the CSBO, the chair is rotated (every two years) among the chairs/vice-chairs of the six PPCs concerned. Members include the Department of

water management structures (e.g., gates or flood control structures) and, thus, to anticipate and flag possible impacts on their own province.

The DSBO also illustrates the limited power of provincial offices vis-à-vis the central ministries.

Since the Bac Nam Ha polder overlaps with several provinces, the Bac Nam Ha Irrigation Company comes under the direct jurisdiction of MARD. Local provincial officers resent the lack of decision power that prevents them from defining their own priorities. Yet, at the moment, the actions proposed by the DSBO for 2007 look more like a wish list and still carry little weight; and rules for decision-making and joint deliberation are yet to be defined.

The main problem for the river continues to be pollution caused mainly by Hanoi. Obviously, the improvement of water disposal and treatment in the capital depends on the establishment of regulations and their enforcement but, more crucially, on the financial resources that the state decides to devote to solving the problem (building treatment stations, upgrading obsolete industrial units, etc.). Although the DSBO may contribute to stressing the urgency of such actions, its clout is probably marginal at the moment. It is, thus, a legitimate question to ask whether water quality management demands an integrated inter-sectoral approach requiring the formation of a permanent S-RBO or if it is primarily a question of investment in treatment facilities around the Hanoi capital (and the decision to mobilize huge public funds to tackle water pollution problems).

Who Wants RBOs? Reformulating the Project

With all these plans for phase III under discussion, the project suddenly took an abrupt change of direction. The ADB and the Embassy of the Netherlands cancelled two of the four components planned for component A of the project. The Cau component was cancelled because of MARD's delay in defining an operating budget and appointing staff for the CSBO, lack of demand by provinces, and lasting confusion on whether responsibility for integrated RBM would eventually rest with MARD or MoNRE. The Day component is going to be carried out by MoNRE, independently of the DSBO and chaired by MARD which, again, stands in total contradiction with the idea of IWRM, as expressed by RBOs.

On 24 May 2007, the Office of the Government informed that the issue of transferring responsibilities from MARD to MoNRE would only be resolved as part of a wider process of reducing the number of ministries and rationalizing their mandates/functions. At the same time, the Ministry of Finance recommended abolition of irrigation service fees, signaling that major policy shifts might be on the way.

Analysis and Lessons Learned

The RRBO: A Blueprint or an Endogenous Solution?

The earlier chronology of reforms and ADB TAs showed that the relevance of RBOs in general,³ and of the RRBO in particular, was largely un-questioned and allegedly anchored in provisions of the Law on Water Resources: Beyond capacity building for the RRBO and public awareness and education programs for water resource

management, the project's pilot water licensing and wastewater discharge permit systems would demonstrate the benefits of IWRM. Project consultants found themselves in a situation where the RRBO would have to be trained without having first asserted its legitimacy with regard to the ministries concerned and to the provinces. They were also unsure of what the main issues were that the RRBO would have to address, aside from water quality in the Cau and Day rivers. As mentioned

³ "RBOs need to be formed in major river basins" (ADB 2001a).

earlier, a first and quite successful Diagnostic and Orientation phase allowed to scope out what the perceptions of line agencies and provincial representatives were regarding water challenges in the Red River Basin.

Phase I of the project found that the Red River Basin is not short of water and "demonstrated that basin-wide participation is both difficult and unnecessary as the 26 provinces and 25 million people do not share common IWRM challenges" (Shearwater 2005). This timely realization helped put the project on a new track and the focus shifted from conventional basin master planning to "doing a few important water management things well," and from the whole river basin to the subbasin level. At this stage, the risk arose that IWRM might appear as a solution looking for a problem and ADB expressed its concern that the participants of the initial phase "hadn't identified a 'real' IWRM issue" (Shearwater 2005). The issue of allocation of water from the Nui Coc Reservoir was singled out as an IWRM challenge that combined issues of water quality and allocation, and concerned two or three provinces.

This reformulation of the project raises some more general questions on the nature of the policy process. It suggests that the weight of external actors in this process, particularly development banks and bilateral cooperation agencies, is quite significant, prompting two different questions: 1) are the concepts put forward, proposed or sometimes imposed, relevant to the problems experienced in Vietnam? and 2) if these concepts are sound, is their introduction timely and consistent with the actual bureaucratic and political configuration in the country?

It is apparent that many of the driving concepts pushed forward heavily draw on "best practices" supposedly sanctioned at the international level. RBM, for example, is introduced as "an internationally accepted approach providing the required levels of stakeholder involvement in water resource management decisions, and coordination across the many government agencies with responsibilities and functions in the water sector in a large river basin" (Wright 1999). Similarly, there is intense and repeated borrowing from overarching consensual concepts like sustainable development, IWRM, or participatory management that tend to sound hollow when decontextualized. The Law on Water Resources, for example, although it was soon to appear to be obsolete4 in the wake of the establishment of MoNRE and RBOs, was presented as providing "a modern, dynamic, and realistic legal framework in accordance with current international principles" (MARD and DANIDA 2000). This discourse percolated into national policy documents⁵ but often sounded more like a rhetorical concession rather than a reflection of a change in mind-sets.6 Although there are incentives for national decisionmakers, as well as for international consultants,7 to rely heavily on these general concepts, they run the risk of generating proposals that will later - if implemented - find themselves at odds with reality. The nature of short-term projects and TAs, with rigid - and frequently unrealistic - time frames and disbursement schedules, also contributes to creating such situations. For example, the initial drive to distil principles of IWRM and RBM for the Red River foundered on its later confrontation with reality, with a shift towards sub-basin issues.

⁴ MoNRE (2006) admitted that "the Law on Water Resources has not really penetrated into our lives, has not been effectively applied and is now not suitable to deal with new situations."

⁵ For example, the National Water Resources Council website states that "The Law on Water Resources has reflected almost worldwide concepts and principles on integrated water resources management" (NWRC 2007).

⁶ Integrated use of the water resource is mentioned only twice in the 1998 Law on Water Resources and is defined as "making rational use of, and developing the potential of, a water source and limiting the negative effect of water for integrated service of many purposes." IWRM is now said to be the topmost priority of MARD (Su et al. 2004).

⁷ National decision-makers understand that a degree of acceptance of these concepts (irrespective of whether they believe in them) is the oil that lubricates relationships with donors and the international level; experts and consultants, who often have very little time to do project feasibility studies, also ground a part of their legitimacy in the manipulation of these concepts whose hegemonic nature provides a degree of protection against criticism, unless or until completely discredited.

It may also be the case that concepts are applied or proposed in an untimely fashion. Management regimes require bureaucratic configurations, legal frameworks and governance patterns that are consistent with these regimes. Pushing for a particular regime when these conditions are not met may just be wishful thinking with little chance of success. The first Red River Basin Water Resource Management Project was planned to assist the government in establishing a "river basin commission" for the Red River Basin to manage the planning of water resource management and facilitate improved stakeholder involvement and agency coordination in the process" (Wright 1999). These intentions, with hindsight, conflict with the fact that the RRBO was to be set up under the control of MARD and basin planning, notably water infrastructure development, would remain its prerogative. In that sense, the institutional setting was not suitable, and probably adverse, to the implementation of IWRM principles, in general, and RBOs, in particular. This contradiction, that was to be made explicit later by the creation of MoNRE and by its very claim to a division of roles and responsibilities, was also painfully clear to consultants of the Red River Basin Water Resource Management Project (see for example, Taylor and Wright 2001). Yet, such evidence did not warrant an early reconsideration or a revision of the project.

A similar disjuncture between intended goals and reality was apparent in DANIDA's 2000-2005 program aimed at supporting the implementation of the Law on Water Resources. The program stated that the Law "provides a modern, dynamic, and realistic legal framework... [and] defines new responsibilities and functions which have potential to bring water resource management in Vietnam in line with proven international principles and practices" (MARD and DANIDA 2000). Yet, the same document reports that much concern has been raised over the dual role of MARD as both custodian of national resources and providers of services (irrigation, drainage, flood control, etc.). Such undesirable contradictions, although wellrecognized by consultants, dictated compromise and half-way solutions. Other analysts also note that officials have only had a few opportunities to discuss or learn about new concepts and this has "created unnecessary disputes" (CRDE and IESD 2006).

Vertical and Sectoral Integration

Core aspects of IWRM include integration of water management, the coordination of actions, but also the distribution of decision-making power, across:

- the legislative power, represented by the National Assembly at the central level and the People's Councils at lower (province or city equivalent to province, district and commune) levels;
- the executive power exercised by the central government and three nested parallel levels of PPCs at province (or city), district and commune levels that are elected by the corresponding Councils; and
- the ministries and line agencies at the central government level, with their representative departments at the province and district, or sometimes, communal levels, that are administratively under the PPCs.

These nested levels must be integrated vertically but also horizontally: for example, provinces need to collaborate to tackle the issues they have in common; while within the same province (just as at the ministerial level) line agencies must also harmonize their actions.

With specific problems identified at the subbasin level, institutional concerns shifted to establishing S-RBOs and defining their role and position vis-à-vis the Red River parent organization. The role of the RRBO itself, for lack of major issues that would justify its existence, was redefined as one of supporting S-RBOs, since it also became clear that these new organizations would not have the technical capacity to address inter-provincial issues; the position of MoNRE, in particular, appeared to be very weak because it could only count with a recently established DoNRE, unqualified staff, and no data collection network that could give an idea of what the situation was.

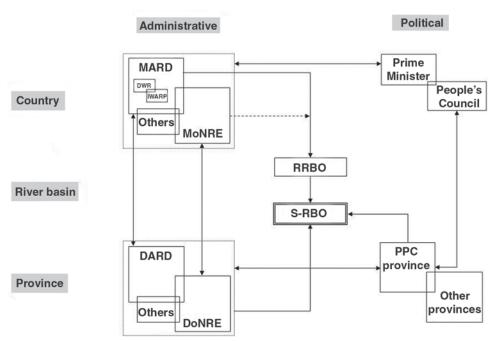


FIGURE 5. Articulation of governance levels in the Red River Basin.

Under present arrangements, the S-RBO is, therefore, subject to several lines of control and accountability, as sketched out in Figure 5. The S-RBO is first strongly under the control of MARD, because it is an appendix of the RRBO, and also because of the central contribution of DARD to its staff. But it is also partly controlled by PPCs, first, because they chair it, and, second, because the heads of the provincial departments that staff it are reputed to be more accountable to their provincial leaders than to their ministries.

The role of the S-RBO remains advisory but it clearly created a space in the governance structure which could offer opportunities for shifts in the distribution of power. At the moment, both the MARD and the provinces are somehow worried about the possible emergence of an intermediate level of decision-making; MARD is concerned by a dilution of its power to plan infrastructural development, while provinces are concerned by the transfer of powers from the provinces to an interprovincial body with discretionary and overriding power (CRDE and IESD 2006).

It may well be that the current status quo includes a tacit shared preference for keeping S-RBOs with limited power. Yet, as it stands, the S-RBO also constitutes a window of opportunity for provinces to assert a larger independence from the

central government. In that, they may benefit from the dynamics of the 2RRBSP which tends to promote the ownership of the S-RBO by the provinces. This application of the principle of subsidiarity (RBOs should be governed by their own constituents), however, may not entirely fit the prevailing situation. Although provinces have state management functions within their boundaries, it is clear that such a definition is unsatisfactory because many interventions in the water cycle do have an impact on downstream or other areas. Problems that clearly travel across provinces are supposed to be handled by MARD or by other relevant ministries. It is not clear whether this way of internalizing externalities, by going one level up to the ministry, should be replaced by resorting to a S-RBO at an intermediate level. If so, the responsibilities of the S-RBO have to be defined and there is potential for replicating at that level the infighting that is currently occurring at the ministerial level. The benefits of such a move are also not very clear for the provinces themselves. First, they are aware of their limited technical capacity but they may also be concerned with the access to central government subsidies since at present most inter-provincial issues are, generally, not only taken care of - but also funded - at the national level.

The eventual cancellation of the Cau S-RBO sub-component of the 2RRBSP may thus be a reflection of the fact that without clear redistribution of bureaucratic power and responsibilities the status quo is the option that is likely to prevail. RBOs might be accepted – or tolerated – as long as they are associated with TAs, projects and benefits from external funding, and as long as they are kept under the control of MARD; but their durability is dubious as soon as this support wanes.

Separation of Power ... Without Power Shift

It has become a standard policy recommendation of "modern water management arrangements" to separate the roles of water resources manager and operators as much as possible, so that powerful line agencies in charge of hydropower or irrigation, to name the most obvious, do not pursue sectoral (over)development, with little consideration for economic soundness or social/environmental impacts. (Wright 1999; Millington 2000; Arriens 2004). While the manager ensures regulation of the water sector (by setting standards, allocating and monitoring water use, establishing environmental protection rules, coordinating planning, etc.), the operator takes care of structures or reservoirs according to the rules set. The regulation functions are best decentralized to the river basin level and encapsulated in a RBO. Above these two levels, apex bodies, in the form of inter-ministerial councils that meet two or three times a year, are also expected to give overall policy guidance and review adequate legislations.

When the regulation and operating roles are held by the same ministry (MARD) separating these roles means that substantial decision-making power will have to be shifted from that ministry to the (new) regulating body (MoNRE, in the present case). Therefore, such a shift requires the new distribution of roles and duties to be reflected in new legislation (formal level) but also to buildup a regulator endowed with sufficient human power and technical expertise (practical level). Designing new formal rules without simultaneously

reshaping the distribution of power that underlies prior institutional arrangements is unlikely to be effective (Evans 2004).

The wording of the decisions on RBOs has, therefore, been the object of much scrutiny and debate, both "within the bureaucracy and among associated experts in Vietnam" (Taylor and Wright 2001). At the time the profile of the RRBO was being outlined, it was clear, in particular, that the RRBO should be a coordinating agency "which could not adopt any state management power or function". If it did, this would conflict with the powers of the MARD and other agencies. It is safe to assume that MARD accepted the idea of setting RBOs after making sure that it would not threaten its established role and that it would be confined to a coordinating role. Since MoNRE had not been created at the time of establishing the first three RBPMBs in 2001, these were set up under MARD.

The challenge only emerged with the setting up of MoNRE, which claimed the river basin level as the scale where it should exercise its state management function. The contradiction between the very role of MoNRE and its lack of power over RBM is obvious, as stressed in the preceding section.

If we compare official mandates, strategies, work plans and actual activities of MARD and MoNRE, especially in their claim to manage water at the basin level, it is clear that the overlapping is limited to a few issues. The core of the conflict is eventually quite circumscribed and lies with planning.

Who Holds the Rubber Stamp?

It is apparent from MARD's documents that its main concern remains focused on structural issues, on matching demand and supply, and on flood control and mitigation. MARD remains very much engineering-oriented and one may wonder why it would strive to control regulatory issues such as the allocation of permits, the definition of dam rule curves, pollution standards and control of effluents, or the identification and protection of wetlands and other fragile ecosystems, even if carried out at the basin level.

Analysis of various documents and interviews with officials suggest that the Gordian knot lies with planning, taken in the old sense of identifying structural interventions that will allow the increased use of water or a better protection from floods and droughts. In continuous planning, and subsequent construction activities, lies the professional gratification of planners and technicians and resides the assurance of sustained budgets. Sustained budgets, especially in a context where both design and construction work are increasingly outsourced, open the way for people with decision-making power to benefit from investment flows. With structural investments constituting 64% of the MARD's budget, the stakes are high since realignment of decisional power necessarily entails a redistribution of benefits. In 2006, the total budget of MARD was US\$200 million of which US\$126 million was allocated to investment for development.

Since RBOs are potentially endowed with the power to draw basin plans and, possibly, to screen these plans before final approval, it is not surprising to observe a dual strategy of a) maintaining RBOs as symbolic advisory bodies with reduced autonomous technical capacity; and b) controlling RBOs in case their screening power would be strengthened. Furthermore, since RBOs are largely promoted by foreign partners and are, thus, likely to be associated with the future delivery of loans and projects, they may also 'attract' more investments, which makes their control even more desirable. In other words, the legitimacy of RBOs as 'registration chambers' for projects - rubberstamped with the seal of IWRM - can be attractive for the departments traditionally involved in structural interventions.

While Decree 91/2002/ND-CP, that established MoNRE as the manager of water resources, did not address the crucial point of infrastructural planning, the 2005 draft Decree on Integrated River Basin Management (see section, *MARD versus MoNRE: Turf Battle over Roles*, above) included

"development and implementation of the river basin plans" and entrusted it to MoNRE (GoV 2005).⁸ This may help explain why the decree remained in a draft form.

A Narrow Definition of Participation

Emphasis on participation has become a major feature of development projects, in general, and of ADB's policy, in particular (ADB 2000; Molle 2005). Since the early involvement of foreign and multilateral donors, particularly in Northern Vietnam, participatory approaches have been central to water projects. In 1999, for example, Wright (1999) announced that "a major feature of the proposed RRBO is that it will provide a forum for all major stakeholders to discuss, negotiate and agree upon recommendations for planning decisions to be submitted to the government... irrigators will have an increased say in planning decisions which impact on their sub-sector". IWRM, too, is supposed to incorporate a healthy dose of participation from stakeholders. The concept is based on "an expectation that interested groups and organizations will coordinate and participate directly as far as possible" (Taylor and Wright 2001).

The Law on Water Resources, however, is parsimonious with regard to participation (Molle 2005). It contains 71 occurrences of "State," 49 occurrences of "Government," but none of "participation" or "participatory." This can, perhaps, be attributed to the particular conception that people are effectively represented by local people's committees and other official organizations. Although it may appear as a way to sideline civil society, such a conception is also genuinely ingrained in local political discourse and culture; in that sense, participation strangely resonates with socialist ideology and the notion of "civil society" may seem redundant. It is abundantly clear from official documents that the statement: "involvement

⁸ It is worth noting that in a properly set up regulatory and oversight body, the need for implementation should not arise with respect to that body. One of the intentions of a split responsibility model is precisely to constrain un-warranted investment and infrastructure development through rational planning and allocation of resources.

of stakeholders is important for integrated water resources management" (Lai 2002), refers to the involvement of all ministries and provinces concerned.

Likewise, ADB's consultants continue to put emphasis on participation (Sach 2004) and to use the term 'stakeholder', while (implicitly) understanding it as the people's committees, at the provincial level and below. Their main hope is to support a process whereby local stakeholders (mostly provincial authorities) would contribute to the elaboration of priority issues in IWRM, to identify and assess a wide range of options to address these issues, and to select preferred options for IWRM (Shearwater, 2004).

Regarding non-governmental organizations (NGOs), Taylor and Wright (2001) reckon that there are a few groups in Vietnam that could easily participate in a consultative role and, although NGOs do exist, they "would not be considered eligible to take a formal role in an RBO". In August 2003, the ADB wrote to MARD requesting advice regarding an appropriate mechanism for involving NGOs in IWRM under Part A (Shearwater 2004). MARD agreed to consider a proposal for NGO involvement but it seems that this did not arouse particular interest from the NGO Resource Center or from individual NGOs. Thus, whether out of lack of interest, preparedness or political space, NGOs are marginally represented, if at all, and participation - although ubiquitous at a rhetorical level - remains a concept that applies to the relative contributions and distribution of decisionmaking power between administrative levels.

The Power of Words

Words, and their meanings, are resources in policy debates. General, ill-defined, or terms with more than one meaning may be appropriated and used strategically by different parties. Translations, in the present case between English and Vietnamese, also offer some opportunity for hijacking terms as well as being a fertile ground for confusion.

In the past, many Vietnamese as well as government authorities considered the words thuy

loi, derived from a Chinese term for water resources, as equivalent to irrigation (or thuy nong in Vietnamese, i.e., water use for agriculture). This was partly due to irrigation being the most important water use in Vietnam. Since the early 1990s MARD stressed that thuy loi should be translated as water resources, not irrigation, as a means of bolstering its legitimacy for water resource management. MoNRE, consequently, avoids using the term thuy loi and prefers tai nguyen nuoc, a more literal term introduced by the Law on Water Resources to designate water resources (CRDE and IESD 2006).

Another important semantic feature is the term used for 'organization' when talking of RBOs. The Law on Water Resources first talked of "agencies managing the planning of the river basin". Agency (co quan in Vietnamese), is a general term for government bodies or offices, except in a few special cases such as the National Environmental Agency (NEA) or VEPA. The use of a general term, thus, left the RBOs rather unspecified. The first three RBOs were subsequently referred to as River Basin Planning Management Boards (RBPMB), when they were established in 2001. Boards or councils (hoi dong in Vietnamese) usually make or orient decisions for specific functions but do not implement these decisions. The RBPMB were, thus, meant to be advisory and only take general decisions. In 2004, the boards in the basin started to be called 'RBOs'. 'Organization' is generally translated as to chuc, when used for independent associations such as NGOs, but in the case of the RBO it is translated as ban and is meant to implement certain functions or actions decided by a committee or boards. It signals that RBOs are now construed as more than boards or committees.

Translations from and to English also offer opportunities for confusion, whether that is used intentionally or not. Donors and consultants constantly made the point that RBOs were enshrined in the Law despite evidence that their conception of such organizations was quite distinct from that which had been defined. Some words are also ambiguous: the English term 'management' may apply to an irrigation canal, a dam, or an organization. Recently, the term has

been used as an equivalent of 'regulation'; the water manager establishes the rules, may monitor their application, and has the final say on planning options, while day-to-day 'management' comes under the word 'operation'. A similar multimeaning word in Vietnamese is *quan ly*. It applies to dam operation and supervision as well as to

regulation and the legal framework setting and is part of the translation of 'state management function'. It also applies in 'management of planning' (quan ly quy hoach) (supervision of the execution in terms of activities, funding, etc.), which is an unclear function linking management and planning (quy hoach).

Conclusion and the Way Forward

Water management problems at the basin level are not new in the Red River Basin. As early as 1961, a committee, the Hong (Red) River Committee was formed to address issues of basin planning, floods, and dam management. At that time, flood control, either by dike or reservoirs, was the most important objective. The office of the Committee was placed under the then Ministry of Water Resources with members from various ministries and is considered to have been quite effective (CRDE and IESD 2006). In contrast, the establishment of the RRBO in 2001 owed a lot to development banks and cooperation agencies who promoted apex bodies, IWRM and RBOs. Due to the lack of other acceptable options, but somewhat inconsistently and in contradiction with its mandate, the RRBO was set up under MARD, with a few members of staff and a small budget, and remained for three years without internal official regulation.

The orientation phase of the 2RRBSP undertook to convene authorities and technical officials from relevant ministries and from the 25 provinces intersecting the basin to identify priority issues; it found basin-wide participation "both difficult and unnecessary", leaving the RRBO with little more than the role of overseeing its offspring at the sub-basin level. The lack of relevance of a RBO at the basin level that would coordinate provincial actions does not mean that there are no basin-wide issues. As noted earlier, flood management (with respect to dam operation, in

particular) has been addressed at the central level since the 1960s at least. Control of sediments also requires action on land use practices in the upper basin but this can be handled by nationwide programs. Just like water quality problems, which tend to affect sub-basins such as the Cau or the Day, allocation issues are not too salient at the basin level because of the relative abundance of water and this tends to be more significant within the polders or sub-basins like the Cau.

Yet, the emergence of the MoNRE in the institutional landscape created conditions for RBOs, once a concession to donors by MARD, to become an object of internal struggle and as such a valuable asset. For MoNRE, the river basin-level was a new layer of administration it could legitimately claim and that would allow the new ministry to assert its role and authority amid traditional administrative layers. RBOs opened a political space for a possible reorganization of responsibilities and reshuffling of power. Not surprisingly, this prompted MARD to do its utmost to keep control over RBOs resulting in a confrontation – through antagonistic decrees and strategies – between the two ministries.

It is thus the struggle for conserving both autonomy in planning and the current procedures of financial decision-making that is at the core of inter-ministerial infighting. This is not an uncommon situation as also illustrated in the case of Thailand. Experience in other countries also shows that with the decline of irrigation and

drainage works and dam construction and the concomitant rise of environmental issues, investments in both studies and infrastructure tend to shift towards environmental studies and treatment stations, with a corresponding shift in money flows within the administration. This shift, from MARD to MoNRE, does not occur without friction and provides a good background for explaining the present situation.

The confusion created begs for some clear-cut arbitration. Several options have, and are, being discussed. The first option, probably favored by international partners, would be a clear revision or amendment of decrees 91/2002 and 86/2003, a transfer of the mandate for RBM and RBO from MARD to MoNRE, accompanied by adequate staffing and funding, and a revision of the Law on Water Resources⁹ to account for these changes. Such a shift, however, would take time to materialize at the provincial level where MARD is likely to remain firmly dominant – and the reaction of provinces would remain uncertain.

A second option is to shift the state function of water resources management from MoNRE to MARD to combine with other related functions of MARD such as forest management and flood control. An advantage of this option is the availability of staff under MARD who have experience in water resources planning. However, this would ascribe overall management functions to the MARD (agriculture, forestry and fisheries) which is the largest water 'user', with little likelihood of moving away from past problems of poor management and over-exploitation, especially because other water users are not well represented in the existing RBOs (Cong 2007).

A third option would be MARD indirectly reasserting control through the reformation of a

Ministry of Water Resources, in which MARD and MoNRE would be merged. Proponents of this option claim that integration should be done through a concentration of all water-related issues and powers under the same Ministry, allowing sectoral conflicts to be internalized. This is a common counterproposal of irrigation agencies seeking to counter weakening of their power (as in Thailand, for example); this, of course, would not separate regulatory and operation functions and would be a major setback for those who see the actual confusion as the price to be paid for such a separation. (This option seems to have been discarded in the definition of 22 new ministries in July 2007).

A fourth option, perhaps, would be to address the excess control of the center on basin issues by devolving more power to RBOs and promoting ownership of the provinces concerned. Yet, provinces still do not have the technical capacity to handle many technical issues and are financially dependent on the center for large-scale and interbasin investments.

In 2008, the situation remains unclear. RBOs are not mentioned in either of the new decrees (GoV 2008a, 2008b) that specify the functions, responsibility, authority and organizational structure of MARD and MoNRE. In the decree relative to MARD, only functions of management of irrigation systems and disaster are indicated while in the decree relative to MoNRE, only functions of water resources management, standing member of NWRC and National Mekong Committee are mentioned. Instead, RBOs are the subject of a decree drafted by MoNRE (on the model of the 2005 decree) and posted on a government website for public comments between the end of 2007 and March 2008. In this draft

⁹ A new ADB TA on "Review Law on Water Resources" is expected to be implemented during the period December 2008 to December 2009 to help the government review the current legal system applying to the water sector - including urban, rural, and river basin water subsectors - and establish a statutory framework for IWRM principles in line with the objectives of the National Water Resources Strategy (NWRS). DWRM is the implementing agency of this TA.

¹⁰ As stated by Biswas (2004), "The consolidation of institutions, in the name of integration, is likely to produce more centralization and reduced responsiveness of such institutions to the needs of different stakeholders, which is not an objective that the current societies and international institutions prefer at present."

¹¹ See www.chinhphu.vn/portal/page?_pageid=33,2091855&_dad=portal&_schema=PORTAL. Unlike other Decrees posted during the same period, no public comment on this RBO draft Decree was given on this website.

decree, unsurprisingly, MoNRE is to play a major role in RBM and the structure of the RBOs depends on the size (large, inter-provincial and provincial) of the basin.

What lessons can be drawn from the interactions between endogenous and exogenous factors in the institutional process observed? Despite the efforts deployed by several TAs, attempts at grafting attributes of 'modern' water policies in the Vietnamese bureaucratic configuration were not very successful at first. This was largely due to the lack of buy-in from Vietnamese officials and the bundling of various reforms with TAs. For example, NWRC's influence has been negligible and, after a few meetings, the Council discontinued its activities between 2001 and 2003; RBOs in the country were supported by foreign partners and largely ceased activities as soon as donor assistance ended; and the Law on Water Resources, once deemed a modern and solid basis for IWRM, was soon candidate to revision. Some Vietnamese officials feel that TAs were prepared by international consultants without taking into account the complexity of Vietnamese institutional structure and its weak legislation, echoing Evans' (2004) critique of "the presumption that the most advanced countries have already discovered the one best institutional blueprint for development and that its applicability transcends national cultures and circumstances."

The operation mode seems to be to establish institutions that fit international models and comply with regional ADB policies, even if other aspects of the administrative and political configuration are lacking, or are even in contradiction with them. Unsurprisingly, once these institutions are established they need substantial 'assistance' to become effective, or in some cases simply active, in particular if these are new and do not fit into the existing government structure. Thus, the Law on Water Resources "gives a great deal of valuable guidance... but further work will be required to develop both policy and legislation on important topics coming under the LWR", newly-hatched RBOs "need to be activated and strengthened... and their functions and mode of operation need to be clarified" (ADB 2001a), the NWRC and ONWRC "now need to become fully functional," and be "assisted through the early stages of formation and growth to become sustainable, capable and respected bodies in the water sector," while "MARD should do as much as possible to create the necessary conditions for successful strategic planning."

Critics will point to a variant of top-down and untimely imposition of concepts and reforms by foreign experts and development banks (Bandaragoda 2006); a new version of the Model-T (or copycat) syndrome in development described by Chambers (1997); and to the 'decontextualized' promotion of general principles that generate the need for what these actors are precisely ready to offer, be it loans, technical assistance or projects that are meant to produce draft legislations, sector reviews, profiles, strategies, or master plans and to 'strengthen' participation by various forms of capacity building.

An important point that needs to be emphasized is the gap between the formal mandate of newly established institutions and the way these operate in practice. There is pervasive over-enthusiasm on the expected performance of these institutions. For example, in 2001, a report of the ADB president to the board of directors (ADB 2001b) stated that the RRBO was "expected to be fully operational by June 2002 and to convene the first meeting of the [Red River Basin] council." Yet, even if apex bodies or RBOs are active there is no assurance that they will fulfill their coordination and negotiation roles as expected. In contrast to the conventional IWRM principles, which tend to see the balancing of objectives of equity, efficiency and environmental sustainability as resulting from well-meaning and informed negotiation, new arenas of interaction do not necessarily lead to desirable outcomes. In Thailand, for example, the apex body was decried by some as a forum for ministries to engage in turf battles or horse-trading rather than for optimizing coordination (Newborne 2006). Likewise, RBOs do not necessarily optimize decisions because outcomes depend on the distribution of power (horizontally and vertically) rather than on the mere existence of an institution that is supposed to ensure coordination.

More positively, others will consider this process as a variant of the muddling-through type of policy planning (Lindblom 1970), where it is important to make small and incremental steps towards a general desirable blueprint whenever that is possible; hoping that contradictions will gradually solve themselves out. MoNRE, or RBOs, for example, have been created in adverse environments but their principle may be activated by a few champions who, with time and the sustained influence of donors, will work to achieve increased consistency. The Law on Water Resources may be rewritten to enshrine a new division of roles between MARD and MoNRE.

Of course, there is no assurance that this will happen. Policy reforms may abort, be discontinued, or simply be rejected (as it happened in many countries like Pakistan, Thailand or Sri Lanka, to take Asian examples; Bandaragoda 2006). Processes can revert themselves, especially when they have gone too far in too little time: MoNRE could be swallowed by MARD that would reincarnate into an all-powerful water ministry (as floated by officials in 2006; see Olszak 2006). But the alternative is to dismiss possible external influence and wait for things to sort themselves out; with equal uncertainty about whether something is going to happen at all.

With hindsight, it seems that the policy reforms on RBOs promoted by donors and development banks have triggered some changes. Surprisingly, these changes may have come as a result of the institutional confusion they have created when confronted with the emergence of the MoNRE, rather than being due to the reforms themselves. MoNRE was itself largely destined, at first, to help solve land and environmental issues rather than water issues,

and owed little to external influence. The confluence of donor-driven projects on establishing RBOs and the conflict between MARD and MoNRE that put the river basin scale as a contested issue, helped strengthen changes in the direction of a better separation of duties and integrated planning (although - just like in Thailand - it seems that MoNRE does not aim at a mere regulatory role and also claims planning functions). The river basin scale is crucial for defining legitimacy and roles but is also a level at which power over financial resources and political power could be defined. In a context where state enterprises are moved out of ministries and where most consultancy work is being outsourced, power will reside in planning and in the decisionmaking on what shall receive priority, where and when, and who shall do the job. It is too early to assess if, and how, MoNRE and RBOs will, eventually, substantially reshape the institutional landscape, but such evolutions can only be slow.

The question as to what the best way forward is for external partners - somewhere between mechanical interventionism and a wait-and-see attitude - is likely to remain. In practice, institutional change is linked to political evolution, to the ever-changing power configuration of individuals and groups within the state and the administration who carry out varied projects, sometimes enlightened sometimes not, and subject to an uncertain mix of endogenous and exogenous influences. It may be always possible, with hindsight, to opt for one or another path. Whether the rather indiscriminate grafting of the formal attributes of IWRM will bear fruits may eventually depend on internal processes whereby different individuals and groups will use the space created to push for their agendas.

References

- 2RRBSP (2nd Red River Basin Sector Project). 2006. www.2rrbsp.org/ProjectInfo.html
- ADB (Asian Development Bank). 2000. Water for all. The water policy of the Asian Development Bank. Manila, Philippines: Asian Development Bank.
- ADB. 2001a. Inception report. National coordination for water resources management. ADB TA 3528-VIE, Subproject 1 Vietnam. Manila, Philippines: Asian Development Bank.
- ADB. 2001b. Report and recommendation of the president to the board of directors on a proposed loan to the Socialist Republic of Vietnam for the Second Red River Basin Sector Project. RRP: VIE 30292. Manila, Philippines: Asian Development Bank.
- ADB. 2006. Technical Assistance to Vietnam for TA 3892/ Ioan 1855-VIE (sf) Second Red River Basin Sector Project. Phase 3 of Component 1. Capacity building for the Cau River Sub-Basin Organization. Manila, Philippines: Asian Development Bank.
- Arriëns, W. T. 2004. ADB's water policy and the needs for national water sector apex bodies. Asian Development Bank. www.adb.org/Water/NWSAB/2004/Arriens_Paper2.pdf
- Bandaragoda, D. J. 2006. Limits to donor-driven water sector reforms: Insight and evidence from Pakistan and Sri Lanka. *Water Policy* 8(1): 51–67.
- Birch, A. 2004. Direction and experience in water sector apex body development. Paper presented at the Regional Meeting of National Water Sector Apex Bodies (Hanoi, May 18-21, 2004).
- Birch, A.; Khan, M. H.; Taylor, P. 1999. International mentoring; Application of Australian experience for Sri Lankan water sector reforms under Technical Assistance of the Asian Development Bank. *Water International* 24(4): 329-340.
- Biswas, A. K. 2004. Integrated water resources management: A reassessment. Water International 29(2): 248-256.
- Chambers, R. 1997. Whose reality counts? Putting the first last. London, UK: ITDG Publishing.
- Chenoweth, J. 1999. Effective multi-jurisdictional river basin management: Data collection and exchange in the Murray-Darling and Mekong river basins. *Water International* 24(4): 368-376.
- Cong, N. C. 2007. River basin management: Who are responsible? Thesis prepared at training course on state management functions. National Academy of Public Administration (NAPA), Vietnam. Ministry of Home Affairs (in Vietnamese).
- CRDE (Center for Resource Development and Environment) and IESD (Institute for Environment and Sustainable Development). 2006. Integrated management of river basins in Vietnam for sustainable development. Ministry of Plan and Investment, Vietnam Agenda 21, pp. 71.
- Dinar, A.; Saleth, R. M. 2005. Issues in water pricing reforms: From getting correct prices to setting appropriate institutions. In: Folmer, H.; Tietenberg, T. (eds.), *The international yearbook of environmental and resource economics 2005/2006*. Cheltenham, UK: Edward Elgar.
- Evans, P. 2004. Development as institutional change: The pitfalls of monocropping and the potentials of deliberation. *Studies in Comparative International Development* 38(4): 30-52.
- GoV (Government of Vietnam). 2002. Government Decree No. 91/2002/ND-CP. November 11, 2002. Specifying the functions, responsibility, authority and the organizational structure of the Ministry of Natural Resources and Environment.
- GoV. 2003a. Government Decree 86/2003/ND-CP on the "Functions, tasks, powers and organizational structure of Ministry of Agriculture and Rural Development". Government of Vietnam.
- GoV. 2003b. Transition of Water Resource Management from MARD to MoNRE. Final report. Joint task force: Ministry of Natural Resources and Environment, Ministry of Agriculture and Rural Development, Asian

- Development Bank (Vietnam Resident Mission), Australian Agency for International Development (AusAID), Hanoi; Danish International Development Agency (DANIDA), Hanoi; Royal Netherlands Embassy, Hanoi.
- GoV. 2005. The government decree on integrated river basin management. Draft. March 29, 2005. Prepared by MoNRE.
- GoV. 2007. Notice No. 43/2007/TB-VPCP. Conclusion of standing Prime Minister Nguyen Sinh Hung at the meeting on the assignment of functions and tasks between MoNRE and MARD on river basin management. Hanoi, March 15, 2007.
- GoV. 2008a. Government Decree No. 01/2008/ND-CP. January 3, 2008. Specifying the functions, responsibility, authority and the organizational structure of the Ministry of Agriculture and Rural Development, Vietnam.
- GoV. 2008b. Government Decree No. 25/2008/ND-CP. March 4, 2008. Specifying the functions, responsibility, authority and the organizational structure of the Ministry of Natural Resources and Environment.
- Hydrosult and Arcadis. 2005. Working paper on water related legal and institutional and economic and financial arrangements. National Water Resources Strategy. ADB TA 3528-vie, subproject 1, Hanoi.
- Lai, Nguyen Thai. 2002. Notes for report on "National Water Resources Council and River Basin Organizations, Lessons and Issues". Meeting of ISG TAG2, September 11, 2002. Duplicated. 4p.
- LWR (Law on Water Resources). 1998. Law on Water Resources (No. 08/1998/QH) passed by the National Assembly on May 20, 1998 and became effective from January 1, 1999.
- Lindblom, C. 1970. The science of "muddling through". Public Administration Review 19: 79-88.
- Malano, H. M.; Bryant, M. J.; Turral, H. N. 1999. Management of water resources: Can Australian experiences be transferred to Vietnam? *Water International* 24(4): 307-315.
- MARD (Ministry of Agriculture and Rural Development)_and DANIDA (Danish International Development Agency). 2000. Sector programme support document. Water sector, Vietnam (inception), Ministry of Agriculture and Rural Development, Hanoi, Vietnam.
- MARD (Ministry of Agriculture and Rural Development). 2004. Operation regulation of the river basin planning management board. Enclosure to Decision 14/2004/QD-BNN-TCCB dated April 8, 2004 of the Minister of Agriculture and Rural Development.
- MARD. 2006a. Water resources management and development strategy. Main report. Ministry of Agriculture and Rural Development, Hanoi, Vietnam.
- MARD. 2006b. The organization and working regulation for the Cau River Sub-Basin Organization (CSBO). Attached with Decision 07/2006/QĐ-BQLQH LVS, dated September 5, 2006 signed by the Chairman of RRBOB. Ministry of Agriculture and Rural Development, Vietnam.
- Millington, P. 2000. River basin management: Its role in major water infrastructure projects. Thematic Review V.3. Cape Town: World Commission on Dams.
- Molle, F. 2005. Irrigation and water policies in the Mekong region: Current discourses and practices. IWMI Research Report 95. Colombo, Sri Lanka: IWMI.
- Molle, F.; Wester, P.; Hirsch, P. 2007. River basin development and management. In: Molden, D. (eds.), *Water for food, water for life: A comprehensive assessment of water management in agriculture*. London: Earthscan, and Colombo: International Water Management Institute. pp. 585-625.
- Molle, F.; Berkoff, J. eds. 2007. Water pricing in irrigation: Mapping the debate in the light of experience. In: Molle, F.; Berkoff, J. (eds.), *Irrigation water pricing: The gap between theory and practice*. Comprehensive Assessment of Water Management in Agriculture Series. IWMI/CABI. UK: CAB International. Pp. 21-93.
- Mollinga, P. P.; Bolding, A. 2004. Research for strategic action. In: Mollinga, P. P.; Bolding, A. (eds.), *The politics of irrigation reform*. Contested policy formulation and implementation in Asia, Africa and Latin America. Aldershot, UK: Ashgate. pp. 291-318.

- MoNRE (Ministry of Natural Resources and Environment). 2003. Decision of Minister of Ministry of Natural Resources and Environment on functions, responsibilities, power and organization structure of Water Resources Management Department. Decision No. 600/2003/QD-BTNMT. May 8, 2003.
- MoNRE. 2006. National water resources strategy towards the year 2020. Ministry of Natural Resources and Environment. Hanoi: Culture-Information Publishing House. Promulgated by Decision 81/2006/QD-TTg dated April 14, 2006.
- Newborne, P. 2006. Study of national water sector 'Apex Bodies' and civil society involvement in Asia. Case studies of Thailand, Bangladesh and Sri Lanka. WaterAid.
- Nghia, T. T. 2004a. Report on the workshop results at 25 provinces in RRB. Priority issues in Red River water resource management. Meeting on Priority Integrated Water Resources Management Issues in Vietnamese River Basins. Février 2004.
- Nghia, T. T. 2004b. Report on Red River Basin organization. Workshop on the Operation of the Offices of River Basin Organizations, held on March 3, 2004 by the Department of Water Resources of MARD.
- NWRC (National Water Resources Council). 2007. nwrc.ciren.vn/en/index.php (accessed in May 2007).
- Olszak, C. 2006. Water allocation in an economy in transition institutional challenges and opportunities in Vietnam. Paper presented at the 11th IASCP Conference, Bali, Indonesia. June19–23, 2006.
- Pigram, J. J. 2001. Opportunities and constraints in the transfer of water technology and experience between countries and regions. *International Journal of Water Resources Development* 17(4): 563-579.
- Sach, Bui Nam. 2004. Red river basin planning management organization. Country/organizational report. Hanoi: Ministry of Agriculture and Rural Development, Institute of Water Resources Planning. www.adb.org/Water/NARBO/2004/Training-Program/country-report-VIE-Red-River-Basin.pdf
- Sampath, R. K. 1992. Issues in irrigation pricing in developing countries. World Development 20(7): 967-977.
- Shah, T.; Makin, I.; Sakthivadivel, R. 2001. Limits to leapfrogging: Issues in transposing successful river basin management institutions in the developing world. In: Abernethy, C. (ed.), *Intersectoral management of river basins*. Colombo, Sri Lanka: International Water Management Institute; Deutsche Stiftung für Internationale Entwicklung. 89-114.
- Shearwater. 2003. Progress report 2. Second Red River Basin Sector Project. Part A: Water Resources Management. Project Management Support, ADB TA 3892-VIE. Hanoi.
- Shearwater. 2004. Progress report 3. Second Red River Basin Sector Project. Part A: Water Resources Management. Project Management Support, ADB TA 3892-VIE. Hanoi.
- Shearwater. 2005. Progress report 6. Second Red River Basin Sector Project. Part A: Water Resources Management. Project Management Support, ADB TA 3892-VIE. Hanoi.
- Shearwater. 2007. Progress report 9. Second Red River Basin Sector Project. Part A: Water Resources Management. Project Management Support, ADB TA 3892-VIE. Hanoi.
- Su, Pham Xuan; Nam, Le Duc; Tuan, Le Quang. 2004. River basin organization in Vietnam and its contribution to water resources development in the future. Presentation in the 1st General Meeting of the NARBO, Batu-Malang, Indonesia, February 23-26, 2004. Department of Water Resources Ministry of Agriculture and Rural Development (MARD Vietnam).
- Taylor, P.; Wright, G. 2001. Establishing river basin organisations in Vietnam: Red River, Dong Nai River and Lower Mekong Delta. *Water Science & Technology* 43(9): 273–281.
- Trang, Truong Thi Quynh. 2005. Water resources management in Vietnam. Workshop on the Water in Mainland Southeast Asia, Siem Reap, Cambodia, November 30-December 2, 2005.
- Wright, G. 1999. River basin management and irrigation in the Red river basin of Vietnam. Paper presented to the Workshop "Irrigators' Organisations", March 1999, Vientiane, Lao PDR.

IWMI Research Reports

- 131. Implementing Integrated River Basin Management: Lessons from the Red River Basin, Vietnam. François Molle and Chu Thai Hoanh. 2009.
- 130. Economic Gains of Improving Soil Fertility and Water Holding Capacity with Clay Application: The Impact of Soil Remediation Research in Northeast Thailand. Rathinasamy Maria Saleth, Arlene Inocencio, Andrew Noble and Sawaeng Ruaysoongnern. 2009.
- 129. Adaptive Water Resource Management in the South Indian Lower Bhavani Project Command Area. Mats Lannerstad and David Molden. 2009.
- 128. Importance of Irrigated Agriculture to the Ethiopian Economy: Capturing the Direct Net Benefits of Irrigation. Fitsum Hagos, Godswill Makombe, Regassa E. Namara and Seleshi Bekele Awulachew. 2009.
- 127. Drivers and Characteristics of Wastewater Agriculture in Developing Countries: Results from a Global Assessment. Liqa Raschid-Sally and Priyantha Jayakody. 2008.
- Climate Change Impacts on Hydrology and Water Resources of the Upper Blue River Basin, Ethiopia. Ungtae Kim, Jagath J. Kaluarachchi and Vladimir U. Smakhtin. 2008.
- 125. The Lower Krishna Basin Trajectory: Relationships between Basin Development and Downstream Environmental Degradation. Jean-Philippe Venot, Bharat R. Sharma and Kamineni V. G. K. Rao. 2008.
- 124. Institutions, Impact Synergies and Food Security: A Methodology with Results from the Kala Oya Basin, Sri Lanka. Rathinasamy Maria Saleth, Ariel Dinar, Susanne Neubert, Bandi Kamaiah, Seenithamby Manoharan, Sarath Abayawardana, Ranjith Ariyaratne and Shyamalie de Silva. 2007.
- 123. India's Water Future to 2025–2050: Business-as-Usual Scenario and Deviations. Upali A. Amarasinghe, Tushaar Shah, Hugh Turral and B. K. Anand. 2007.
- 122. Trees and Water: Smallholder Agroforestry on Irrigated Lands in Northern India. Robert J. Zomer, Deborah A. Bossio, Antonio Trabucco, Li Yuanjie, D. C. Gupta and V. P. Singh. 2007.
- 121. Shifting Waterscapes: Explaining Basin Closure in the Lower Krishna Basin, South India. Jean-Philippe Venot, Hugh Turral, Madar Samad and François Molle. 2007.

Electronic copies of IWMI's publications are available for free Visit

www.iwmi.org/publications/index.aspx

Related Publications

Bandaragoda, J. 2006. *Institutional adaptation for integrated water resources management: An effective strategy for managing Asian River Basins.* Colombo, Sri Lanka: International Water Management Institute. 27p. (IWMI Working Paper 107)

 $www.iwmi.org/Publications/Working_Papers/working/WOR107.pdf$

International Water Management Institute, IWMI-TATA Water Policy Program. 2002. *The challenges of integrated river basin management in India. Vallabh Vidyanagar, Gujarat, India:* International Water Management Institute.6p. (IWMI Water Policy Briefing 3)

www.iwmi.org/Publications/Water_Policy_Briefs/PDF/wpb03.pdf

Kurian, M. 2004. *Institutions for integrated water-resources management in river basins: An analytical framework.* Colombo, Sri Lanka: International Water Management Institute. 24p. (IWMI Working Paper 78)

www.iwmi.org/Publications/Working_Papers/working/WOR78.pdf

Molle, F. 2005. *Irrigation and water policies in the Mekong region: Current discourses and practices.* Colombo, Sri Lanka: International Water Management Institute. 43p. (IWMI Research Report 95)

www.iwmi.org/Publications/IWMI_Research_Reports/PDF/pub095/RR95.pdf

Svendsen, M. (ed.) 2005. *Irrigation and river basin management: options for governance and institutions.* Wallingford, UK: CABI; Colombo, Sri Lanka: International Water Management Institute. 282p.

www.iwmi.org/Publications/CABI_Publications/PDF/Irrigation_and_Basin_Water_Management.pdf

Postal Address

P O Box 2075 Colombo Sri Lanka

Location

127, Sunil Mawatha Pelawatta Battaramulla Sri Lanka

Telephone

+94-11-2880000

Fax

+94-11-2786854

E-mail

iwmi@cgiar.org

Website

www.iwmi.org



ISSN: 1026-0862 ISBN: 978-92-9090-708-4