

RESEARCH  
REPORT

95

# Irrigation and Water Policies in the Mekong Region

## Current Discourses and Practices

François Molle



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# Abstract

In the past several years, water has moved up on the agenda of most Mekong region countries.

This is due to recurring water shortages and crises, to global initiatives and networking giving greater public salience to water issues, and to the persuasive insistence from development banks pushing for reform of national water sectors.

This report documents current irrigation and water policies in countries of the Mekong region. It successively reviews planning issues, water policies and legal frameworks, the setting up of water policy “apex bodies,” participatory policies, and Integrated Water Resource Management (IWRM)/river basin management. It comments on the underpinning of these policies, their discursive dimension, and how they fit the reality of the countries concerned. The review shows that most ongoing and planned reforms borrow from “best practices” alleged in international standards and are insufficiently informed by local realities. Planning of water resource development and policies is still widely expert-driven and focused on procedures and objectives, leaving little space for the confrontation of values and for more endogenous negotiated process of decision

making. The report shows that despite encouraging changes and trends, there is still a significant gap between the rhetoric of participation or IWRM and reality on the ground. Debates between stakeholders such as line agencies, politicians, development banks, NGOs, consultants or user associations are sometimes lively but often limited to discursive struggles through the media or publications. Many large-scale projects with potential impact on large populations are still designed with little scrutiny, if not in secrecy.

Tensions between local management and the necessity to integrate uses at the basin level, contradictions between top-down blueprint-based state policies, the diversity/complexity of local settings, conflicts between recommendations or “best practices” drawn from global “toolboxes” and stakeholders’ aspirations are pervasive. Enabling governance structures for water management in the Mekong region will be a journey towards bridging these divides. The report is intended to pave the way for further research on water governance in the Mekong region and to flag some major issues and topics for research.

# Irrigation and Water Policies in the Mekong Region: Current Discourses and Practices

François Molle

## Introduction

In the past several years, water has moved up on the agenda of most countries in the Mekong region. This is due to several interconnected factors. First, recurring water shortages and crises (scarcity, droughts, pollution, interstate or intersectoral competition around the Mekong river, etc.), although often local and temporary, have instilled a sense of vulnerability. These shortages have typically affected irrigation and, in some cases, have also threatened urban supply (like in Bangkok, in 1999, which experienced temporary rationing in some areas). Second, numerous global initiatives and networking focused on water management (World Water Forums, GWP regional activities, etc.) have also contributed to giving water issues greater public salience. Third, these initiatives have been paralleled by persuasive insistence from development banks—most notably the ADB and the World Bank—that borrowing countries develop regulatory frameworks, water policy, white papers and water legislation. Fourth, there has been increasing involvement of the private sector, notably in hydropower generation and in urban water supply, which has changed the situation of virtual state monopoly over water resources.

Current policy initiatives have a lot in common, partly because water-related problems are broadly similar among countries and partly because the initiatives stem from the mainstream thinking and prescriptions—and sometimes fads of the day—that come with the interventions of development agencies. Water policy reform

processes generally contemplate a blend of the following recommendations and measures:

- Poor water distribution in irrigation networks, epitomized by classical efficiencies between 30 and 40 percent, is addressed by trying to instill greater participation from users through the design of service agreements in which agency and farmers act as service provider and clients, rather than as supplier and recipients.
- Concern for cost-recovery and financial sustainability generally leads to making provision for the levying of a water charge.
- Embracing Integrated Water Resources Management (IWRM) leads to putting emphasis on river basin management that, in turn, leads to proposals for River Basin Organizations (RBOs), or other types of interfaces between concerned line agencies and users.
- The need to control uses and users of both surface water and groundwater typically calls for establishing a regime of water permits, with registration of users, and sometimes provisions for future formalization and trading of these rights.
- The distinction between operation of the hydraulic network, resources management, and policymaking/regulation is emphasized and leads to proposing three nested layers of institutions with clear and distinct mandates.



These trends in the water sector give rise to several questions: how pressing was the need for such reforms and how sound have been the steps taken? To what degree have national bureaucracies and ruling political parties shared this concern for reordering the water sector and added their will power to the solicitations of outsiders, and how does this vary from country to country? How do expectations from these formal and state-centered initiatives compare with reality on the ground? Are policies derived from blueprints or based on a sound analysis of local problems, and to what extent do top-down approaches crowd out the emergence of endogenous and condition-specific solutions? More generally, what are the patterns of governance emerging in the water sector, and how do they shape policymaking, planning, and management of water resources?

This report documents current irrigation and water policies in the Mekong countries.<sup>1</sup> It successively reviews planning issues, water policies and legal frameworks, the setting up of water policy "apex bodies," participatory policies, and IWRM/river basin management. It comments on the underpinning of these policies, their discursive dimension, and how they fit the reality of the countries concerned. The report is intended to pave the way for further research on water governance in the Mekong region<sup>2</sup> and, as such, its scope remains at a somewhat exploratory level. Although the issue addressed here is extremely vast and complex, and would require the mobilization of a huge literature to be dealt with in a comprehensive manner, it is hoped that such a synthesis will enable one to flag major current issues and orient the design of research.

## Review of Main Irrigation and Water-Policy Development

### Planning and Development of Water Resources

The development of reservoirs and irrigation schemes has been, and still is, prominent in the Mekong region. The situation, however, differs sharply according to the country. Thailand, China and Vietnam have extensively developed their irrigation infrastructure and investments have declined in the last few years but hydropower development is in full bloom (especially in Vietnam and in the upper Mekong, China). Laos, because of its scarce population, and Cambodia, due to the war and political turmoil, and to some extent Myanmar, still have a low degree of

infrastructural development, and options for the future are subjects of debate (notably in the Salween river basin). The Mekong River Commission (MRC) also devotes considerable energy and budget to planning and development of water resources.

According to Sethaputra et al. (2001) Thailand's irrigated area is around 30 million rai (4.8 million ha), that is, approximately 20 percent of the total farmland. Its dams can now store 70 billion cubic meters (Bm<sup>3</sup>) of water and most major dam sites have been exploited.<sup>3</sup> A number of reservoirs are still under planning or construction, but their typical size is around 250 million cubic meters (Mm<sup>3</sup>) and they face growing

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<sup>1</sup>China is mentioned but not dealt with in full detail because the diversity of situations warrants an extensive treatment beyond the ambition of this report.

<sup>2</sup>In particular, it is meant to orient research of the Mekong Water Governance Network.

<sup>3</sup>Some dams planned several decades ago, such as the Nam Choan in the Mae Klong basin and the Kaeng Sua Ten on the Yom river, have been successfully opposed by social activists and environmentalists.

opposition from civil society, forcing the Electricity Generation Authority of Thailand to look for ventures and alternative sites in neighboring countries (Hirsch 2001).

Nevertheless, while it would seem that Thailand has largely developed its water resources and that the “hydraulic mission” is coming to an end, further ambitious developments seem to be on the way (despite the alleged priority to demand-management announced in the Ninth National Plan [2002–2006]). In July 2003, the Royal Thai Government announced that it would target 200 billion baht (US\$5 billion) to solve the problem of water scarcity in Thailand and allow the irrigation of cultivable land not yet supplied with water. The northeastern region was to be the major beneficiary of the project conceived as a part of the plan to “eradicate poverty” in the country (see box 1).

Justifications for such large-scale investments are usually raised by repeatedly stressing the impact of droughts and floods and by looking at the benefits of the projects alone, disregarding costs. The Water Resource Department at the Ministry of Natural Resources and Environment (MNRE) estimated that 19,000 villages are facing a “chronic shortage of water”. The National Economic and Social Development Board also rang the alarm and produced estimates of coming water shortages in Thailand (Bangkok Post, 24 March 2004). Surveys by the Ministry of Agriculture “found that floods hit an average 9,300 villages a year, while about 35,000 villages were hit by drought. This caused billions of baht in damages and lost income each year” (Bangkok Post, 18 February 2004). Nothing is said on how scarcity is defined, and on whether it is a result of climatic variability or, perhaps, slack management. These numbers are used to call for the construction of new dams and other infrastructure. Since irrigation areas tend to be overdeveloped in relation to storage capacity, a sense of scarcity is artificially created: “water distribution doesn’t completely cover those irrigation areas; we’ve lost a balance between storage and distribution,” comments a high-level official (Bangkok Post, 28 December 2003).

Focus on benefits rather than on cost/benefit ratios was exemplified by the Prime Minister, who was reported to say “it would not be a problem if the (water grid) project required a lot of money because it would be worthwhile eventually,” and by the Deputy Prime Minister in charge of the project, who saw the project as “a worthwhile investment because it will benefit 30 to 40 million people nationwide” (The Nation, 23 June 2003). Likewise, a statement by a Deputy Director of the Irrigation Department shows that distributing water is seen as an objective in itself, if not a mission: “We know the problem... if water can’t be distributed to people, maximum benefits will not be attained” (Bangkok Post, 28 December 2003).

The gigantism and the ambition of the project have been met with skepticism by many water professionals and with dismay by environmentalists (The Nation, 24 September 2004). It strains the imagination to envisage how the irrigation area, which has been developed to 22 million rai in over one century, could be trebled or more in 5 years. Much of the “irrigable” land of the northeast is subject to salinity problems and massive deliveries of water are likely to create unprecedented environmental problems. Likewise, it is not clear how sufficient labor could be mobilized (Pednekar 1997), and whether markets would be ready to absorb the resulting excess production without collapsing. If one adds to this the fact that only limited and costly additional water is available in the country and that transfers from international basins are highly problematic, the project has yet to go through several steps before proving to be a sound investment.

From a governance point of view, the whole process is characterized by secrecy, with only a few contradictory statements being delivered to the press. Despite the dramatic projected impact on populations, livelihoods and the environment (in terms of benefits, costs and externalities), no participatory mechanism has so far been observed. This contradicts the statement of former Natural Resources and Environment Minister Praphat Panyachartrak that “the public will be allowed a much bigger say in state

### **Box 1: Thailand and the “water grid” project.**

A power grid is the interconnected network of power generation and consumption nodes, which allows spatial integration and balancing of production and use. This concept has been borrowed by the water sector to describe as a “water grid” a project of interconnected reservoirs and basins allowing the movement of water from sources to water-short areas. Of course, because of its bulky nature, moving water is a much more expensive venture than moving electricity. Some examples of such pressurized grids, or “carriers,” exist in small arid countries, such as Israel or Tunisia, but their costs have generally prevented expanding the concept at a very large scale. Despite all this, the Thaksin government announced in July 2003 that it would pursue a 200 billion<sup>4</sup> baht (\$5 billion) venture to bring water to unirrigated farms, notably in the northeast, and help “turn Thailand into an agricultural powerhouse” (The Nation, 14 September 2003).

Project targets are still ill-defined and contradictory but all point to a dramatic increase in irrigated land. The current achievement of 22 million rai is contrasted with a total of 131 million rai of cultivable land nationwide and gives way to all types of speculations. Several reports indicate that “11 million rai would be fully irrigated, and that 25 million rai could be planted with crops that require much less water than rice. Another 73 million rai would be irrigated for household consumption and self-sufficiency in agriculture” (Bangkok Post, 3 May 2004), while “A nationwide tap water system will be installed by 2005 so villagers and farmers throughout the country can enjoy running water all year-round”.

A recent study by Khon Kaen University asserts that water will be provided to 60 million rai of farmland and confirms that there is not enough water domestically and that “water diversion from neighboring countries and international rivers is an essential part of the water grid project” (Bangkok Post, 13 June 2004). In addition to that, according to a senior irrigation officer, “300 new large and medium-sized reservoirs and 25,000 community reservoirs are needed to support the project” (Bangkok Post, 03 May 2004).

The Prime Minister was reported to “believe northeastern provinces have enough water resources and the problem is the irrigation and distribution system, which needs to be improved” and had instructed the “Irrigation Department to fix the lack of water in Isaan provinces and report to him on ways to solve the problem within one month (The Nation 24, April 2004). According to a professor at Khon Kaen University involved in the feasibility study, the delay in the project was “the result of a row between Natural Resources Minister Suwit Khunkitti and Agriculture Minister Somsak Thepsuthin over who should oversee the project,” adding that “both ministers want to supervise the project because it could be promoted in their election campaigns” (Bangkok Post, 13 June 2004).

Pilot projects worth US\$1 million (40 million baht) are expected to be kick-started soon and will consist of a diversion of Mae Klong water to Phetchaburi and Prachuap Khiri Khan. However, according to the Minister of Natural Resources and Environment, “whatever the outcome of the pilot projects, the government will finish all 13 schemes within five years” (Pinkaew 2004), which suggests that “pilot project” is probably a misnomer.

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<sup>4</sup>The cost of the project fluctuates between 200 and 400 billion baht, depending on the official sources. Recently, the Prime Minister pledged to set aside 100 billion baht “for solving water problems in the Northeast” (The Nation, 24 April 2004).

development projects, which will also face tougher scrutiny from a new agency" (Bangkok Post, 13 February 2004); and, perhaps, provides clues on the reasons for his ensuing eviction.

Vietnam is still involved in massive investments for rural and water infrastructures. The Red river and Mekong deltas require huge outlays for works on dikes (flood protection) and channels, notably the Mekong, with further reclamation of land in the Plain of Reeds and closing off of the seashore, allowing freshwater irrigation during the dry season. Significant investments are also being made in rehabilitation and modernization, since most of the schemes developed in the 60s and 70s are now in a severe state of degradation (Tu n.d.; World Bank 2004<sup>5</sup>). While he acknowledges that "so far, water resources have received a big investment for development," Tiep (2002) reports that, on average, existing irrigation systems supply water to only 50-60 percent of the design command area. Officials from the Ministry of Agriculture and Rural development (MARD) justify further investments by stressing that since "agriculture provides about a quarter of Vietnam's GDP and exports and employs two-thirds of the labor force, further crop diversification and increases in productivity require modern hydraulic infrastructure and more efficient delivery of irrigation and drainage services" (World Bank 2004). This objective is couched in slightly different terms by the World Bank (2004), which sees its recent loan of \$158 million to the country as a "help [to] farmers with small-scale irrigation schemes, who just came out of poverty to build on the gains made in 1990s" and a support to "key elements of Vietnam's Comprehensive Poverty Reduction and Growth Strategy".

The area of irrigated land is currently around 3 million hectares, out of 7.4 million hectares

cultivated. According to Tiep (2002), water used for agriculture was 47 Bm<sup>3</sup> in 1990 and increased to 61 Bm<sup>3</sup> in 2000.<sup>6</sup> Average demand increases 3 percent per year and "requirements" for 2010 are estimated at 74 Bm<sup>3</sup> (Tu n.d.). Other large investments are made in the dam sector, mostly for purposes of energy generation (Song Da on the Black river, in the north-west, and Mekong tributaries flowing westward into Cambodia). In 1999, the share of hydroelectricity in total power production nationwide was 59 percent (Luc n.d.) and several dams were being planned or built, and added to the 743 large and medium reservoirs of the country (Tiep 2002). The supply of drinking water and sanitation to an additional population of one million (mostly in the highland) has also been made a priority. In sum, while official priority is placed on rehabilitation and modernization of existing infrastructure, the importance of agriculture in Vietnam's economy, poverty alleviation and food security is likely to spur continuing massive investments in dams and water-control structures.

In Cambodia, water policy as a whole and irrigation in particular are seen as crucial elements of the development of agriculture, leading to food security and poverty alleviation, the main objectives pursued by the state in a country where agriculture amounts to half of the gross domestic product (GDP) and 90 percent of employment (Sinath 2001). Less than 1 percent of Cambodia's water is diverted and only 200,000 hectares (16 percent of the total cultivated area) are irrigated. The country counts only one medium-scale dam for hydroelectricity. During the Khmer Rouge period, numerous schemes composed of dikes serving as reservoirs and of crude canals crisscrossing paddylands were built but most of them have been destroyed and can only be transformed to efficient schemes with considerable redevelopment.

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<sup>5</sup>Vice Minister Giang said that one of the Government's current priorities is investing in the rehabilitation and upgrade of degraded irrigation systems, which function poorly. A lot of systems were built tens of years ago and cannot handle current demands".

<sup>6</sup>It is not known how this very high figure is arrived at but there is clearly a difficulty in defining "water use" (diverted) in agriculture in the Mekong river delta.

In other words, Cambodia is presumably only at the beginning of substantial investments in the water sector. The main debate revolves around whether priority should be given to the development of small-scale water resources or to conventional large-scale irrigation schemes. The former offers the prospect of a shortcut to "progress" but past experiences show that managerial capacity is lacking for schemes that have, on average, quite a low economic return. Öjendal (2000) makes the case for small-scale and participatory projects based on decentralization of rights, means and responsibilities, as a way to reinforce local authorities and democracy and to lessen vulnerability. According to Sinath (2003), the 2001–2005 Rehabilitation and Development Plan prepared by the Ministry of Water Resources and Meteorology (MOWRAM) included 874 projects<sup>7</sup> at a total cost of US\$600 million (gravity or pumping irrigation schemes, repairs to dikes, reservoirs and canals, etc.). Although not so large in absolute terms, given the importance of the agriculture sector for the country, these investments will continue to rely heavily on forthcoming loans and grants from international banks and donors (MOWRAM and ADB 2001).<sup>8</sup>

Laos exhibits a similar low level of investment/infrastructure that contrasts with the fact that the agriculture sector provides the largest share of foreign currency income (40 percent), about 52 percent of the GDP, and 85.5 percent of employment. The Water Vision for the country stresses that "The national economic development process is to be based on the wealth of natural resources, especially water and water resources," which includes in particular irrigation and hydropower (Phonechaleun et al. 2002). Significant improvements have been achieved in the agriculture sector, with an

increase in dry-season rice area from 2,700 hectares in 1976 to 110,000 hectares in 2000,<sup>9</sup> and irrigation shifting the average rice yield from 1.43 t/ha (rain-fed) to 3.27 t/ha during the same period. Hydropower production is still low, i.e., 2 percent of a "potential" estimated at 30,000 megawatts. Development of hydropower dams has been subject to intense environmental debate and lobbying by NGOs and activists from outside Laos, as epitomised in the Nam Theun II dam controversy.

In 1999/2000, there were 19,170 irrigation schemes with a service area of about 295,000 hectares in the wet season, a number still rising due to heavy investment in the National Pump Installation Management Project (NPIMP), mostly along the Mekong river in the southern part of the country (Khamhung 2001). Most irrigation schemes, however, are based on traditional weirs and can be found in the northern and central regions. Large-scale public schemes are confined to the main valleys, notably the Nam Ngum valley near Vientiane, which has a reservoir with a capacity of 7 Bm<sup>3</sup>. Oddly enough, it seems that irrigation is taken as a measure of the level of development or modernization. The (ambitious, but somewhat virtual) targets set in 2001 were to increase irrigation schemes from an actual coverage of 36 percent of the agricultural land to 50 percent in 2005, and 80 percent in 2020, with 50 percent of the area cropped in the dry season! (Phonechaleun et al. 2002). New investments, including large dams, are contingent upon loans by development banks and private-sector involvement, both explicitly welcomed by the government (Richardson 2002).

China's water economy has long been dominated by a strong engineering approach, but significant efforts are being made towards accommodating new concepts of environmental

<sup>7</sup>Many consist in rehabilitating the disastrous Khmer Rouge era irrigation works that were often laid out on a grid pattern rather than being built according to natural land features.

<sup>8</sup>MOWRAM's current financial resources only ensure (very low) staff salaries and 10 percent of needed operation and maintenance (O&M) funds (MOWRAM and ADB 2001).

<sup>9</sup>Numbers given by Khamhung (2001) differ: "The irrigation area in dry season has rapidly increased from 29,000 ha in 1996 to 197,000 ha in 2000." This increase has mostly been based on pump irrigation.

sustainability, demand management, rational pricing and institutional power-sharing (Boxer 2001). Although construction-based policies have decreased in importance, in the past years China has been a focus in the global news because of two major projects: the Three Gorges dam and the south-north diversion, which diverts water from the Yangtze to the Yellow river (Berkoff 2003). This project includes three transfer canals that are expected to inject 50 Bm<sup>3</sup> into the Yellow river basin (see box 2). Dam construction on the upper Mekong course has perhaps been less publicized but has stirred debate on their current and future impact.

## Water Policy and Water Laws

In past years, the Mekong region has witnessed several initiatives aimed at updating and strengthening national water laws and regulations.

China enacted its first water law in 1988, which was revised in 2002. Laos and Vietnam had laws passed in 1996 and 1998, respectively, while Cambodia's draft is to be soon examined by the Parliament. Thailand has been considering several versions of a Water Law over the past 15 years or so but the process still continues. These legal documents and related decrees have often been designed with significant contributions from foreign consultants hired by the World Bank, ADB or FAO. As such, they invariably borrow from a corpus of issues and strategies seen as "best practices" or "modern"<sup>10</sup> international standards, sometimes overlooking local constraints or specificities. Even where the role of foreign consultants has been more modest, as in China, a new generation of water specialists has reportedly embraced what is seen by Boxer (2002) as "internationally accepted strategies and methods".<sup>11</sup> Recurring features include the separation of the water regulation, management

### **Box 2. The south-north transfer project in China (drawn from Shao et al. 2003; Berkoff 2003).**

The south-north transfer project includes three different routes (the east, middle and west routes) that are to interlink the Yangtze river (which has relative "surplus" water) and the Yellow river (which is severely overcommitted). The North China plain is home to a population of over 300 million and is undergoing critical water scarcity, with the common patterns of declining aquifers, reduced allocation to agriculture, shortages in supply to cities and severe environmental problems of pollution and siltation. The first phase aiming at the diversion of 20 Bm<sup>3</sup> has started, with an estimated cost of \$17 billion and the likely displacement of 300,000 people.

Although the environmental and economic dimensions of the project are not attractive, political and pragmatic arguments are likely to prevail. At stake is the alleviation of the enormous stress distributed between agriculture, cities and, last but not least, the environment in a region with high population densities and booming economic development.

<sup>10</sup>The introductory note of the Cambodian draft stresses that the document was "well conceived, in line with modern trends in water resources management" (KOC 2002).

<sup>11</sup>Ideas are "propagated by a new generation of economists and engineers, many foreign-trained, who avidly seek to address China's water problems by applying internationally accepted strategies and methods. On the other hand, these externally generated policy initiatives must make sense in Chinese terms. This means that they must be made workable in the context of an ongoing, self-directed and spirited effort by the Chinese water engineering and science community to redefine conceptual, technological and social rationales for environmentally significant water policies spawned by the economic, political and ideological conflicts of the last half century" (Boxer 2002).

and service provision functions (with, in particular, the establishment of an apex body); definition of permits for water use; mechanisms for cost-sharing; watershed management; polluter-pays principle; and emphasis on participatory and integrated land and water resources management—these two latter issues are examined in more detail in the next sections.

In Laos, the Water Resources Law and the Environmental Protection Law were passed in 1996 and 1999, respectively, and some ministerial decrees and regulations have been approved recently. The Water Law has 10 provisions and 49 articles focusing on the protection of water resources and watersheds, and water resources planning and prevention of water pollution (Khamhung 2001). An apex body, the Water Resources Coordination Committee (WRCC) was established in 1999 within the Prime Minister's Office, with the active support of the ADB (Khamhung 2001). The law includes some vague provisions for the establishment of water use permits. While supporting the idea in general terms, Pheddara (2003) lists some questions that would be faced by the legislator: he raises doubts on the capacity of the administration to handle issues of definition, application and registration of rights, to ensure publication of applications and handling of objections/conflicts, and conformity with hydrological reality, let alone questions of monitoring and enforcement, all this in a country where water use and allocation conflicts are still very limited. There has been little domestic discussion or awareness of the law and its implications and no civil society input into the policy process.

In Cambodia, a first draft was issued in 1999, one year after the establishment of the Ministry of Water Resources and Meteorology (MOWRAM), and revised in 2001. It failed to be examined before the political stalemate of 2003

and is expected to be considered when the national parliament reassembles. While one cannot prejudge what adjustments are going to be made,<sup>12</sup> the draft puts emphasis on several principles (KOC 2001): Article 9 stipulates that "the diversion, abstraction and use of water resources for purposes other than those mentioned in Article 8 [domestic uses and gardening], and the construction of the waterworks relating thereto, are subject to a license by the MOWRAM". These licenses "may be transferred by its holder to another user, whether totally or in part, subject to the prior approval of MOWRAM" (Article 13) and will be granted against a water fee. Accordingly, MOWRAM will keep and update a "centralized inventory of the water resources of The Kingdom of Cambodia"<sup>13</sup> and will also "record all water use and wastewater discharge licenses". To avoid the embarrassment of attempting to set up licenses for the whole country at once, the law entitles MOWRAM to declare a Water Law Implementation Area corresponding to a basin, subbasin or aquifer, where specific regulation is needed. Given the very low level of water abstraction in Cambodia, this measure is likely to remain dormant for quite a long period. In any case, excessive faith in the state capacity to regulate and reorder water use generally leads to some disappointment (see, for example, the logistical nightmare experienced in the two pilot basins of Tanzania [van Koppen 2002]). Beyond granting the state the power to exact water fees from users, it is not clear why such a complex device is recommended in a context where allocation conflicts are hardly an issue and hydrological measurements are almost nil. The draft water policy indulges in the heroic assumption that fees are "necessary to conserve the water resource, and administer them in a consistent and timely manner" (KOC 2002) but

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<sup>12</sup>The 2002 draft has been translated in Khmer and is to be submitted to the cabinet, the parliament, the senate and the king before being translated back to English after its approval. This "black box" process ensures the appropriation of the law by national decision makers, but sometimes also harbours some surprises, as was observed with the earlier fisheries and forest law.

<sup>13</sup>"This inventory shall indicate the location, quantity and quality of the resources during the year, each year," a Herculean task that seems to ignore the current poor status of data/knowledge of the overall hydrology in the country.

such an assertion seems little more than lip service to mainstream thinking.

The recent Strategy and Action Plan (KOC 2004) also includes a number of general statements,<sup>14</sup> defines its goals in a very broad manner,<sup>15</sup> and outlines strategies rather than a clear work plan with steps and targets, in part because the lack of budget and dependence on external funds makes it difficult to plan activities.

In the aftermath of the 1997 financial crisis, Thailand obtained a \$600 million loan from both the ADB and JBIC under the name of ASPL (Agriculture Sector Program Loan), conditional upon acceptance of some principles and a reform of the water sector (RWS). A policy-matrix was defined, showing commitment and successive milestones to be achieved. The RWS was designed by consultants to the ADB and issued in March 2001. It included several components (Halcrow et al. 2001), including the following:

- Strengthening of the Office of the National Water Resources Committee (ONWRC) and its transformation into an apex body
- Decentralization of water management to river basins
- Watershed protection strategy
- Setting of performance indicators and service standards
- Participatory irrigation management and definition of farmers as clients of a service rather than beneficiaries

- Cost sharing of operation and maintenance (O&M).
- Reorganization, decentralization and privatization of the Royal Irrigation Department

In parallel, the National Water Resource Committee worked on the draft Water Law<sup>16</sup> (that has been revised several times during the past years), which was supposed to encapsulate many of the crucial aspects of this ambitious reform, notably the establishment of River Basin Committees (RBCs), and the separation of the policy, management and O&M functions.

The reform process initiated under the ASPL has been phased out during 2002 and 2003, at the behest of the new Prime Minister. Pilot projects have been implemented partially and without supervision, leading to no real change. Cost-sharing policies and service agreements have disappeared from the front scene. The draft Water Law is still in limbo. The restructuring of RID has been limited to measures such as the non-replacement of retiring staff.<sup>17</sup> Only the setting up of RBCs has continued as planned, under the guidance of the ONWRC (now the Department of Water Resource of the MNRE). At present, however, they still lack the formal recognition that would give them a role beyond that of a mere consultative forum. In balance, although the reform process built in the ASPL was in general sound on paper, it suffered from being introduced through loan conditionalities,

<sup>14</sup>"Because of increasing population and socioeconomic development, the demand for water also is increasing rapidly, and there is very strong pressure on the Nation's water resources". Likewise, sectoral allocation between agriculture, energy, industry, domestic use, navigation, tourism, fisheries and ecosystem maintenance, a problem typical of basins with high competition over resources, is deemed to be addressed, as "water distribution needs to balance the requirements of all these sectors, so that water is used to the greatest total national benefit" (KOC 2004).

<sup>15</sup>"To manage and develop water resources in an effective, sustainable and equitable manner, to protect ecosystems and to reduce the effects of water-related hazards such as floods and droughts on people's lives and public property" (KOC 2004).

<sup>16</sup>A 1997 draft emphasizes the officialization of a National Water Resources Committee (NWRC) and its secretariat, the Office of the National Water Resources Committee (ONWRC); the "appointment" of River Basin Committees (RBCs), the establishment of Water Users groups, provision for droughts and flood protection, the definition of water user fees by the RBCs, and penal provisions.

<sup>17</sup>The RID is a very strong line agency, which initially looked after hydrological data, irrigation design, construction, O&M, the production of electric power, cement and fertilizer, and ran its own experimental stations: it was described by Hirschman (1967) as a "kingdom within a kingdom". Although it later lost significant power to the Electricity Generation Authority of Thailand (EGAT) and the Department of Energy Development and Promotion (DEDP), and recently had to adjust to the establishment of the Ministry of Natural Resources and Environment (MNRE), it remains a powerful agency within the Thai government.



without paying enough attention to the acceptance or preparedness of the bureaucracy and of the political leaders, as well as of civil society (which, for example, vehemently opposed conditionalities over water pricing). Involvement of the latter was minimal, although some stakeholder analyses and workshops were carried out by academics hired by the ADB. The case of the community forestry bill provides an example where input from nongovernmental entities and the debate have been intense (box 3).

The 1999 Vietnamese law vests all power in the state and “State agencies, economic organizations, political organizations, People’s Army Forces units and all individuals in the protection, exploitation and use of the water resource: prevent combat and overcome the harmful effects of water (introduction) ... have the responsibility to implement legislation on water resources” (Article 4). “The People’s Committees at all levels and the competent State organizations” are entrusted with most of the tasks, from planning, regulation, emergency works, implementation, to control and management. The law introduces the user-pays and polluter-pays principles. Users must register and get a permit from the competent State agencies, except for “small-scale [use] for the family in agricultural, forestry production, aquaculture, small industry and handicraft production, hydropower generation and other purposes” (Article 24). The law reviews in detail and prohibits a large number of actions that are “harmful to water resources and their quality”.

In 2001, the government set up the National Water Resource Council and there is also some provision for basin management, although little detail. What is clear from both the law and documents emanating from high-ranking officials is the absolute control of water issues by the state apparatus: Article 61 of the law, for example, refers to the “unified and concentrated managerial right of the Government;” under the

title “Direction for unified and integrated management of water resources,” the first and main heading given by Luc (n.d.), is, tellingly: “Strengthen the system of organization and management of water resources from central to local levels”.

China’s 1988 Water Law was meant to serve as a regulatory framework for rationalizing water use in a context of transition to a market economy (AIRC 2003). The law includes the user-pays principle<sup>18</sup> and compensations for third-party impact in case of flow alteration but often reads like a policy document since application is left to subsequent decrees. The 2002 revamp of the law draws on the 1988 act but gives greater emphasis to themes such as conservation, environmental preservation and allocation by quota. The major issue of river basin development and management is also given more salience (Shen 2004) but largely remains a matter of bureaucratic and centralized planning.

Boxer (2001, 2002) ascribes the slow pace of reforms to variable and uncertain physical endowments, to the speed of economic changes which are taking place and to the continuing prominence of the MWR—the promoter of the law and also the longstanding central and main player in the water sector. However, the law provides for a relatively high degree of autonomy to local authorities (Saleth and Dinar 2000b), and several experiments with bulk water allocation and pricing (Mollinga et al. 2003) and intersectoral reallocation of water rights (Fu and Hu 2002), for example, are reported. Local administrative units, notably provinces (such as Yunnan, which has its own dam agenda), prefectures and county governments all have Water Resources Bureaus with quite a large latitude for water management. Reviewing such experiences is beyond the scope of this report but the (still limited) literature suggests that there is a rather high diversity of situations and experimentations (Lohmar et al. 2003) from which it is hard to derive general conclusions.

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<sup>18</sup>But this principle has been a principle of Chinese irrigation (as well as Vietnam’s) for many years dating back to the 1960s.

### **Box 3. The Thai community forestry bill and the civil society.**

The rise of environmentalism in Thailand has coalesced around a few struggles against dams, pollution threats, deforestation or afforestation, in which the state widely resorted to the use of coercive means and manipulation of media campaigns (Hirsch and Lohmann 1989). The conflict between development and environmentalism is still strongly sensed by leading government agencies. However, the percolation of environmental ideas into Bangkok elites and the idealization of a premodern past where community values and nature (*thammatchat*) fused together (Rigg and Ritchie 2002), contributed to mainstreaming ideas about the vulnerability of both nature and humankind and to the realization that abusing the former will impact on the latter (Nickum and Rambo 2003).

The perception or construction of forests as reserves of biodiversity, carbon sinks or regulating sponges, has unleashed a logic of conservation anchored in Buddhist principles and endorsed by urban elites that is potentially damaging for local communities that live in forest resources (Contreras 2001). NGOs and sympathetic academics have counterbalanced the negative stereotype of hill-tribe communities, emphasizing their traditional knowledge and wisdom and promoting their image as legitimate custodians of upland environments (Trakarnsuphakorn 2003) at the risk, however, of undermining their position as consumers of the resources (land, water and forests) (Walker 2002).

The development of the community forestry bill is believed to reflect the increasing weight of civil society actors and the politicization of stakeholders who were previously marginalized (Contreras 2001). The bill is the first piece of legislation to originate from NGOs through a petition of more than 50,000 signatures, as allowed by the new 1997 constitution (Sato 2003). It has gone through a lengthy process of successive revisions, which has allowed the inclusion of views by NGOs and the civil society. The debate hinges on the crucial question of whether forests must be protected by the people, or from the people and this has proved to be a divisive line both among civil society groups and key agencies, such as the Royal Forestry Department and the Agricultural Land Reform Office (Sato 2003; Johnson and Forsyth 2002). At stake are the use of public forestland by current forest dwellers and the classification of different types of conservation areas and sanctuaries, including the division between forests and degraded forests, the latter being able to be transformed into agricultural land (Roth 2004).

The bill has not yet been adopted and what its final content will be is still unclear. It even seems that the process has been stalled in the last 2 years. The potential importance of the bill in securing access rights for marginalized populations can already be sensed by the impressive growth of community forestry, advocacy groups and petitions for rights (Johnson and Forsyth 2002).

Myanmar has not yet considered updating any of its laws related to water. However, as part of its recent effort to define a National Water Vision to Action, it is considering working on “a unified water resources law so as to promote a more effective legal framework for coordination and management of water resources” and establishing a national water authority (Ti and Facon 2004).

Pressure from external agencies to pass water acts have tended to generate a process whereby these laws are watered down, leave state control intact or increased, pay lip service to the fads of the day (Biswas 2001; Jonch-Clausen and Fugl 2001), and need further decrees to be put into action.<sup>19</sup> Phonechaleun et al. (2002) emphasize “the urgent necessity to implement laws, decrees, regulations for integrated and sustainable management and development of water resources,” but admit “that the enforcement of the Water and Water Resources Law and related regulations [in Laos] is still very weak”.<sup>20</sup> Pheddara (2003) notes the Government of Lao PDR’s “enthusiasm in developing legal and regulatory framework”. Indeed, laws on water, electricity, forestry, mining, land, agriculture, and environment protection have been issued between 1996 and 1999 at the instigation of the ADB and other external organizations. One may wonder whether such feverish legislative activity is useful or not. Pessimists argue that the regulation established is wholly inadequate, at best innocuous and at worst counterproductive, echoing Ostrom’s (2000) warning that “the worst of all worlds may be one where external authorities impose rules but are only able to achieve weak monitoring and sanctioning”:

optimists tend to retort that despite the idealized view enshrined in the laws, these have to be seen as a set of principles meant to underpin future decisions and policies over a long time period. To be sure, both tend to overestimate the power of the state to control the water regime.

The emphasis on law reflects an underlying belief that it can effectively act as a “social glue and ordering mechanism... making visible the contours of relatively stable authorized rules that are enforced by legitimate procedures for the maintenance of social order” (Mehta et al. 2000). In other words, legalistic approaches provide a reassuring illusion that messiness and unpredictability will be circumscribed and stabilized. The power and effectiveness of laws are, of course, contingent upon the control that the state is able to exert on local realities, in particular its enforcement capacity. This is not to argue that laws are not needed but, rather, to draw attention to the fact that legalistic approaches may often be some type of self-delusion in disguise, whereby one denies the messiness of the world by assuming it will/can be controlled, while impeding a deeper understanding of this “messiness,” the recognition of its role in strengthening resilience, and hindering attempts to factor it in process-based approaches.

Institutional reform processes equated to policy and law formulation tend to be highly prescriptive, presenting models for desired end stages and listing policy recommendations (Mollinga 2001). They rest on static<sup>21</sup> and managerial views of the world that deny heterogeneity and uncertainty (Mehta et al. 2000) and leave little room for flexibility and stakeholder inclusion.

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<sup>19</sup>As reported by Malano et al. (1999), the Vietnamese Water Law states general principles but provides no details on the modalities of their application. This will meet development banks’ conditionalities for further funding in the water sector, while possibly deferring concrete actions for an indeterminate period of time. China’s laws, too, leave application modalities to be defined by ulterior decrees.

<sup>20</sup>This is echoed by Pheddara (2003), who sees “an urgent need for the development of further legislation or decrees for sub-sectoral activities; as well as the necessary legal documents to accompany the Law and make it effective”.

<sup>21</sup>A similar static and bureaucratic view of river basin management appears graphically in IWMI (2003), where “right” policies, laws and administration are the three “pillars” supporting the temple: “sharing river basin water resources”.

## Apex Bodies and Three-Tier Institutional Design

Apex bodies are intended to advise governments and improve coordination between the various water-related sectors and ministries (Birch 2004). They have emerged recently as part of what Wright (1999) sees as “modern water management arrangements” to separate as much as possible the three complementary roles that constitute water management:

- Standard setter and auditor/reporter (apex policy body)
- Water resources manager or regulator
- Water operator (for example, irrigation providers or water-supply utilities)

In Asia, apex bodies have been promoted as a “best practice” by the ADB,<sup>22</sup> which has systematically supported the inclusion of a three-tier structure in national water policy reforms. According to Birch (2004), the focus of apex bodies is at the interministerial level and they are meant to influence national debates and reforms, instilling a degree of IWRM thinking and practice into decision making. ADB advocates that apex bodies “are needed in the developing countries of Asia to bring together government, civil society and nongovernment stakeholders to promote effective water policies and guide national water sector reforms” (Arriens 2004), although it is not clear how interministerial committees can achieve much participation of civil society.<sup>23</sup>

One reason that apex bodies proposed by the ADB are relatively well accepted by the different countries might be that they understand the need to improve coordination and overall decision making in issues related to water resources. Yet, setting up such bodies, which are intended to be committees, not operational entities, does not automatically ensure that they will have a strong influence over water issues. Initially at least, they are likely to either remain largely cosmetic, or to appear as a threat to irrigation and other agencies, especially if they try to influence decisions in a way perceived as detrimental by these agencies. These bodies are, in general, an emanation of the higher levels of the bureaucracy and as such unlikely to preside over a drastic redistribution of power.

In Laos, the Water Resources Coordination Committee (WRCC) was established to “provide advice to the government on matters related to water and water resources and to coordinate the planning management, follow-up, inspection and protection of water and water resources aimed at sustainable development and utilization of water and water resources in line with the government policy of socioeconomic development” (Phonechaleun et al. 2002). In 2001, the Vietnamese government set up the Vietnamese National Water Resources Council (VNWRC), to provide consultancy to the government “in the important decisions on water resource that come under the tasks and powers of the government”. The VNWRC’s achievements have so far been rather modest (Birch 2004; Lai 2002<sup>24</sup>). In

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<sup>22</sup>See <http://www.adb.org/Water/NWSAB/default.asp>: “ADB actively promotes and supports the development of national water sector apex bodies to: (a) promote a national focus on water sector reform, through the formulation and adoption of effective national water policies, water laws, improved institutional capacities, information management, and a national action agenda for the water sector; (b) guide a water sector reform process in which the relevant stakeholders in the country collaborate to achieve agreed water sector outcomes; and (c) facilitate policy dialogue and investment partnerships in the water sector with development partners, including ADB”.

<sup>23</sup>The compositions of the apex bodies of Vietnam (Anonymous 2000b) and Laos (Anonymous 2000a) do not show any inclusion of non-state participants. Arriens (2004) sees an initial role of apex bodies as “multi-stakeholder forum at the highest level”, which does not accord with their composition, unless stakeholders are assumed to be limited to the state apparatus.

<sup>24</sup>An official report in 2002 on ONWRC (Lai 2002) states that “there is a perception that ONWRC is small and poorly supported... and inactive”.

Thailand, the ONWRC has been set up without legal backing as part of the reforms instigated by the ADB and the World Bank and its past record is still modest. Despite the dedication of some officials, the committee's outreach is constrained by limited staff and resources, and its lack of power when dealing with long-established line agencies. Birch (2004) acknowledges that apex bodies must take a step-by-step approach and gradually build their capacity and legitimacy, and that they eventually critically depend on leadership and on the existence of a "champion" dedicated to pushing the new IWRM agenda.

The separation of the management/regulatory and water provision roles is a much more touchy issue because it meddles more deeply with the existing distribution of power. Therefore, it is no surprise that little, if any, progress is recorded on this point. The management function is generally being entrusted to Water Resource Management Departments established in new ministries responsible for natural resources or water as a whole. This is the origin of MoNROE in Vietnam, the MNRE in Thailand and, to some extent, of the MOWRAM in Cambodia.<sup>25</sup> So far, the experience has been inconclusive because powerful irrigation agencies have remained under the Ministry of Agriculture in Thailand and the MARD in Vietnam. The new Water Departments have generally been staffed with individuals transferred from the irrigation agencies, who then found themselves in a delicate situation vis-à-vis their professional communities of origin.<sup>26</sup> From an initial theoretical position whereby regulator bodies were considered to be fully neutral and independent, the ADB has now realized that establishing such bodies has met with fierce resistance from traditional line departments and acknowledged that a more flexible approach was preferable (Arriens 2004). Yet, regulators must show qualities of efficiency, accountability and transparency to build an image of credibility.

On balance, it is too early to draw conclusions from these attempts to reorder roles and responsibilities in the water sector. However, regardless of whether the new concept is sound or not, it has not yet proved to be effective and it remains to be seen whether traditional structures will accept and adapt to these changes. The separation of roles has many benefits (Abernethy 2005) but it hinges on the assumption that water management can be expressed in terms of service agreements, abstraction licenses, allocation rules, enforcement, etc., which is often a far cry from the reality on the ground.

## Participation and Turnover

The ideology and rhetoric of participation have long infused development theory and practice (Cleaver 1999; Nelson and Wright 1995). The underpinning of the concept is that participation is conducive to greater efficiency and equity in management; that problems are better solved by those who experience them, and that projects are better maintained and more sustainable when designed and taken care of by the direct beneficiaries. Participation can be conceived as a tool (for better management) or as a process (with view to empowerment). In the water sector, there have been repeated and widespread attempts to replicate the traditional organizations for water management, observed in small communal systems (based on small tanks, run-of-the-river diversions, springs and qanats), adapting them to large-scale schemes. Experiences with participatory irrigation management (PIM) or management transfer (turnover) have had mixed results (Vermillion 1997; Samad and Vermillion 1999; Kolavalli and Brewer 1999; Meinzen-Dick et al. 1994), mostly because of a lack of genuine farmer empowerment and redistribution of roles, and of

<sup>25</sup>But Cambodia also has a Ministry of Environment (in addition to the Ministry of Agriculture and to the Ministry of Rural Development).

<sup>26</sup>In their new departments they are accused to be a "spy" of the irrigation agencies, while in these agencies they are considered as "traitors"... [a RID official, name withheld].

limitations in hydraulic infrastructure (Facon 2000, 2002).

In Cambodia, participation principles are reaffirmed in the draft water policy in a standardized and politically correct manner<sup>27</sup> but the main policy line is the transfer of small- and medium-scale irrigation systems to Farmer Water User Communities (FWUCs). A long-term program called Participatory Irrigation Management and Development (PIMD) has been launched by the MOWRAM to establish FWUCs as legal entities with the right to own irrigation systems, hold bank accounts and enter into legally binding contracts. They are to be responsible for the O&M of their scheme; however, it is also clear that the "essential principle of PIMD is cost sharing" (Sinath 2003). After rehabilitation of the scheme (if needed) the FWUCs are to collect a fee: this is, initially, supported by the government, with a participation that decreases each year by 20 percent, over a period of 5 years. This income is to be reinjected into maintenance activities (that still need the approval of the Ministry), while possible surpluses can be used for collective investments such as tractors, threshing machines, pumps or seeds. The project is still at the initial stage and includes setting up one pilot project in each of the 22 provinces, while provincial teams are trained to establish and assist FWUCs.

The PIMD is a top-down program where farmers are considered as recipients of the

knowledge<sup>28</sup> and advice of the administration and experts, and are sometimes considered not to fully understand the issues at stake.<sup>29</sup> The declared objective is "to catch the big benefits via using the participatory approach to mobilize, organize and explain to the farmers how important are the FWUCs, the responsibility for further O&M" and to instill a sense of ownership after rehabilitation of the irrigated system (Sinath 2003). The challenge of the project is to build up mechanisms of financial sustainability at the scheme level to avoid recurrent state expenditures or rapid deterioration of infrastructures. Several other similar initiatives have been launched by different NGOs (Roux 2004). Cambodia, at first sight, offers an interesting example of a contradiction between the global participative rhetoric used in many development projects and a sociocultural context that is considered by anthropologists and political scientists as the least amenable to such ideals (Chandler 1996; Ovesen et al. 1996; Giovalucchi 2003): the social structure is reputedly loose, with an all-pervasive notion of hierarchy and a strong control by the state on local life; communal work is associated with forced collective labor; marked inequalities and lack of personal security foster traditional patron-client relationships, etc., but these facts are hardly taken into consideration to adjust policies and interventions to the Cambodian context.<sup>30</sup>

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<sup>27</sup>One of the policies is "To promote and facilitate the participation of private investors, stakeholders, beneficiaries, NGOs, and International Organizations, especially women, the landless, and other disadvantaged people, in planning and management of water resources" (KOC 2002).

<sup>28</sup>The FWUCs must receive training on all aspects of water management, including the crop water requirements, frequency of irrigation, water distribution, some idea of how important are participatory irrigation management, irrigation management transfer, and the national policy for FWUCs from the multi-disciplinary support team for FWUCs assisted by the external FWUC experts" (Sinath 2003). If the external intervention can be beneficial for setting mechanisms of fee collection and management, it is doubtful whether farmers will have much to learn on how to manage water under local conditions.

<sup>29</sup>"Some farmers who are members of the FWUCs do not yet understand the conceptualization and exercises of FWUCs, PIMD, and the policy reform in the irrigation sector, causing some FWUCs to not function well and local investments are not used" (Sinath 2003).

<sup>30</sup>See Ovesen et al. (1996): "The all-pervasive guiding principle for Khmer social life is the notion of hierarchy. All social relations are hierarchically ordered. The hierarchy is primarily expressed in terms of age...The social order is felt to depend upon everybody observing this status hierarchy and keeping his/her place in it". And also: "Certain political conditions are especially conducive to the existence and promotion of systems of patron-client relations. These conditions are the persistence of marked inequalities of wealth, status and power, which are afforded a certain legitimacy; the relative absence of effective impersonal guarantees such as public law for physical security, property and position; and the inability of either kinship units or traditional village community to serve as effective vehicles of personal security or advancement. It is hard to think of a country that fits these conditions as well as Cambodia".

The state-centered Law of Vietnam is parsimonious with regard to participation. It contains 71 occurrences of "state," 49 of "Government," but none of "participation" or "participatory". This can be attributed to the particular conception that people are effectively represented by local People's Committees and other official organizations. This may appear as a practical way to sideline civil society but such conception is also genuinely ingrained in local political discourse and culture, and the writers of the law did not feel the necessity to pepper its articles with participative rhetoric. In that sense, the notion of "civil society" is redundant. It is abundantly clear from official documents that the statement: "involvement of stakeholders is important for integrated water resources management" (Lai 2002) refers to the involvement of all ministries and provinces concerned. Likewise, China's water laws also make no mention of participation other than that of the concerned department and layers of the bureaucracy. The concept of civil society is absent and the same conception of people represented by their administration prevails.

In Laos, new policies are said to include "fully decentralized 'bottom-up' participatory planning with the governmental system" (Khamhung 2001) but there is little sign that this translates to giving people more say on, for example, the large infrastructures that are planned in the country (e.g., Nam Theun 2 or the Theun-Hinboun project; see Hirsch [2001]; Pahlman [2000]). The fact that NGOs are not allowed in Laos also gives a measure of the limits within which civil society is allowed to participate. According to Khamhung (2001), the rationale for the policy to transfer ownership and associated costs of irrigation to farmer users is based on the belief that "traditional irrigation systems have been efficiently managed by farmers' communities" and also on the economic necessity for the government to reduce agriculture-sector subsidies. The 1998

Prime Minister's Order No. 26/PM on transferring irrigation projects to community organizations aims at "promoting and supporting the role and responsibility of WUAs in the management of irrigation systems; assisting in the reduction of the responsibilities of government agencies in the routine management of irrigation systems; ensuring the smooth transition of the full transfer of ownership of all irrigation infrastructure to WUAs; and improving the efficiency of operations, management and water distribution on all irrigation systems" (Khamhung 2001).

In Thailand, the ideology of accountability and participation finds some common ground with that of self-reliance, cooperation and participation co-opted by governmental (in line with the 1997 constitution) and academic circles, as well as with the rhetoric of the NGOs on grassroots democracy and community-centered development (Rigg 1991). It is thus little contested but the underlying conceptual understanding or assumptions of the different actors are often at variance.

Molle et al. (2002) have reviewed the Thai experience with Water User Groups (WUGs) and Water User Associations (WUAs) in large-scale public schemes and identified several reasons for their repeated failure. Most reforms focused at the tertiary level because irrigation agencies usually have little interest in what is occurring beyond the tertiary turnout. When supply at the tertiary level generally depends on allocation and distribution at higher levels in the system and cannot be made predictable, farmers soon discover that there is nothing to be managed and the WUGs become apathetic. Organizational needs of water management have also been radically changed due to the introduction of direct seeding in lieu of transplanting, the development of secondary water sources and the spread of pumps. This has weakened the exigency for coordinated actions and given free ride to individual strategies.<sup>31</sup> Likewise, the necessity of

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<sup>31</sup>However, there are exceptions to this rule: Pump irrigation projects, for example, have a stronger cooperative organization because of the need to collect money for their own electricity costs and also to pay for the water supervisor, who operates and allocates water (Chaiwat 2005). Molle et al. (2001) provide other examples of collective action in large-scale irrigation schemes.

organizing collective work parties or of collecting funds for maintenance has been undermined by the use of funds available at the village and tambon level.<sup>32</sup>

Rather than issues of O&M at the tertiary level, the problem that has gained prominence in a context of water scarcity is the allocation of water in the dry season. The definition of (seasonal) entitlements, in which users have a say (as a first step to defining water rights), is the preliminary step to the definition of service agreements. Such agreements must be accompanied by a technical capacity to operationalize them, to monitor distribution and to assess whether the actual and the agreed supply match. This, again, has technical, managerial, legal and political implications that need combined support from the government, the political class and society, which are currently overlooked (Facon 2002; Molle 2004).<sup>33</sup>

Stressing both the importance of community involvement and their poor responsiveness, officials are caught up in the contradiction inherent in the neo-populist discourse of “empowerment,” which comes with both an interventionist thrust (behind awareness-raising or “educating villagers”) and a priority allegedly given to local knowledge and participation (Long and Villarreal 1996). Attempts at joint management of natural resources (Heyd and Neef 2004) or to

institute Participatory Irrigation Management are still perceived locally as state-initiated and state-oriented,<sup>34</sup> without real benefit to the farmers in terms of improved access to water.<sup>35</sup> The contradiction between the decentralization rhetoric and the very nature of the Thai bureaucracy prompted Rigg (1991) to state that “a truly decentralized, grass-roots development approach comes into conflict with bureaucratic methods and Thai society”.

More generally, in the whole region, the rhetoric of participation in official discourses and the prevailing cultural representations of farmer/official relationships are often at odds. This can be clearly sensed during workshops and seminars, where officials are given the opportunity to express their viewpoints: “UNDP, UNEP, MRC, ADB, everyone who cares about environmental sustainability is a stakeholder, even the people themselves are stakeholders” (a Cambodian official);<sup>36</sup> “you have to make people understand your will” (a Thai RID official); during a workshop on water policy in Sri Lanka an official leading a pilot RBO initiative declared that no NGOs were selected “because they are not aware of the present situation,” while the administration was reported “to show good interest” (Molle 2004).<sup>37</sup> These and many other declarations reveal deeply ingrained conceptions that are often at loggerheads with the intended activity and cannot be uprooted overnight.

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<sup>32</sup>This will be accentuated with the Tambon Administrative Offices (TAOs) getting more funds as part of the decentralization process.

<sup>33</sup>One of the main weaknesses of the water policy under the ASPL was to overlook the difficulty to establish service agreements in schemes that often have little control on both the availability of water and distribution.

<sup>34</sup>This can be seen in the use of the term “phi liang” (phi is elder, liang is to feed or, by extension, to raise; the meaning here is mentor or counselor) applied to RID with regard to its establishment of WUGs. Interestingly, this word is used by both RID officials and farmers. concrete actions for an indeterminate period of time. China’s laws, too, leave application modalities to be defined by ulterior decrees.

<sup>35</sup>The successive efforts to establish and strengthen WUOs have not only been unsuccessful and wasteful in terms of budget and energy but also contributed to the spread of mistrust and a lack of interest regarding state-initiated groups. This is reinforced by the tendency of the Thai government to pile up state-supported groups for various activities—rice banks, buffalo banks, fishing groups, cooperatives, peer groups for credit, cooperative shops, cottage industry groups—even though most groups appear to be apathetic (Molle 2003).

<sup>36</sup>Southeast Asia Water Forum, Chiang Mai, December 2003, emphasis added.

<sup>37</sup>Likewise, in Tanzania, an official asserted: “we take the best decisions possible and the people help us in implementing them. This contribution is the way for them to participate” (Geheb 2003).



## IWRM and River Basin Management

IWRM and river basin management are definitely ubiquitous attributes of a "modern" water policy. They have received wide and consensual support from all quarters and feature prominently in all legislations. The underpinning of these concepts lies in the recognition that basin-wide interactions between upstream and downstream, surface water and groundwater, quality and quantity, and among uses and users, require integrated and systemic approaches to water management, as opposed to the sectoral and fragmented approaches followed in the recent past.

In Cambodia, the four priorities listed by MOWRAM include the establishment of a pilot RBO for the Prek Thnot river basin, which includes Phnom Penh. As for now, no activity is reported and the objectives and targets set up remain very general (Tara et al. 2003).<sup>38</sup> Myanmar, as part of its recent attempt to define a national Water Vision has targeted the Sittoung river basin (Ti and Facon 2004). Likewise, in Laos, the Nam Ngum river basin (NNRB) has been selected<sup>39</sup> as the first river basin to demonstrate the usefulness of IWRM approaches, because of the existing and planned water-sector investments as well as its proximity to the capital, Vientiane (ADB 2004). The National Water Vision for Laos (Phonechaleun et al. 2002) stresses not only the participatory nature of the RBO but also that management is under the control of the government. It stipulates that "the river basin organization must ensure that the local authority and community are appropriately involved and must report periodically on the status of the water and water resources to the Prime Minister's

Office to ensure efficient management of water and water resources".

In Thailand, the Seventh National Plan (1992–1996) provided strong incentive to the development of guidelines for water resources management in all 25 basins of Thailand (Sethaputra et al. 2001). This appears to be a desirable policy, especially in the basins where intra and inter-sectoral competition for water is highest. Basin studies, with detailed analyses of existing resources, uses, and problems were carried out for each of the 25 basins during the period of this plan. These studies were followed by a policy to gradually establish RBOs in these 25 main basins, the task of setting them up being incumbent upon the ONWRC. Farmers were grossly underrepresented in the earlier eight pilot RBOs<sup>40</sup> but the ONWRC (now the Department of Water Resource) has worked to correct this imbalance. Three pilot RBOs that had received early support from the World Bank (Pasak river) and from the ADB (upper-Ping and lower-Ping rivers) are showing some interesting evolution (Ankularmpai 2004). From an early composition heavily biased towards administrative representation, some RBOs have now been divided into subbasin committees, which choose/elect representatives at the village level, with further cooption of some of these representatives at the subdistrict, subbasin and basin levels successively.

However, the lack of political and institutional support, with no formalization or recognition by law of their roles and power, is likely to affect these RBOs in the very same way they affected both the ONWRC ("upstream" of them) and the WUGs ("downstream"). The odds are high that

<sup>38</sup>Or sometimes utterly unrealistic: "Increasing water production two times in five years," "Decreased conflict in the river basin in two years" (Tara et al. 2003).

<sup>39</sup>An integrated river basin management and development plan (IRBP) is to be developed for those subbasins of the Mekong river and subbasins of other rivers, which are important for socioeconomic development plans at the national and local level, or which have a high potential for water use conflicts (Phonechaleun et al. 2002).

<sup>40</sup>The RBOs of the upper and lower Ping rivers, for example, had only two farmer representatives each, compared with 20 officials. The 1997 (unofficial) draft Water Law stipulates that the RBO should include "no more than 21 persons in total. They may be the government officials or the official of the government enterprises or the qualified persons who have achievements, experience pertaining to the state water resources. The appointment should have selected a certain number of officials in the field of water resources".

these proto-RBOs will remain paper organizations with limited power and a consultative role rather than strong participants in arenas of negotiation and decision making.

It is also interesting to note how well the rhetoric of IWRM has been seized by consultant firms. Two consultants, for example, recently (2003) drew a Master Plan for the Ping river on behalf of the MNRE and claimed that "it was the first time basin management and integrated plans for water resources management were applied to solve the problems of drought, flood and water quality". An integrated plan would be to establish both structural and nonstructural measures but while both are comparable in numbers the budget planned for the former ends up being only 1.3 percent of the total. Problems are to be "mitigated" by the implementation of both basin-level and local measures: numerous meetings with communities were used to produce a list of 5,056 desirable investments (mostly for domestic supply) "requested" by local people. These claims of a largely participative process are used to enhance the plan's legitimacy but there is no mention of discussions/dissent about any of the large-scale plans envisaged, which seems to have been removed from debate.<sup>41</sup> The plan proposes investments over 20 years for a total amount of roughly US\$2 billion, of which 1.2 is for the "Bhumipol reservoir inflow augmentation project," which would divert 3.77 Bm<sup>3</sup> from the Salween river basin into the dam. While the plan is comprehensive in its identification of possible measures, it is hard to see in what it is "integrated" or what it differs from earlier

bureaucratic water- resource development planning.

A very similar approach has been deployed in the Thepha-Nathavee basin, in the south of Thailand. There the consultants played the role of middlemen between, on the one hand, a Provincial Working Group composed of high-level representatives of all the authorities concerned and, on the other, subdistricts and local communities, with no direct interaction between the two groups (Chupisanya 2003). There, also, participation was measured by the large number of meetings held with local people to request them to examine problems, suggest solutions and apply for actions further listed as "projects". The surprising part of the exercise is that a planned total budget of 4.3 billion baht for 34 projects (27 of which are to be implemented within the next 20 years) has seemingly been approved, without looking at how benefits compare to costs.<sup>42</sup>

China's 2002 law (CIECN 2004) stipulates that the "state shall, with respect to water resources, adopt a system that organizes the administration by watersheds as well as by administrative areas" and that comprehensive watershed plans<sup>43</sup> will be "formulated by the Department of Water Administration under the State Council". The functions of river-basin management focus on data collection, planning and interprovincial management on the key rivers. The Ministry of Water Resources retains a central role through its provincial departments but no role is granted to other stakeholders<sup>44</sup> in the possible negotiations for water allocation or development plans. Shen (2004) believes that the law is "a

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<sup>41</sup>The report refers to "public participation in sharing ideas and preparing local plans". It states in an odd manner that "Most people know that the Ping river basin plan has been prepared, and as a result they support the plans". The plan is divided into "local level" and "basin level" actions and the document suggests that only local problems, solutions and actions are discussed with local people. Such a device allows the removing of larger projects from the debate.

<sup>42</sup>As in the Ping case, the report claims that in contrast to earlier "top-down" planning approaches, "it was the first time that RID had decided to try an opposite direction, i.e., adopting a "bottom-up" approach, with a "comprehensive public participation process".

<sup>43</sup>"The 'comprehensive plans'... shall refer to the overall arrangements, formulated according to the needs of economic and social development and the present situation of the development and utilization of water resources, for the development, utilization, preservation and protection of water resources, as well as for the prevention and control of water disasters" (CIECN 2004).

<sup>44</sup>A section under the title "Promote public participation" in another official document (WWC and CMWR 2003) states that the "Chinese Government has paid great attention to the propaganda and education of sustainable development" and gives examples of academics taking part in studies and technicians going to the countryside to promote efficient water utilization and its sustainable utilization as examples of public participation.

milestone" but that its application is likely to face several problems, notably the equilibrium between river- basin management and jurisdictional management, the lack of integration between water quality and water quantity, unclear separation of the functions of the regulator, manager and provider, and a low degree of participation.

Vietnam enshrined river-basin management in its 1999 water law. In 2001, it started to build up RBOs for the Red, Dong Nai and Mekong (delta) river basins (Wright 1999). As mentioned earlier, RBOs "must fit in the country administrative system" (Phan 2003). For the government, there is no question that official bodies, in particular at the local level, like districts, communes and People's Committees, do adequately represent the people, their needs and interests. The River Basin Planning Management Boards (RBOs in short) are seen as coordination institutions between different administrative scales/levels made necessary by the fact that river basins do cut across provinces and that interaction through the hydrological cycle requires management at an upper level (Phan 2003). They are established with the duty to "advise the Minister of MARD on planning and development projects, management mechanism, policies and on other issues relating to management, exploitation, utilization and protection of watercourses in the river basin," and to "submit proposals" to the Ministry. It is mainly conceived as a coordinating body between "ministries, state agencies and People's Committee of centrally-governed municipalities

and provinces within the river basin" with, in particular, the duty to request the necessary information that will allow decisions to be taken centrally. In addition, a General Office has been established to coordinate RBO offices under MARD (Su et al. 2004).

The Cuu Long RBO, for example (Mekong delta), supported by AUSAID, is focusing its work on gathering data and improving cooperation and integrated planning/management over the 12 provinces concerned (Cantor 2003). That it is part and parcel of the administration is strikingly illustrated by the fact that "the standing members of the RBO have been selected almost exclusively from Central Government Agencies based in Hanoi, more than 1,000 km from the delta, with non-voting representation from the provinces" (Cantor 2003). The need for coordination between provinces has become crucial to address the combined impact of land and water development on the river flow in the dry season (and resulting salinity intrusion threats).<sup>45</sup> The Red river RBO was supported by the ADB. A first phase (1999–2001) focused on data collection, design of a basin profile, monitoring changes in land and water use, and increasing communication and coordination between agencies.<sup>46</sup> The initiative also had to face "little [existing] communication and joint effort between the line agencies" as well as between provinces (Wright 1999). The achievements of the RBO are therefore still limited and it is faced with a comprehensive list of challenges (Sach 2004).

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<sup>45</sup>The closure of the delta, the reclamation of the Plain of Reeds and the transformation of the traditional floating rice area all entail growing water abstraction and depletion in the dry season. The different provinces are busy widening their canals in order to ease the inflow from the Bassac or the Mekong river, without considering the resulting cumulative impact on the flow at the mouth of the river arms. Modeling shows that, in dry years, salinity will intrude into the main branches of the Mekong, and laterally into the ungated waterways, endangering agriculture, notably fruit cultivation (Can Tho University and IRD 2001; see also Miller 2001). The evolution of the hydrograph of the Mekong river at its entrance point in Vietnam as a result of ongoing dam development in upper reaches of the river will be paramount in defining what is possible to achieve and what is not; it is widely expected, however, that interseasonal regulation will be improved, thus benefiting the delta in the dry season (Adamson 2001).

<sup>46</sup>Wright (1999) emphasizes the benefits expected from the RBOs as follows: "A major feature of the proposed RRBO [Red River Basin Organization] is that it will provide a forum for all major stakeholders (including those representing irrigation interests) to discuss, negotiate and agree upon recommendations for planning decisions to be submitted to the government. Although the Water Resources Law makes it clear that the RRBO will not have 'state management functions' (to use the Vietnamese terminology), it will have a major influence on the water resource management of the basin. Accordingly, irrigators will have an increased say in planning decisions, which impact on their sub-sector under the proposed arrangements."

The Vietnamese case well illustrates the dialectic of basin governance that, on the one hand, demands decentralization/participation, and where, on the other, integrated management also requires a degree of recentralization of decisions and command, or at least some high-level coordination. It is recognized that empowerment of local authorities in the 80s has produced a fragmentation of water planning and management that created negative impacts (Wright 1999; Cantor 2003). Each province operates with a strong local perspective both in terms of management and planning of future works. The administrative structure is very hierarchical and provincial services are linked to MARD. As reported by Wright "any major issue affecting more than one province becomes a sensitive issue within MARD and is usually handled by separate discussion with each province". As some shortcomings of this fragmentation gradually appear, the RBOs might be seen as the place for the central government to reassert its authority regarding issues that eventually prove to transcend local boundaries, or to special interest-groups to promote narrow-focus development (Barrow 1998).

The way consultant firms or bureaucracies seem to ride the wave of IWRM supports Biswas' (2004) claims that "because of the current popularity of the concept, some people have continued to do what they were doing in the past, but under the currently fashionable label of IWRM in order to attract additional funds, or to obtain greater national and international acceptance and visibility". Likewise Jonch-Clausen and Fugl (2001) fear that IWRM may have "degenerated into one of these buzzwords that everybody uses but that means many different things to different people". Just like participation, IWRM appears as something desirable and uncontroversial and official documents can resort to it abundantly and at "no cost".<sup>47</sup>

IWRM remains an attractive and consensual concept but its implementation necessarily means a redistribution of power, a change in the mindset, and capacity building which, in practice, can be but slow processes. As Biswas (2004) noted, "In the real world, integrated water resources management, even in a limited sense, becomes difficult to achieve because of extensive turf wars, bureaucratic infighting, and legal regimes (like national constitutions)..." In addition, one may wonder whether RBOs make sense in basins where competition over water is limited, storage capacity negligible/limited, or where both state regulation capacity and involvement of the civil society are weak. Instead of trying to cover all 25 basins in the country, Thailand might rather put her efforts on three or four basins with clear competition and allocation problems.

## **National Policies, the Management of the Mekong River and Other International Issues**

The Mekong river itself remains surprisingly pristine and undammed in its lower course, despite grand plans drawn up in the 1960s and 1970s to transform the basin into a sort of Tennessee Valley Authority. This can be partly ascribed to the difficulty of building reservoirs along the course of the river and also to the political instability of the region during the past four decades (Radosevich and Olson 1999; Kaosa-ard and Dore 2003).

National policies and development of water resources in the many tributaries of the river directly affect the flow in the Mekong, in terms of timing, quantity and quality. So far, interventions in the Chinese part of the basin have been limited but this has now changed with the construction of four dams (out of a total of eight reservoirs planned) (Dore and Yu Xiaogang 2004).

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<sup>47</sup>See for example a document on Laos: "The immediate objective of the Water Sector is to foster and institutionalize the IWRM approach in the mainstream planning process of the Government both at the central as well as at the provincial level" (Anonymous 2004a).

Forthcoming impacts of the Chinese dams are still unclear but opinions vary from alarmism (TERRA 2002) to relative confidence that sustained dry-season flows will benefit the basin (Adamson 2001; Ringler et al. 2004). However, the main impact of a change in the hydrological regime (especially from the daily fluctuations in dam releases following electricity requirements), is likely to be on fisheries, since several species have reproduction cycles attuned to the current water regime and the size of the fishery is directly related to the size of the flood. While Laos has only one major dam (Nam Ngum), Thailand has intensively developed its tributaries on the Khorat plateau (Lohman 1998) and has carried out studies on the possibility to divert significant parts of the Kok river, in Chiang Rai province, before it reaches the Mekong, as well as some Mekong tributaries located in Laos (by siphon under the river). Vietnam is also moving ahead with an aggressive hydropower development plan.

Potential for conflict from further direct abstraction from the Mekong or excessive use of its tributary streams is therefore high

(Öjendal 2000), but efforts by the Mekong River Commission (MRC) have so far contributed to staving off divisive actions (Frederiksen 1998). In 1995, after 3 years of intense negotiations, the "Mekong River Agreement"<sup>48</sup> was signed by the riparian countries (except China and Myanmar). The focus of the agreement is on "reasonable and equitable utilization" and "prevention and cessation of harmful effects" (with concern for environmental protection, ecological balance, pollution, fisheries, etc.). The touchiest section of the agreement is article 5, which constrains diversions from the main stream and from tributaries (Radosevich and Olson 1999).<sup>49</sup> Analysis of the agreement and consequences for riparian states are beyond the scope of this report. What needs to be noted here is that development of dams and diversions in each country are, in theory, constrained. Although the recent events<sup>50</sup> in the Se San river (Vietnam/Cambodia) (Hirsch and Wyatt 2004; Öjendal et al. 2002) bode ill for the future, there are signs that the agreement acts as a deterrent to transbasin initiatives in Thailand.

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<sup>48</sup>or "Agreement on the cooperation for the sustainable development of the Mekong river basin."

<sup>49</sup> A. On tributaries of the Mekong river, including Tonle Sap, intra-basin uses and interbasin diversions shall be subject to notification to the Joint Committee.

B. On the mainstream of the Mekong river:

1. During the wet season:

a) Intra-basin use shall be subject to notification to the Joint Committee.

b) Interbasin diversion shall be subject to prior consultation, which aims at arriving at an agreement by the Joint Committee.

2. During the dry season:

a) Intra-basin use shall be subject to prior consultation, which aims at arriving at an agreement by the Joint Committee.

b) Any interbasin diversion project shall be agreed upon by the Joint Committee through a specific agreement for each project prior to any proposed diversion. However, should there be a surplus quantity of water available in excess of the proposed uses of all parties in any dry season, verified and unanimously confirmed as such by the Joint Committee, an interbasin diversion of the surplus could be made subject to prior consultation.

<sup>50</sup>Management of dams in Vietnam resulted in human death and severe damage in downstream areas located in Cambodia.

## Discussion

This brief review of policies in the water and irrigation sectors of the Mekong countries has yielded a number of both commonalities and discrepancies. It is apparent that the different countries are at different levels of water resources development. Laos and Cambodia are still at an early phase of infrastructural development and face the challenge of adopting better and more inclusive decision-making processes than their neighbors were able to devise. Thailand and China have already significantly developed dams and irrigation schemes and are expected to move towards improved and more environmentally sensitive management. Vietnam and, probably, Myanmar stand somewhere in the middle and still have extensive plans to develop hydropower. Here, participatory decision making and willingness to manage water with a view on other uses need to be strengthened.

### A Global Toolbox?

The development and evolution of water policies in all these countries<sup>51</sup> also bear, at least superficially, a number of similar features. They embody, tentatively or permanently, formally or informally, several traits that are part of the global "toolbox" of what is being promoted as "best practices," "internationally recognized principles," or "modern management". The hegemony and popularity of such principles, according to Biswas (2004), have something to do with their vagueness. "Integrated," "participatory," "decentralized," "pro-poor," "transparent" or "accountable" practices signal a "brave new world"

and are at a certain level consensual, but their reification into a set of standard policy prescriptions may stymie or preclude the search for more flexible, adapted and negotiated outcomes.

The apparent uniformity of these water institutions partly stems from their promotion by bilateral and multilateral agencies, and also through mainstream literature and international conferences (Merrett 2003), or through influential NGOs such as WWF or IUCN. On the one hand, ADB discards the one-size-fits-all approach and acknowledges that "there is no standard approach that fits all the needs" (Arriens 2004) and on the other, it proposes a quite unambiguous model of water regime, whereby "modern" water legislations are enacted, the state is confined to a regulatory role decentralized down to RBOs, while irrigation and urban waters "services" are assured by providers and utilities, duly paid by their clients in order to ensure full cost-recovery (Arriens 2004).<sup>52</sup> Irrespective of the merits or limitations of such a water regime, this approach tends to "freeze" the range of arrangements and site-specific mix of communities, state and private management that are precisely what needs to be defined endogenously.

Mainstream approaches fostered by development banks or international agencies/think tanks and aimed at disseminating "best practices," organizing regional seminars and cross-country field visits do have positive aspects. They enable the formation of a wider community of water decision makers who may learn from each other by putting their own context into perspective; they allow the diffusion of general principles and the identification of

<sup>51</sup>To a lesser degree in Myanmar because of its particular political situation.

<sup>52</sup>The World Bank pursues a similar approach. Saleth and Dinar (2000b), for example, review water reform processes in 11 countries and extract for each of them what they consider as "best practices," or "healthy practices that can strengthen the institutional basis for better water allocation, financing, and management;" these include IMT, the formation of RBOs, water permit registry, market-based water allocation, privatization of urban water supply, water law, etc. These practices are presented as elements whose achievement is a measure of success and modernism, but their relevance (or lack thereof) to a particular context is not discussed. In the old way of Rostow's "take-off" and need for underdeveloped countries to "catch-up," water rights in Chile and Australia show that they are in "an advanced, though not yet an ideal, stage of institutional evolution".

common problems and solutions at a generic level; they offer support/expertise and foster national processes of reflection on policies and the establishment of priorities; they sometimes elicit dialogues between segments of the administration or ministries that share responsibilities on water issues but do not coordinate their actions.

But policies are often top-down prescriptions consisting in identifying "lacks" and failures and then "providing" what has been identified as missing. Rehabilitation programs look for a "technical fix," PIM policies or administrative reforms for an "institutional fix," and new laws and regulation for a "legal fix". All these approaches include a good deal of naive social engineering that purges social processes of their political dimensions. Wright (1999), for example, believes that in Vietnam "inter-province problems... would benefit a great deal if there was a basin wide forum to discuss and resolve, where all stakeholders are seen as equal partners," overlooking the hierarchical and political nature of regional development. Likewise ADB's policy is presented as being "essentially about improving water governance"... for the reason that "making right decisions lies at the heart of good governance" (Arriens 2004, emphasis added). It is implicit that "right" refers to the set of normative elements mentioned earlier rather than to a value-laden process of negotiation from which socially sanctioned solutions could emerge.

A corollary of the standard policy toolbox approach is that changes are evaluated based on the formal existence of particular administrative devices or institutions, without looking too much at contents and processes. This is reinforced by the requirement for development banks and project managers to "measure" the impact of their

interventions.<sup>53</sup> They thus run the risk of finding themselves in the situation where the success of participative programs is supposedly assessed by the number of WUGs or RBOs set up (by the government), or by the number of meetings held with "stakeholders". It is obvious that the mere formation of an RBO does not ensure integrated management (Schlager and Blomquist 2000) nor does a water law reorder a water regime by itself (Shah et al. 2001). As Jasper (2001) noted with regard to the situation in Zimbabwe, it is becoming "painstakingly apparent that it takes more than good legislation to guarantee a change for the better".<sup>54</sup> Many formal institutions are a priori neither necessary nor sufficient.

All in all, it might take some degree of self-deception to think that RBOs in Vietnam will allow "full representation of all stakeholders," that Laos (Pheddara 2003), or MOWRAM in Cambodia, will be able to register (and tax) water users and grant permits, or that applying licenses and water use fees will "increase efficiency of water use". Such convictions largely overestimate the capacity of the states to reorder the water regime. The common overemphasis on state power is a reflection of the conception of development as the introduction of packages consisting of "various mixtures of expertise, capital, technology, and effective modes of organization" (Long and van der Ploeg 1989) conveyed through expert knowledge (Arce and Long 2000).

## Transposition of Experiences and Mind-Sets

The question of the transposition of experiences from one setting to the other is central to

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<sup>53</sup>A graphic example of this is provided by a "progress report" on water sector reforms in Asia (Mosley 2004), which establishes a list of 41 "policy elements" and estimates to which degree different countries have achieved them. These elements include "legislation adopted," "private sector investments," "cost recovery," "river basins/aquifer organization," "rights and responsibilities of stakeholders," etc. See a similar approach towards overall assessment of the "health" of water institutions in Saleth 1999 and Saleth and Dinar 2000a.

<sup>54</sup>The 2002 draft water policy for Cambodia states: "A Law on Water Resources Management will soon be adopted by the national assembly. After it has been promulgated, water management, water allocation, investment, water use, and water resource development will be effective and sustainable, with MOWRAM having the responsibility for enforcement" (KOC 2002).

development theory and practice.<sup>55</sup> Are “success stories,” “best practices,” or “promising technologies” readily transferable to other contexts? Many analysts observe that the water sector appears to be largely littered with well-intentioned and rationalistic reforms that have failed to fully appraise the context of their implementation (Sampath 1992; Molle 2001; Pigram 2001; Shah et al. 2001). This raises two questions: is a particular reform element sound or indeed relevant in a particular context?<sup>56</sup> And can this element be readily introduced by a voluntary and formal administrative fiat? In other words, even if a particular policy is likely to bring benefits, has its introduction any chance of success within the particular political-economic context? For example, it is not superfluous to ask whether the enactment of certain laws is so pressing when there is no accompanying existing enforcement capacity, or whether IWRM principles and basin management are so crucial in countries like Laos and Cambodia, which hardly divert 1 percent of their water. Likewise, does the mere setting up of apex bodies or RBOs ensure that they are of any use? In Sri Lanka, a Water Resource Board was established as early as 1964 to promote IWRM, river basins and trans-basin development, and to tackle pollution. However, it could never fulfill such ambitious tasks and eventually confined itself to hydrogeological studies and tube-well drilling (Shah et al. 2001). There are many examples in the world of RBOs established without support, power, or funding, which quickly degenerated or disappeared (Dourojeanni 2004).

It is interesting to note that reforms prompted by outsiders are never literally implemented but rather “absorbed” and always “digested” in some way. Laws that include general principles always need application decrees that remain largely at

the discretion of concerned ministries; conditionalities set by the multilateral banks are often watered down into pilot projects which evaporate with the next government or policy change; the transit through different governmental spheres may allow draft laws (once translated into local language) to be aptly modified before they are voted; participatory reforms are steered off course by peculiar conceptions of bureaucratic top-down “participatory” interventions; the rhetoric of IWRM is hijacked by line agencies repositioning themselves within the new discourse and by consultant firms proposing conventional structural projects under the disguise of “people’s request” or integrated approaches.

All in all, two opposite attitudes seem possible:

- One may simply dismiss attempts to set RBOs in contexts that are arguably unfit, and sometimes adverse, or legislation/reforms that seem overambitious and are unlikely to be put in practice. This leapfrogging syndrome often leads to failed and untimely policy reforms and make further attempts more difficult (Shah et al. 2001).<sup>57</sup> As Thomas and Grindle (1990) noted, with regard to economic and political reorganizations, “Reforms have been attempted when the administrative or political resources to implement them did not exist. The result has generally been misallocated resources, wasted political capital, and frustration”.
- But one may also adopt a more optimistic stance, whereby RBOs, apex bodies, cost-sharing arrangements, etc., are considered as practices sanctioned by international experience, and push for the adoption of such measures. The implicit assumption is that they are necessary, if not sufficient,

<sup>55</sup>There has been, for example, a flourishing literature on the conditions and possibility to transfer Australian experience to other regions of the world, notably to the Mekong river basin and Sri Lanka (Chenoweth 1999; Pigram 1999, 2001; Malano et al. 1999; Birch et al. 1999).

<sup>56</sup>As Miller and Hirsch (2003) put it “the risk inherent in transfer is that consensus is assumed or even forced from above”.

<sup>57</sup>“Uncritical ‘copycat’ replication of successful institutional models—either by enthusiastic national governments or at the behest of enthusiastic donors—is the sure formula for failure” (Shah et al. 2001).



foundations<sup>58</sup> towards a longer-term objective of establishing IWRM, redefining line agencies as service providers and water users as clients, in self-financing and sustainable arrangements. Initial effectiveness of the measures taken may often be limited or nil but there is confidence that, with time, adjustments to local reality lead to viable and adapted institutions. The gradual evolution of RBOs in Thailand (Ankularmphai 2004), or the recognition by ADB that fully independent regulators may not necessarily be the most effective (Arriens 2004), are examples of evolution by learning.

Both positions have their weaknesses. Sticking to the former may lead to inaction because settings are rarely easily amenable to change; it denies the possibility to seize opportunities or the necessity to adjust to changes. Sticking to the latter, on the other hand, may be tantamount to subscribing to the fallacy that some blueprints and alleged “best practices” can be easily transplanted, without burdening oneself with a thorough analysis of each situation. As pointed out by Evans (2003), with regard to economic reforms, “institutional monocropping” premised on the presumption that “the most advanced countries have already discovered the one best institutional blueprint and that its applicability transcends national cultures and circumstances” is a sure recipe for frustration. What is important to acknowledge is that none of the best practices promoted are inherently good or bad. Beyond the formal nature of a particular proposition, what counts is the substance of the corresponding process. For example, RBOs can be pivotal platforms for representations of different users and values about water, for information-sharing and knowledge-building, and for decision making about crucial issues of infrastructural development or water allocation. But they can

also just as well be limited to consultative meetings masquerading as participatory processes, or be a handy way to sanction and give legitimacy to business-as-usual strategies. Likewise, WUGs or WUAs can serve as building blocks for a nested level of democratic representation in water- management decisions but they can also be means to merely shift part of the O&M costs from the state to users (or to tambon administrations, in the case of Thailand). The two logics are at work and the constant but antagonistic shifts towards either genuine participation and democratization, or institutional reordering and capture by more powerful actors, is ultimately a political struggle, or process, shaped by many factors. This invites us to somehow reconcile the two approaches by looking for a middle path between prescription and a wait-and-see attitude.

## **Instilling or Enabling Change**

Whether reforms are about the design of a water policy or water law, the establishment of basin or catchment organizations or platforms, the turnover of irrigation management to users, or the financial sustainability of a domestic water supply scheme, the main ingredients of these reforms are various and generally conflicting values, discourses and interests, which reflect the diversity of the people having a stake in water and the way they try to secure both personal and common interests. The smaller the scale, the more “wicked” the problems are: no omniscient representative of the public interest, enlightened planner, or expert-based model, will ensure an optimal social outcome (Wester and Warner 2002; Lachapelle et al. 2003; Clark 2002). Where heterogeneities and uncertainties prevail, “processes of mediation, bargaining, conflict and power become key” dimensions of institution building (Mehta et al. 2000).

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<sup>58</sup>Wright (1999) refers to the “solid legislative framework provided by the recently passed Water Resources Law” (Vietnam).

A decision that genuinely reflects a balancing of interests and values can only be achieved through a process whereby different stakeholders get gradually empowered, a truly political process that goes beyond formal reforms but which can be partly enabled by them. Boelens and Doornbos (2001) emphasize that "to strengthen local normative systems in peasant irrigation, it is not necessary to back or legitimize specific rules, but rather to enhance the authority to make such rules, involving all stakeholders". Robust arrangements combine (often lengthy) trust building, confrontation of worldviews and social learning, informed and supportive science, and political space for the representation of all stakeholders, and must allow for a degree of "messiness and unpredictability" that is usually not recognized in classical approaches to Common Property Resource management (Cleaver 2000).

A more inclusive and balanced development path is, however, largely contingent upon societal changes and democratization, whose dynamics lie beyond the scope of the sole water sector. The vision of a shift from supply-oriented, paternalistic development to process-oriented approaches leading to "informed consent" (Delli Priscoli 2004), however attractive and desirable, certainly remains on the far horizon rather than something that can be conjured up by fiat or mere good will. Deliberative development enables a better definition of social choice but can only develop in a political environment whereby some "messiness" in the process of choice is allowed and where a degree of redistribution of existing power is made possible (Evans 2003). Multi-stakeholder dialogues are one way to "engage government, business and civil society stakeholders in processes of learning and negotiation that can transcend the limitations of centrally controlled

and technically orientated bureaucratic decision making on one extreme and 'decisions' made by a 'free market'" (Roling and Woodhill 2001).

In that sense, "check-box" approaches which merely aim at establishing formal and static structures or laws miss the crucial point that institutional building is an evolutionary and socially embedded process: human systems must adapt not only because surrounding ecosystems change but also because the actual distribution of a resource is always contested and generate conflicting claims that need to be reconciled (Both Ends 2000; Miller and Hirsch 2003; Cleaver and Franks 2003).

The definition of more inclusive and equitable governance patterns is also hampered by scale constraints. Local communities and NGOs emphasize the use of local and traditional knowledge to address problems and this knowledge and corresponding institutions are often quite effective at a micro scale. However, communities have rarely developed means to address issues at a wider scale because there was no such necessity and because they may not have the understanding of environmental changes occurring at a larger scale. They, therefore, have difficulties to scale-up their knowledge, organizations and interventions in a context of growing hydrologic interconnectedness across scales. To some extent, it can even be stated that the principle of subsidiarity is antagonistic to macro-level basin management.<sup>59</sup> Conversely, state agencies have a better understanding of macro-level constraints and allocation, have access to more data and technical tools, but struggle to understand the heterogeneity and discontinuities, both physical and human, of the real world, and have mixed success in their application of ready-made solutions. Their problem is scaling-down their understanding and management practices (Roth 2004).

<sup>59</sup>Because of the need for integration and consistency, Van der Zaag (2004) acknowledges that "sometimes the principle of subsidiarity implies that decisions should be made at the highest possible levels".

## Emerging Governance Patterns and Main Actors

What is the overall governance pattern emerging from the ongoing development planning and water policy reforms, and who are the main actors? While a quite vibrant civil society has developed in Thailand in the past 15 years (Hirsch 1995, 2001), and is now emerging in other Mekong countries through the growth of NGOs (Dore 2003), grassroots movements and citizens as a whole have yet to be involved in decision-making processes. Advocacy groups have recorded a few successes in their opposition to dams, for example, but they tend to be considered by governments more as an unavoidable nuisance than as “partners in development” to be reckoned with. Participation of “stakeholders” in meetings related to water policy or the setting up of RBOs has often remained cosmetic and largely been a way to legitimize state action.

NGOs, local activists and academics have generally adopted stances putting forward local traditions, culture and knowledge, but these have not been factored in policies (see Watershed 2001, for Thailand). These civil society organizations are also not homogeneous. Conservationists sometimes see the preservation of nature or biodiversity as an objective, which must take precedence over productive activities of poor people. The debate between conservation and production (e.g., protecting forests from people vs. protecting forest by people, see Johnson and Forsyth 2002; Sato 2003) is persistent, although environmentalists have also borrowed from the livelihood framework in order to find compromises. Marked differences are also apparent between NGOs, which systematically oppose taxation of peasants, and organizations like IUCN or WWF, which have largely bought into the mainstream discourse of pricing and markets as a way to regulate the use of natural resources.

ADB and other funding agencies have also found difficulties navigating between their borrowers/client states and organized advocacy groups, despite unremitting calls for participation. While willing to balance government power

through a more democratic process of decision making, they fear that projects (and disbursement of funds) may be paralyzed by uncompromising NGOs. Current affairs provide signs that both multilateral agencies and states are nevertheless, willy-nilly, gradually moving towards a more cautious approach to planning (Öjendal et al. 2002). However, traditional expert-driven approaches to development problems and a reluctance to engage in lengthy and uncertain planning processes set a limit to the changes one should expect.

If water policies owe a lot to mainstream general concepts, one must also question the role of national decision makers. Are these merely passive receivers of concepts crafted in other arenas? Is there a struggle between state departments, schools of thought (e.g., big vs. small projects), lines of thinking, or ideologies? The material reviewed earlier does not allow us to fathom policy-making processes in all these dimensions but the general impression is that disagreements are more related to political or administrative in-fighting, struggle for power, budget, or prerogatives than to differences in vision. Yet, it is also apparent that each line agency taken in isolation is not homogeneous. Some segments favor the status quo and oppose changes but others are open to reform and sometimes champion them.

Most bureaucracies or line agencies have difficulties in dealing with more deliberative or participatory approaches. They feel threatened by what they perceive as a loss of control, challenge to their legitimacy, or denial of their competence (Lachapelle et al. 2003; Wester and Warner 2002). It is apparent that officials tend to have a Manichean view of NGOs, readily divided between “good” ones (likely to be invited to meetings) and “bad” ones (deemed too confrontational). In some cases, like in Indonesia, officials have formed their own NGOs, with the aim of not only capturing part of the flow of money channeled through the NGOs, but also to be able to legitimate projects through their mobilization as “civil society” voices (Suhardiman 2005). The limits of the participatory rhetoric are

also apparent in the fact that large-scale projects with massive potential impact on population and the environment and are still being devised in secrecy (e.g., the Thai “water grid” or the “River interlinking” in India). Manufacturing consent through the media is common practice but imposing it is also commonplace.<sup>60</sup>

## Research Issues

This review of the water sectors in the Mekong region has unearthed more questions than answers. Failed reforms have a cost not only in terms of time and money but also in terms of lost opportunity and distrust. Research should address both theoretical issues (e.g., what governs differences in policy responses to similar challenges) and practical ones, providing insight on what governs success and failure, and on implementation, while emphasizing the need for the contextualization of options (see Bery 1990). Because of the centrality of water in many activities and livelihoods, relevant research questions on water governance in the Mekong region span a large spectrum of issues. Those more specifically related to irrigation and water resources management, either on a general plane or in relation to a particular project, could include the following:

- What are the most pressing issues regarding water and irrigation practices and policies, and in which locale are these issues more salient [establish spatial and thematic priorities; do not apply policies across the board]?
- What are the measures that can, realistically, be successfully taken and enforced by the state, given its current power and the political-economic environment?

- What changes can be gradually instilled by a bottom-up approach that creates a sense of ownership and generates incentives through clear benefits to the population concerned? At the same time, what are the costs and limitations of bottom-up approaches? Most importantly, what avenues are there for a multi-scalar approach, co-management and so on that accommodate both state and civil society interests and agendas?
- What is the scope for a “professionalization” of line agencies? What incentives to managers and officers can be designed?
- What are the intrinsic limitations of local stakeholders (knowledge limited to local scale, nonawareness of scalar interactions, varied cohesiveness, etc.) and can leadership and accountability be fostered?
- What can we learn from the ongoing implementation of policies on the ground? What scope is there to enhance social learning, build trust and favor endogenous processes?
- What is the underlying structure of power and interests, within the bureaucracy, political parties and other stakeholders, and what bearing does this have on the options available and possible outcomes? How can this be rebalanced? And what is the nature of bureaucratic competition within and between state structures?
- Genesis of reform and ideas: what types of knowledge and legitimacy are used, how do these shape people’s perceptions of problems (Livingston 2005), and to what degree can experiences elsewhere be recontextualized?
- How can the support of external development banks and agencies be made more efficient

<sup>60</sup>The Bangkok Post (2004, May 7) reports that “The Ministry of Agriculture and Cooperatives asked the military to conduct ‘psychological operations’ in Phrae’s Song district to pave the way for the construction of the Kaeng Sua Ten dam” and to “monitor the anti-dam movement in tambon Sa-iab, the dam site.” The ministry also hired teachers from schools to promote the dam.

and better blend support to both the government and the civil society? How to avoid ready-made “best practices” to crowd out more endogenous responses? How to reconcile the slow pace of sociopolitical processes and the short time frames of state or bank projects?

- How pressing was the need for such reforms and how sound have been the steps taken? To what degree (and why) have national bureaucracies and ruling political parties shared a concern for reordering the water sector and added their willpower to the banks’ solicitations, and how does this vary from country to country? How can we get beyond the infamous “lack of political will” explanation?
- What is the nature, and what are the implications of private-sector involvement? How are community and private conceived in each case as alternatives to state roles?

In sum, water policy appears as a contested domain where varied interests (e.g., financial or political dividend of projects), values (e.g., local development or large projects), and strategies to access water conflict with one another. Two main lines of tension have been identified. The first is the conflict between water policies largely derived from international references, presumed internationally sanctioned practices and, on the other hand, the need for a more endogenous definition of priorities with emphasis placed on the specifics of each locale. The second line of tension is between the conventional top-down mode of action of state agencies and the general principle that puts the active participation of concerned populations as the point of departure for designing interventions that are more efficient, fairer and less-prone to externalities. Crafting or, rather, enabling governance patterns for water management in the Mekong region will be a journey towards bridging these divides.

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