

The ‘Greening of *Isaan*’: Politics, Ideology and Irrigation Development in the Northeast of Thailand

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INTRODUCTION

Large-scale and comprehensive development of river basins is a child of colonialism. Massive irrigation development in India, Egypt and Sudan by the British, emulated by the French or the Dutch, heralded a new area of the colonial economy. Large swathes of arid lands were brought under cultivation for the production of industrial crops such as cotton, sugarcane or rice. After gaining independence, national governments took over the colonial model in an attempt to deliver the promises of ‘development’ and foster economic growth in rural areas, and were influenced by the full basin development model of the Tennessee Valley Authority (Molle, 2006). The worldwide development of water regulation infrastructures and irrigated areas in the period of 1950 to 1980 achieved many benefits, including increased incomes, yields and production, and a global food sufficiency reflected until recent days in long-term declining grain prices (Molden et al, 2007). In the absence of opportunity costs for labour, such rural development projects had large multiplier effects and their economic justification was quite strong.

With time, because of the opposition to dams, declining cost-benefit ratios and – perhaps – the very successes achieved in terms of food production, such

projects have lost their economic appeal and funding by leading development banks dramatically dropped during the late 1990s. In the last five years or so, however, a fresh rhetoric of justification for large-scale water projects was observed¹ and calls for renewed investments in agriculture have been made after the recent food crisis. A number of countries have implemented or floated proposals for massive interbasin diversion projects (e.g. China, India, Jordan, Brazil). Whether they are justified by hydropower generation, flood control, urban supply or irrigation, dams and canals and many megaprojects still feature prominently on the agenda of many governments (see Chapter 11).

Planners and politicians in dry countries have frequently been captivated by the ‘desert bloom’ syndrome, whether this led them to embracing small-scale irrigation or large-scale river engineering. Irrigation is still often seen as a redemptive solution and politicians have long seized the promise of water and the pledge to ‘green the desert’ as an electoral trump card. It has also been the favoured option of governments seeking to ensure national food security, alleviate poverty and control potential social unrest (Sampath, 1992; Abu Zeid, 2001). The northeast of Thailand although not arid by any standard, is considered the driest and poorest region of Thailand. If rice cultivation, supplied by derivation of small streams, has been practised in valley bottoms for centuries, the expansion of cultivation on higher lands has made irrigation a crucial instrument of control of both climatic and social uncertainty.

This chapter first recounts the chronology of river basin development in northeast Thailand, reviewing the different projects that have been planned, designed, dreamed of, and sometimes implemented during the last 60 years.² The ensuing section focuses on the rationale and justifications, the ideological underpinning, and the political and strategic dimensions of these successive projects. We are concerned here with the governance of large-scale project planning and with the justifications brought up by the national and foreign proponents (or opponents) of these projects. We hold that ideology and politics are overarching drivers of water resource development and that the way in which dominant players are able to cast their agenda largely determines outcome. Yet, there is evidence that the political arena where development trajectories are shaped is also conditioned by both supranational evolutions and the growing clout of players from civil society at large.

THE ‘GREENING OF *ISAAAN*’: A RECURRING SYNDROME

Isaan, or the northeast of Thailand, makes up 85 per cent of the Thai territory that drains to the Mekong River (Koontanakulvong, 2006). The main river systems in the northeast are the Mun, the Chi (the main tributary of the Mun) and the Nam Songkhram. The largest sub-basin by far is the Chi-Mun Basin, which roughly covers 120,000km² and empties into the Mekong River at Khong Chiam. Rainfall

in the northeast is seasonally distributed, with around 85 per cent of the total annual precipitation concentrated in the months from May to October, making irrigation a necessity if year-round cultivation is contemplated. Soils are generally considered of poor quality for agricultural production and yields are much lower than the national averages. The 0.9 million hectares of irrigated land only amounts to 10 per cent of the region's cultivated land.

Northeast Thailand is often identified with underdevelopment and stands out as the poorest region of the country. Although the percentage of the population living below the poverty line has fallen dramatically (from 57 per cent in 1962 to 38.5 per cent in 1976 and 12.7 per cent in 1996), poverty remains higher in rural areas, in general (16 per cent), and the northeast, in particular (26 per cent), where this diminution has been slower (Fan et al, 2004). The region distinguishes itself by a higher degree of specialization in rice farming, a higher rate of subsistence farmers, a lower use of agrochemicals, indebtedness of two farmers out of five, and a low density of industrial units that produce only 4 per cent of the national manufacturing added value (World Bank and NESDB, 2005). As a result of this situation, the development of water resources, in general, and of irrigation, in particular, has always been a top priority of planners and politicians since World War II (e.g. Sneddon, 2000, 2002).

Early development and piecemeal projects

Securing, expanding, intensifying and irrigating agriculture in *Isaan* has been taken as a mission by most decision-makers during the last 60 years. This section briefly recounts the chronology of water resources planning and development in *Isaan*. The ensuing one focuses on justifications and motivations.

Traditionally, irrigation in the northeast was confined to the alluvial soils of the valley bottoms of the secondary rivers, where earthen weirs, locally referred to as *thamnop*, were used to divert streams to the paddy fields (Neawchampa, 1999). Fukui and Hoshikawa (2003) reported that in 1920 as many as 503 earthen bunds could be found in the province of Nakhon Ratchasima alone. They also argue that irrigation of paddy fields around the Chi-Mun Basin was the norm rather than the exception, with cultivated fields located in the alluvial plains and valley bottoms. Additional storage was limited to natural or small village ponds, which catered for a variety of domestic water uses and provided water security in the dry season.

State-sponsored irrigation started in northeast Thailand in 1939, when the Royal Irrigation Department (RID) experimented with pilot tank irrigation projects and river diversion weirs. C. Kambhu, the charismatic head of the RID in the 1950s, was an early advocate of small-scale solutions and vigorously argued for small- and medium-scale reservoirs as the best option for *Isaan* (Kambhu, 1956). Further to these early efforts, small-scale development intensified in 1951 with the 'tank programme', initiated with US assistance (USBR, 1965). In

1963, a total storage capacity of 250,000m³ had been attained, with 40,000ha of potentially irrigable land that added to 100,000ha potentially served by river diversion schemes.

The hydraulic mission: Large- and medium-scale developments

The difficulty of managing diversions of unregulated flows and the somewhat slow and tedious implementation of the Tank Programme during the late 1950s and early 1960s led the RID to look into possibilities of large-scale storage projects (Floch et al, 2007). Based on a Japanese reconnaissance survey of Mekong major tributaries (EPDC, 1960), the newly formed Mekong Committee proposed to submit two irrigation and five multipurpose dam projects to lending agencies 'after thorough feasibility studies', and listed a total of 16 large-scale projects, which together would potentially store 9.2 billion cubic metres and serve an irrigable area of 278,720ha. In 1965, the United States Bureau of Reclamation (USBR) conducted the first river basin development planning study for the Chi-Mun Basin with the principle objective of recommending a 'programme for the orderly economic development of the Chi-Mun Basin, and to establish an order of priority for undertaking feasibility grade surveys on the potential projects in the basin' (USBR, 1965). Though slightly differing, all of these planning documents pointed to the importance of large-scale irrigation and multipurpose development, and identified the few topographically suitable sites that later would guide planners and decision-makers time and again during the following 50 years.

The first implemented large-scale storage project in northeast Thailand was the Nam Pung hydropower project, which was finalized in 1965, followed by the Ubol Ratana Dam in 1966, the Lam Pao Reservoir in 1968, the Lam Takhong Reservoir in 1969, the Lam Pra Plerng in 1970, the Sirindhorn Reservoir in 1971, and the Chulabhorn Dam in 1972 (see Figure 10.1). The most favourable sites for large-scale construction were developed within a timeframe of only ten years, leaving only the Upper Chi, the Nam Yang and the Lam Dom Yai rivers unharnessed by large-scale infrastructure. At the same time, medium-scale water resources development was also increasingly pursued and totalled close to 400 million cubic metres) of storage by 1978.

Small is beautiful?

In 1975 the government of then Prime Minister Kukrit Pramoj made funding available (through sub-district or *tambon* funds) for small-scale water infrastructure, notably several thousand village ponds and weirs in *Isaan* (Bruns, 1991). In 1978, the Thai government established an Accelerated Water Resource Development Committee and the sub-district funds were transformed by military governments into the Rural Economy Rehabilitation Programme and, in 1980, the Job Creation

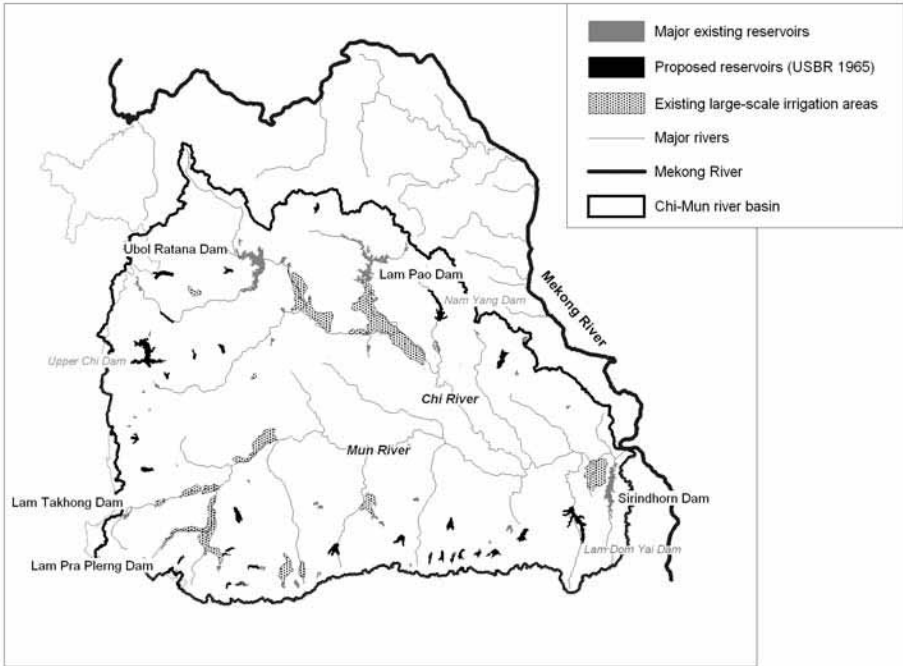


Figure 10.1 *Major infrastructure in the Chi-Mun Basin and the 1965 US Bureau of Reclamation (USBR) vision of full development*

Source: Adapted from USBR (1965)

Programme, both of which primarily included water resources development projects. Implementation was, more often than not, problematic, with reportedly up to 80 to 90 per cent of the weirs constructed under this programme said to have faced technical problems and to have failed (Bruns, 1991).

In 1978, in the wake of a few years marked by a communist insurgency, political turmoil and farmers' protests, the government adopted a two-pronged water policy with a focus on:

- the development of distribution systems from reservoirs and rivers; and
- the development of small-scale resource projects in every village as a means of meeting basic domestic water needs and allowing for minimal supplementary irrigation and for minimal dry season irrigation of backyard gardens (AIT, 1978).³

The 1978 study by the Asian Institute of Technology (AIT) found that a maximum of 115,200ha were potentially irrigable in northeast Thailand (i.e. roughly 12

per cent of the arable land suitable for agricultural production). The survey predicted problems of shortages during the dry season and the experience with small-scale projects was deemed 'discouraging'. The Royal Irrigation Department's own efforts to continue the development of the remaining sites that had been identified earlier as suitable for large-scale water resources development were now considered inappropriate by the National Economic and Social Development Board (NESDB), which made it considerably harder to implement them. The Lam Dom Yai and Upper Chi projects had been repeatedly studied; but both were eventually dropped by decision-makers because resettlement difficulties were considered insurmountable. And it was only the relatively smaller Lam Nang Rong Project (1991), the Upper Mun Reservoir (1996) and the Lam Chae Dam (1998) that the RID could implement during this period of time, none of which matched the earlier projects in scale.

Because of these difficulties, the RID increasingly developed small- and medium-scale irrigation projects on basically all tributaries and watersheds in *Isaan*, with over 4000 small-scale irrigation projects, storing over 800 million cubic metres (Boonlue, 2005), built between 1978 and the present day. These projects were paralleled by 600 small-scale projects implemented by the Office of Accelerated Rural Development and numerous additional programmes, including the Thai–New Zealand Project (Hafner, 1987), during the early 1980s, and the German-funded Small Irrigation Projects (SIP).

In parallel with the Royal Irrigation Department's construction efforts in northeast Thailand, a new and increasingly powerful actor – the National Energy Authority (NEA) – emerged during the late 1970s. The NEA started to implement electric pumping stations along the main rivers of the country, each station typically serving an area of 500ha located within 1km of the stream. The NEA had constructed the first hydropower project in northeast Thailand, the Nam Pung, and was now looking for means of promoting the utilization of the energy generated. It is estimated that some 1000 pumping stations have been implemented in northeast Thailand between the late 1970s and the present day (Boonlue, 2005). Considered together, all of these investments make northeast Thailand a region with a diversified and diffuse irrigation infrastructure that started to reshape the land and waterscape of the region.

Water imports and regional water resource developments

It was recognized, early into the reconnaissance surveys of northeast Thailand, that internal water resources were ill suited for the development scenarios envisioned by planners and decision-makers. A low runoff-to-rainfall ratio and a mostly flat and undulating topography (which puts considerable limits on surface water storage and gravity diversions) made planners look into ways to import water from the Mekong River from the onset. In the Mekong dam cascade – a series of dams

planned to be built on the mainstream Mekong River considered in early plans – import into, and distribution throughout, the region hinged on the Pa Mong Dam that was to be constructed 20km upstream of Vientiane. As the implementation of the Pa Mong began to appear increasingly distant, Thai authorities and planning partners explored other options to augment water supply in northeast Thailand in the continued effort to 'Green *Isaan*'.

The 'Green Isaan' Project

The first regional study that looked into ways to make northeast Thailand bloom was aptly called '*Isaan Khiew*', or 'Green *Isaan*'. The fifth national economic and social development plan (1981 to 1986) had (for the first time and on the grounds of 'national security') included greater social and economic equity as an objective: a poverty alleviation programme identified the 12,652 poorest villages (60 per cent of which were located in *Isaan*) and showered them with water supply, roads, schools, irrigation, electrification and soil improvement (Baker and Phongpaichit, 2005). In 1987, Thai Army Commander-in-Chief General Chavalit Yongchaiyudh was aiming to become prime minister and, in an attempt to build political support in *Isaan*, undertook to present His Majesty the King with a master plan for the development of the north-eastern region. A severe drought had just hit northeast Thailand, and the project was presented as a response to it (Bruns, 1991). The report, prepared by British Biwater Company, was presented to General Chavalit in late 1987 and was geared towards the accelerated development of water resources, ensuring water supply, increasing reforestation and improving rural incomes (Biwater, 1987). The project met with 'considerable criticism and scepticism' from politicians and academics (Bruns, 1991).

With irrigation seen as an essential input for regional development, the study detailed strategies for water resources development. Numerous projects of all sizes were identified and it was thought possible to store almost 5 billion cubic metres of additional water (basically the sum of all technically feasible storage sites at full development, regardless of costs), serving an additional 288,000ha. Additionally, Biwater looked into inter-basin transfer options (some of them studied earlier) worth an additional 448,000ha. Even though Chavalit tried to negotiate a loan agreement with the World Bank, the proposed project did not materialize beyond a few eucalyptus or cashew nut plantations and a few failed agricultural projects.

The Khong-Chi-Mun Project

After the failure to implement the 'Green *Isaan*' plans, a new grand project was elaborated upon by the NEA under the banner of the Khong-Chi-Mun Project (KCM). The project largely drew from earlier planning documents that had accumulated over the years and integrated them within one large planning framework. The Rasi Salai Dam, for example, had already been studied in 1982

by Dutch consultant NEDECO (1982), who had earlier assisted the Mekong Secretariat in studying pump irrigation in *Isaan* and the use of floodplains for storage,⁴ and became a trademark of the KCM project (RID, 1988).

In 1989, the proposed Khong-Chi-Mun Project received a boost from the government of then Prime Minister General Chatichai Choonhavan (1988 to 1991), whose declared intention 'to turn the battlefields [of Indochina] into marketplaces' soon became the semi-official policy for development plans in north-eastern Thailand (Pednekar, 1997; Kamkongsak and Law, 2001). The feasibility studies completed in 1992 by the NEA (which later became the Department for Energy Development and Promotion, or DEDP) claimed that it was technically feasible to irrigate an area of 796,800ha in 15 provinces, with construction being envisioned in three successive stages over a period of 42 years (ASEAN et al, 1992; see also Figure 10.2 for a general layout of the project at the proposed full development).

Unlike the earlier Green *Isaan* Project, however, the KCM project infrastructure was (only partly) implemented. Some weirs in the Chi and Mun floodplains were constructed and new and larger pumping stations complemented the already impressive number of small-scale electric pumping stations constructed in earlier years by the NEA. Construction of the Rasi Salai Weir/Dam on the Lower Mun River was completed in 1994, followed by the Huana Dam, the largest dam structure within the overall scheme. Both projects triggered land disputes and salinization impacts, sustained protest from the local population whose livelihoods depended upon the services so far provided by the floodplains, and drew heavy criticism from civil society and academics, which pointed to the lack of research, transparency and participation (Sretthachau et al, 2000; *Rasi Salai Declaration*, 2003; Shannon, 2005).

Despite the outcry, in 1997, then Prime Minister General Chavalit gave full support to the KCM project as the only way to ensure sufficient water supply to the 'long-suffering farmers of the northeast' and waved the long-held promise of 'turning the northeast green' in front of an assembly of village and district chiefs gathered in a five-star hotel in the city of Khon Kaen (Sneddon, 2003). With the advent of the financial crisis in 1997, large-scale capital-intensive projects were once again shelved. The KCM remained incomplete, with its cascade of weirs along the Chi and Mun lower reaches challenged on social and environmental grounds, few of the planned pumping stations effectively implemented, and with no additional water imported from the Mekong River.

The Water Grid

It was not until 2003 that the next avatar of the 'greening' syndrome materialized, when the Thaksin government launched the idea of investing US\$5 billion in a project supposed to do away with water problems in the country (see full details in Molle and Floch, 2008). Despite the alleged priority given to water demand

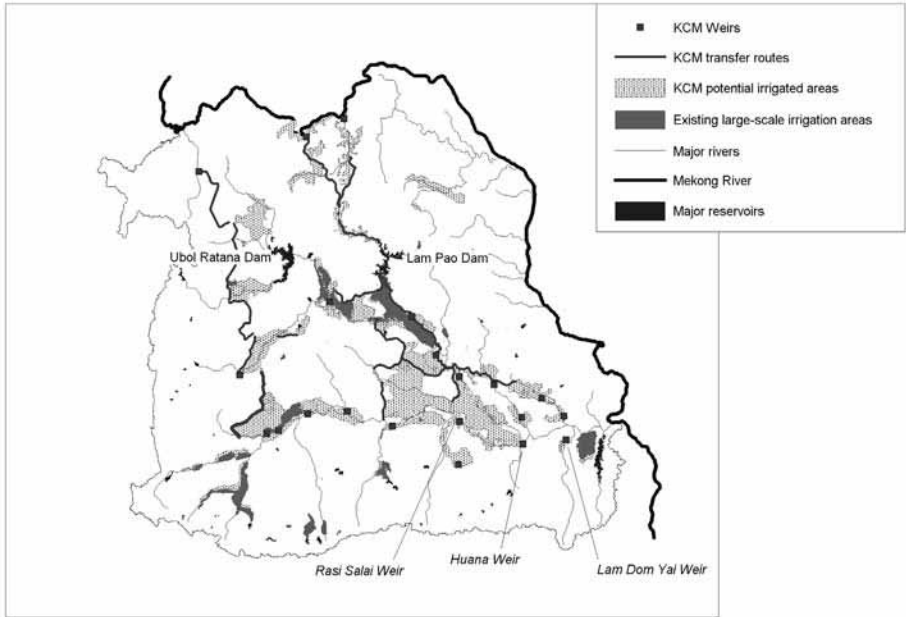


Figure 10.2 *The Khong-Chi-Mun Project: General layout and typical infrastructure*

Source: ASEAN et al (1992)

management (i.e. improving efficiency and reducing demand) proclaimed in the *Ninth National Plan* (2002 to 2006), it was announced that the irrigated land of 29.46 million rai would be incremented by an additional 103 million rai within five years, with the expected benefit of enabling farmers to cultivate and access water all year round. Although project targets announced in the newspapers proved to be fuzzy and contradictory, they all pointed to a dramatic increase in irrigated land (Molle and Floch, 2008). Borrowing from the power-generation sector, the project was dubbed 'Water Grid', to describe a set of interconnected reservoirs and basins allowing for the movement of water from sources to water-deficient areas.⁵

The north-eastern region was to be the major beneficiary of the development project, with projects including the Nam Ngum-Chi-Mun Project, which would transfer over 4 billion cubic metres of water from the Mae Ngum Dam in Laos through a siphon under the Mekong River, with pumping stations allowing transfer to the Chi Basin. Figure 10.3 sketches out this project, as well as other companion projects for the northeast region.

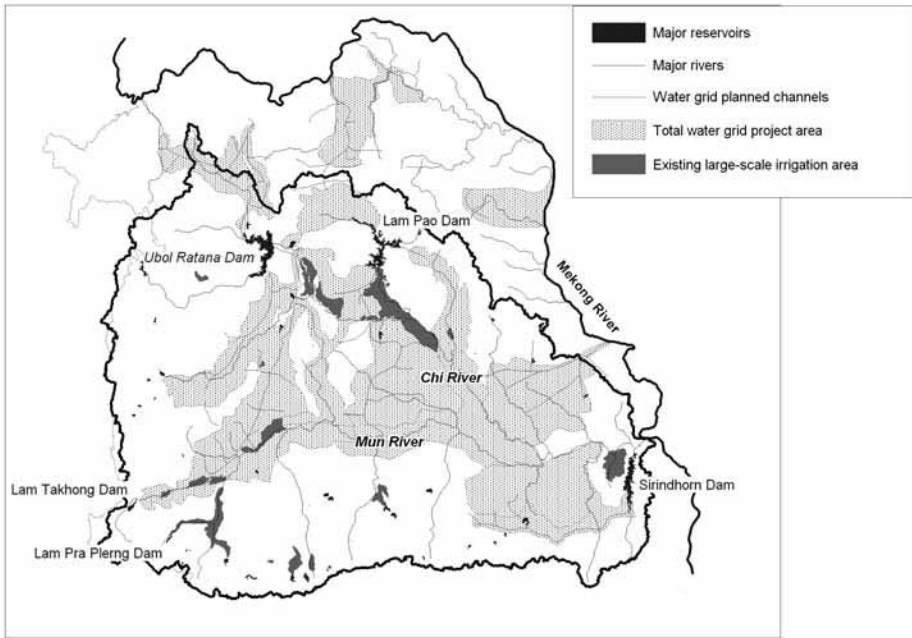


Figure 10.3 *Water Grid in northeast Thailand*

Source: Floch et al (2007)

In early 2004, the project came under fire from several quarters, including academics doubting its economic profitability (*Bangkok Post*, 2004a), as well as environmentalists predicting salinity problems or recalling that earlier pilot projects had failed (*Bangkok Post*, 2004b, 2004c). Water experts such as Senator Pramote Maiklad opined that the ‘project is neither cost effective nor feasible in terms of engineering techniques’ (*Bangkok Post*, 2004c) and its timetable unrealistic (*The Straits Times*, 2003). In late 2005, the government also planned to spend up to 1.7 trillion baht (US\$43 billion) over five years on megaprojects aimed at boosting activity and reducing poverty, including investments in the irrigation sector (MOAC, 2006). All of these plans were largely temporarily set aside following the 2006 coup that ended the administration of Prime Minister Thaksin.

Transfers from Laos and other recent alternatives

Although the grand projects of the Thaksin era seemed to have faded into oblivion, the idea of tapping water from Laos tributaries of the Mekong River, siphoning it under the river and using it in *Isaan*, reappeared in 2007. This idea, also part of the Water Grid, was first tested in 1998 by Sanyu Consultants, who envisaged building two dams on the Xe Banghiang River in Laos, close to the confluence with

the Mekong, from which 3.3 billion cubic metres of water could also be abstracted and siphoned under the Mekong into *Isaan* (RiversWatch, 2002). Another plan studied by Sanyu in 2004 considered siphoning water off the Nam Ngum Dam in Laos to the Huay Luang stream. While this option is technically feasible, the expected cost of 0.5 baht for 1 cubic metre of water raises serious doubts about the economic relevance of the project. In 2008, a study financed by the World Bank and the French Agence Française de Développement (AFD) was carried out to examine the possibility of diverting water from the Nam Ngum and Xe Bangfai rivers (in Laos), but did not lend support to further investigation on that matter.

In 2006, a trade journal announced that a newly formed Thai agency, the Department of Alternative Energy Development and Efficiency,⁶ was reviewing plans at Pa Mong and Sambor (on the mainstream of the Mekong), and that a private Thai engineering firm (Panya Consultants) would conduct a US\$2.4 million study revisiting a total of seven sites first identified by bureau staff in 1952 (Biggs, 2006).

In June 2008, the newly elected Prime Minister Samak announced his intention to spend US\$15 billion in megaprojects, with US\$5 billion targeted for water diversions (Ekachai, 2008). One plan was a 600 million cubic metre diversion from Huay Luang to Lam Pao Dam, with a second phase expected to bring water from the Nam Ngum River in Laos (a revival of earlier discredited studies). Another plan is linked to the study of three run-of-the-river dams on the Mekong mainstream, with one located in Pak Chom (upstream of Vientiane, close to the site of the Pa Mong Dam) targeted to divert water by gravity to the Lam Pao Reservoir 'through underground tunnels to Loei and Udon Thani, where reservoirs will act as distribution centres to send the water on to farms in other provinces during the dry season. The water will be transported through small pipelines' (Charoenpo, 2008). Most recently, the project to siphon water from the Nam Ngum River won cabinet approval (Wipatayotin, 2008). The desert bloom syndrome is, thus, alive and well.

ASPECTS AND CROSS-CUTTING THEMES

The storyline of the development of water resources in the Chi-Mun River basins presents a number of recurring themes that are analysed in this section. They include the justifications given and the politics of water resource development, the engineering ethos and lopsided governance patterns.

Meta-discourses and the rhetoric of justification

Stigmatizing *Isaan* as 'poor and dry', Thailand's development agencies saw water resources development as the key solution to the problems of the region as early

as the 1950s (Sneddon, 2002). Development was the post-war magic wand that would partly come from joint regional development of the Mekong River Basin (see Molle and Floch, 2008). Investment in dams, pumps and tube-wells, but also roads, electrification or eucalyptus plantations, would bring prosperity. In the Green *Isaan* Project, for example, the establishment of agro-industry was the focal point of development and would:

... produce the processed goods for regional export, create employment opportunity in the urban areas and create the demand for agricultural products. ... Irrigation, required to produce raw materials for the agro-processing industry, will create wealth and job opportunities in the rural areas. (Biwater, 1987)

The standard description of *Isaan* ascribes its lack of development to natural causes: unpredictable climate, 'dryness', poor soils, lack of storage, population pressure, or 'traditional', if not backward, farming practices: all putative reasons why 'the Northeast has historically lagged behind other regions' (World Bank, 1975). These perceived deficiencies inevitably lead to calls for increased water storage and irrigation infrastructure, and, secondarily, roads and better links to markets, as well as, occasionally, improved social services. Irrigation is generally justified by positive (desert bloom) or negative (cracked soils during water shortages) images and by the mere observation that farmers in irrigated areas are better off than in rain-fed areas. Then Prime Minister Thaksin, for example, reportedly said that 'it would not be a problem if the [Water Grid] project required a lot of money because it would be worthwhile eventually'; likewise, the deputy prime minister in charge of the project saw the project as 'a worthwhile investment because it will benefit 30 to 40 million people nationwide' (*The Nation*, 2003).⁷ Prime Minister Samak's recent proposal is also 'an ambitious water project aimed at helping farmers in the Northeast, the country's poorest region' (Charoenpo, 2008). That 'every farmer, especially those from the 19 provinces in the Northeast, should have access to water' (*The Nation*, 2004) seemed to be taken as an uncontroversial and desirable future, with no reference whatsoever to costs or alternative options.

Another classical means of furthering projects is to propose them under the umbrella of politically charged and overriding meta-justifications (Molle, 2008). Such meta-justifications typically include national goals or priorities such as food self-sufficiency, national security, 'modernization', or the fight against poverty. Justifications for developing the Water Grid, in general, and irrigation, in particular, were based on arguments that merely emphasized expected benefits and were shrouded in a pro-poor rhetoric that magnified the assumed power of the state and attendant benefits. Thaksin 'vowed to eradicate all water-related problems plaguing the country, which he said were major hurdles in the government's war on poverty', and the study, to be completed within a year, would design 'projects to control levels of water in 25 river basins, to help rehabilitate forest and soil

resources', helping him to meet his goal of eradicating poverty by 2009 (*The Straits Times*, 2003). The 'war on poverty' was clearly branded as an overriding meta-justification that offered a means to silence opposition since, obviously, nobody is against poverty reduction.

A major meta-justification of water resource development in *Isaan*, well until the mid 1970s, was the threat of communism, used by both the US and the Thai military to justify their objectives (Bell, 1969). The scare of communism was used to legitimate foreign aid, military build-up and suppression of opposition to the regime (Darling, 1965). Such meta-justifications present projects as the result of 'pressing needs' that bear no contestation. In 1988, the then Armed Forces Chief General Sunthorn Kongsompong, for example, was reported to say that it is 'necessary for us to launch a campaign like the Green Northeast project. It is a matter of national security and the Northeast is of much strategic importance' (Labournet, 2004).

The politics of water resource development also often include manipulation of symbolic power. The July 2003 workshop on Sustainable Water Resource Management organized for the launching of the Water Grid was opened with a quote from His Majesty the King:

The main point is the need of water for consumption, water for agriculture because water is life. People can't live without water. People can live without electricity. If there is electricity but no water, people can't live.

Symbolic support from the king is frequently marshalled by recalling his fondness for irrigation and rural development and his support of dams for flood protection. The Green *Isaan* Project was thus aptly billed *Nam Pratan Nai Luang* – that is, Water from the King – while opposition to projects such as the Pasak Cholasit Dam were efficiently silenced by stressing the king's patronage of the dam.

An interview with C. Roongrueng (1999), a former director general of the Royal Irrigation Department, provides a textbook illustration of the range of discursive devices that are mobilized to justify more infrastructure:

At present, the quantity of water is not sufficient because of an increase in the population which has led to more demand for water. ... And because many forests have been destroyed, water cannot be retained. So it became necessary that we build a big reservoir to retain water for the dry season. ... The increased population has led to more agriculture and more demand for water. It would be good if people were not born. But since the population has increased, everything has been affected.

However, water is a necessity. When there is a water shortage, it is the RID who is responsible for it. We have tried to propose every solution to solve the problems. ... Nowadays, in the IMF [International

Monetary Fund] time, the population in Bangkok has decreased because some people have gone back to agriculture. But they would not have water if the RID did not provide them with water sources. How could we survive? Luckily, the RID has prepared for this.

I think we are 'lost'. Many people have imitated foreigners. They want to preserve resources without them being fully developed. It is necessary to develop everything to its full capacity before preserving it. If we preserved our natural resources, what could we use? Would you want to buy them from elsewhere?... Many people ask why we want to do it [inter-basin diversion project]. It is because it is a duty we have been assigned. We have learned to find water for you, not for ourselves. You live well right now because of what we have done in the past.

The statement borrows from faulty hydrological knowledge, glosses over the fact that urban needs hardly total 15 per cent of water diversions, does not discuss how farmers' 'needs' are themselves related to past irrigation overdevelopment, stresses the ills of population and urban growth that leave no choice to dutiful engineers, contrasts their disinterested mission with the irresponsibility of dissenters and with the foolishness of foreigners, and concludes by closing the debate ('there is no alternative').

Whether out of good intentions or as channels of official statements, the media also often contributes to turning unavoidability into common wisdom. Recently, for example, the *Bangkok Post* (2007) discussed the hypothesis that at some time in the future Thailand would not be able to feed its own people and would depend upon food imports, having 'to fork over a hard-earned foreign exchange advantage to buy ever more expensive food', pointing to the imperative to 'never abandon its determination to maintain food security'. Alarmist discourses are also commonplace, as illustrated by a high official justifying a project because the [Phetchaburi] province ran the risk of 'becoming a 'desert' because the province received less rainfall than the amount of water evaporating from its soil (*Bangkok Post*, 2004b). Clichés of the region as 'the water-starved Northeast' (*Bangkok Post*, 2008), widely resorted to by the KCM and other project proponents (see Figure 10.4), implicitly legitimize supply augmentation projects.

The stigma of drought and flood and the 'naturalization' of poverty in *Isaan* divert attention from other structural aspects of regional development. Extension of upland and fibre crops in the 1960s, or of eucalyptus in the 1980s, has benefited large urban-based entrepreneurs. The region's agricultural surpluses have been tapped for export, the benefits of which are appropriated by the metropolis, with only marginal changes in technology or living standards in the producing areas (Bell, 1969).



Figure 10.4 *Cover of promotional material for the Khong-Chi-Mun Project*

Geopolitics and politics

Post-war Mekong geopolitics has been a central determinant of government interventions in *Isaan* until the mid 1970s. The political situation dictated that Thailand would be the only country to be able to benefit from US/Western willingness to help develop water resources in the region – a country that would fully embrace the objective of combating the spread of communism by investing in rural infrastructures. Indeed, a major objective of small-scale investment programmes, as well as major efforts to open up so-called ‘pink areas’ by expanding road networks, was countering insurgency.

Security considerations have been paramount in the composition of the US aid programme in Thailand (which started with the communist takeover in China in 1949, and the spread of internal communist insurrection in Myanmar/Burma, Malaya and the Philippines).⁸ As Steinberg (1986) pointed out, US

interventions ‘at their most naive ... have been justified by the “domino theory”, [and] at a sophisticated level they have attempted to help the Thai authorities establish productive sovereignty over their periphery’. By 1973, the US Agency for International Development (USAID) director in Thailand characterized the programme in Thailand as consisting of two types: security with development aspects; and development with security aspects (Hill, 1973).

As mentioned earlier, one of the major security-related programmes, funded by the US and the World Bank (World Bank, 1975), was the Accelerated Rural Development Programme (ARD), which constructed rural feeder roads, potable water systems and small-scale irrigation systems in security-sensitive areas in north and northeast Thailand. It was designed in such a way as to integrate remote and ethnically diverse regions and to allow the central government to exert control over these areas (Steinberg, 1986). Jacobs (1971) described it as ‘an ambitious direct action, paternalistic, government-service programme, frankly aimed at winning friends for the existing political order’, and one that would deliver to the villagers what the central government thought they would need. Later on, the then director of the United States Overseas Mission (USOM) would comment that ‘it is a known fact, disputed only in degree because of the inadequacy of the information available, that during those 23 years [of US assistance to Thailand] the poorest segment of the population has benefited least from all those expenditures’ (Hill, 1973).

Although concerned by these geopolitical considerations, Thai politicians also saw massive public investments as a means of procuring private political and financial gains. By associating themselves with a large water project and conjuring up images of water abundance in order to dispel precariousness and poverty, politicians expect to establish political support and constituencies. This explains the ever-returning grand development projects reviewed earlier. Announcements of non-credible targets reveal the political motivations of these projects. The Green Isaan Project, for example, promised to make the northeast ‘green’ within five years by improving water resources and raising the percentage of forest areas (Bruns, 1991), while the 1991 regional development plan for the lower northeast region foresaw industrial development in the region, with Korat destined to become the ‘Detroit of Thailand’ (Bruns, 1991). Likewise, in 1997, General Chavalit reiterated the promise to ‘turn the Northeast green’, while Thaksin’s Water Grid system was to triple Thailand’s irrigated area in five years with ‘a nationwide tap water system ... installed by 2005 so that villagers and farmers throughout the country can enjoy running water all year round’ (*Bangkok Post*, 2004c).

Notwithstanding the influence of external factors and the political gains sought by politicians, the Thai administration also pursued its own version of the hydraulic mission enmeshed in local and national politics (Floch et al, 2007). As elsewhere, water resource development stood at the confluence of interest groups motivated by professional, financial or political gains (Molle, 2008). As explained by Bruns (1991):

Irrigation projects are large and visible rewards that politicians can offer in exchange for support. Members of Parliament are active in lobbying RID for projects at the request of their constituencies. MPs and representatives in provincial assemblies may be contractors themselves or have links to them and stand to gain from building projects funded by the Job Creation Programme or the provincial administration. At the national level there has been strong political pressure for construction of water resources projects.

With *Isaan* remaining both the poorest region and the largest 'reservoir' of voters (40 per cent of the population), it is no wonder that, as recalled sympathetically by the *Bangkok Post* (2003):

The idea of transforming the Northeast into a 'promised land' where poor farmers can grow rice and other crops and raise livestock to make enough money to sustain a traditional livelihood without having to travel to the city to make a living every dry season has never faded from the minds of some caring north-eastern politicians.

This vision is shared and promoted by consulting and construction companies more than willing to contribute to greening *Isaan*. As summarized by Samudavanija (1995): 'in the name of "economic development" the military and bureaucratic complex acquired additional financial sustenance through sponsoring infrastructure construction in rural areas. The corruption associated with these projects helped the various patron–client networks maintain their political authority over the rest of the country's population.'

Financing, however, whether from state coffers or through bilateral/international funding, is not always forthcoming. Although Chavalit tried to negotiate a loan with the World Bank for his Green *Isaan* Project (Hewison, 1994), and although the project was bundled into a major arms deal purchase with the British government (*The Nation*, 1994; LabourNet, 2004), the project did not materialize. Thatcher's government was ready to grant US\$100 million and provide a loan of US\$500 million for the project if agreement was found on a major package of military equipment purchase. Although the Thai government allocated money for the programme in the 1989 budget plan, the joint project foundered, partly because the Americans succeeded in reasserting themselves as the main arms supplier (LabourNet, 2004). Likewise, when the Mun River Basin Water Resource Development Plan (Binnie and Partners, 1995) was completed in 1995, with European Union (EU) funding under the auspices of the RID, the NESDB eventually denied funding to RID, although proposals for further development of water resources and irrigation had been dramatically downsized. Promotion of the KCM project was also allegedly embroiled in corruption linked to the military regime during the early 1990s (Samudavanija, 1995).

Within the administration, the prospect of massive projects and attendant funding also awoke professional and financial interest. The KCM project was developed by the NEA/DEDP, an agency under the Ministry of Science and Technology which succeeded in challenging RID's monopoly on water/irrigation infrastructure. The Water Grid also demonstrated the financial and political attractiveness of such projects for both line agencies and politicians. The project remained delayed as a 'result of a row between Natural Resources Minister Suvit Khunkitti and Agriculture Minister Somsak Thepsuthin over who should oversee the project' as 'both ministers want[ed] to supervise the project because it could be promoted in their election campaigns' (*Bangkok Post*, 2004d).

Corruption in Thailand and its links with politics has been well documented (Ockey, 1994; Phongpaichit and Piriyaarangsana, 1996; Phongpaichit and Baker, 1998). Corruption in large projects mainly involves three categories of actors: the state bureaucracy and high-rank officials, politicians, and the business sector (Phongpaichit et al, undated). Politicians intervene in the reshuffle of high-ranking officials in order to ensure that their men hold strategic positions and offices. High-ranking officials, in turn, nominate and assign their subordinates key positions and functions in state agencies in order to ensure their control over projects. If these officials are moved away from their department, control will remain through their subordinates. Third, the business sector seeks high rents, offers bribes or other forms of benefits, and teams up with the other two parties in order to obtain contracts or minimize their costs of operating projects. Imbalance of power between the three parties can create tensions and may cause change in the Thai political regime (Phongpaichit et al, undated).⁹

Much of the water investments in *Isaan* during the military regimes involved high-ranking officers, as shown by the relationships between General Chavalit and Sia Leng, a *jao pho* (godfather) from Khon Kaen who assisted his Green *Isaan* Project (Phongpaichit and Piriyaarangsana, 1996). Programmes such as the ARD were also known to be associated with corrupt practices. Contracts for road design and construction supervision were cancelled in 1979 'due to alleged irregularities on the part of some ARD staff and consultants. Charges of inadequate work performance also led to several court actions against contractors' (World Bank, 1985).

This situation is in no way peculiar to Thailand. In post-war Japan, a system of collusion between politicians, businessmen and bureaucrats evolved. They formed a so-called 'iron triangle' of shared benefit and influence which made public works projects the centre of a system of vested interests that encouraged bribery and bid-rigging (Woodall, 1993; Feldhoff, 2002). In the US, too, much of the construction drive of the Bureau of Reclamation and the Army Corps of Engineers has been fuelled by, and linked to, a triangle of shared interests (Reisner, 1986; McCool, 1987). Collusion between business, politics and bureaucrats in the water sector is a commonality shared by virtually all countries (Repetto, 1986).

The development industry: A fixed discourse in a changing world?

Beyond general justifications of development and the pervasiveness of political interests, analysis of the last 50 years shows a remarkable regularity in the promotion of large-scale water resources development in northeast Thailand. Although this vision has gradually been challenged and has somehow evolved with regard to which projects are pushed forward, it has largely adhered to the ethos of the 'hydraulic mission', where the development of water infrastructure is seen as obvious and other considerations – whether economic, social or environmental – are at best treated as externalities to be mitigated.

Although a common feature of the four post-war decades that saw 'modernization' and technology as central to economic development, this ethos has also been linked to, and nurtured by, the wider debate around water resources development in the Mekong Basin (Jacobs, 1995; Friesen, 1999; Nguyen, 1999; Molle et Floch, 2008). Grand plans, modelled after the Tennessee Valley Authority (TVA), to achieve a 'comprehensive development' of the basin, including several major dams on the mainstream, ensured the prominence of the engineering mindset. The engineers of the US Bureau of Reclamation, in particular, transplanted their 'culture of irrigation' to Asia, particularly to Thailand where American influence was greater: a dozen Thais visited the bureau in the US as early as 1946 (Biggs, 2006) and intense exchanges lasted at least two decades. The concept of river basin full development promoted by the TVA informed the reconnaissance report carried out by the bureau in 1965 at the request of USAID, where almost every single tributary to the Chi and the Mun rivers was dammed in its upper course (see Floch et al, 2007).

The Royal Irrigation Department created a culture where floods and drought automatically translated into proposals for more dams and more irrigation schemes (see Chapter 7). This was predicated, as shown above, on the self-defined engineering mission of RID, but also on a disregard for indirect costs and on the argument that 'water flows to the Mekong unused' (Roongrueng, 1999) – a typical argument insensitive to wider ecosystemic functions of the water regime, as well as to pre-existing people's livelihoods, echoed in 1995 by the Foreign Minister of Thailand: 'It has been a pity to let the Mekong River, with its abundance of water resources, just flow to the sea' (cited in Friesen, 1999).

In addition, while the rhetoric of participation and local- and small-scale developments featured prominently in basically all water planning documents after the 1978 AIT report, the underlying understanding of the uses of water and the discourses surrounding the utilization of basin resources have merely been readjusted to comply with the overall policy, with no substantial rethinking of the benefits and costs associated with water resources developments at large.

In retrospect, the above review of water resources development plans in *Isaan* reveals an impressive insistence and ingenuity in finding ways of mobilizing water

for the region. We can at least identify six main options that have been explored and/or implemented at different points in times (see Figure 10.5):

- 1 Small-scale storage or diversion structures (ponds, tanks and weirs) have been an early solution that resurfaced during the late 1970s.
- 2 Damming the various tributaries of the Chi and Mun rivers has been the hallmark of the 1965 USBR survey and several of these dams have been constructed.
- 3 The Pa Mong Dam was, for long, the cornerstone of irrigation development based on diversion of the Mekong waters (and gave way to several variants in the KCM project, where water would be pumped from the rivers).
- 4 Pumping stations along the main rivers were disseminated by the NEA/DEDP, starting in the 1970s up to the mid 1990s.
- 5 Storing water in the floodplain itself, through a succession of weirs, was first introduced in the 1980s (NEDECO, 1982) and was later incorporated within the KCM project.
- 6 Last, frustrated efforts to import water directly from the Mekong led to creative plans to siphon water from dams located in Laos under the Mekong into *Isaan*.

This engineering drive and the fixed discourse stressing the ‘urgent need to bring water from the Mekong to alleviate the region’s water needs’ (Interim Committee, 1988) have been gradually challenged on economic, environmental and social grounds. Economic considerations have never featured prominently in *Isaan* project planning. The 1988 *Revised Indicative Plan* of the Mekong Committee reveals that the:

... economic returns [of the five Isaan projects] are not very attractive. This is due to forecasted low rice prices. ... Nevertheless, the economics of the projects may improve considerably if a greater proportion of upland crops is introduced. ... A major consideration with respect to irrigation projects in north-eastern Thailand is that economic merits of a project do not capture other critical strategic and political aspects, such as employment generation and risk reduction. ... under the ‘Green E-sarn Scheme’ and for socio-political reasons, irrigation in north-eastern Thailand is likely to be acceptable at somewhat lower economic returns than elsewhere in the country. (Interim Committee, 1988)

The cost-effectiveness of small-scale projects has also been, at best, dubious, with ‘a consensus among government engineers building small reservoirs and other small projects that such projects cannot be justified in economic terms, but are necessary for political reasons or for their social benefits’ (AIT, 1978). Some academics have

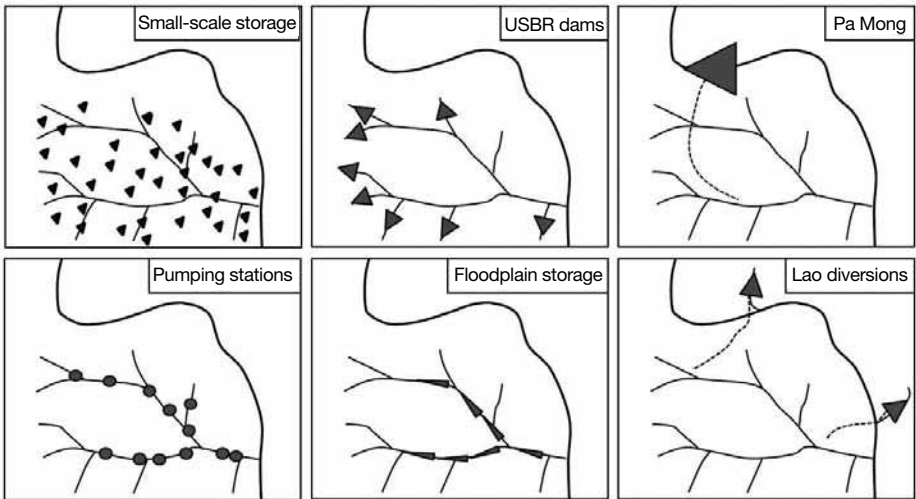


Figure 10.5 *Main options for the mobilization of water resources in Isaan*

also disputed the economic relevance of the later KCM and Water Grid projects; but these arguments have had relatively little effect on official discourse.

Environmental issues have been somehow more prominent. The salinization problems and the conflicts on floodplain management around the Rasi Salai and Huana dams on the Mun River have generated debates about environmental impact assessments (EIAs) and critiques about the ways in which shoddy assessments are used to 'green wash' projects. For example, the first EIA done for the Songkhram Irrigation Project in 1992 by consultants AEC et al was rejected by the National Environmental Board (NEB) after finding that these were exact copies of EIAs that had been done earlier for another large-scale water diversion project, the Khong-Chi-Mun (Breukers, 1999). In 1991, Mark Rentschler of the US Treasury Department advised the US government that 'The environmental impact assessment prepared for the Pak Mun Project did not appear adequate to allow the [World Bank's] board of directors to evaluate the environmental soundness of the project' (Wangpattana, 1996). Nevertheless, the World Bank and the Electricity Generating Authority of Thailand (EGAT) never commissioned a new EIA and continued to state that the Pak Mun Dam would only have minimal impact upon the surrounding natural and human environments (Friesen, 1999). Likewise, in 2002, in the middle of conflicts related to the Rasi Salai and Pak Mun dams, the DEDP submitted a proposal and an EIA for the second phase of the KCM project; but the expert panel which analysed the EIA rejected the proposal on the ground that the comprehensive groundwater study carried out by KKU had not yet been completed (Wiszniewski, 2003).

The Minister of Natural Resources and Environment, Praphat Panyachartrak, attempted to upgrade EIA procedures in order 'to catch up with the rapid economic growth' and to promote participation from the public, who – according to him – should 'be allowed a much bigger say in state development projects, which will also face tougher scrutiny from a new agency' (*Bangkok Post*, 2004e). His efforts were not rewarded and perhaps not unrelated to his removal and replacement by Suvit Khunkitti, the main proponent of the Water Grid. In sum, EIAs are seen as a 'bureaucratic hoop' to be jumped through in order to start construction, not as an authentic mechanism to decide whether or not the dam should be built (Friesen, 1999). This has led local groups to engage in grassroots research in order to mobilize local knowledge, empower local communities, build resource user networks, and produce alternative assessments such as a 'people's EIA' (Manorom, 2007).

The conflicts around the Pak Mun and Rasi Salai dams, let alone earlier occurrences of displacement because of dam construction, have shown abundantly that social impacts have been equally neglected, belittled in the name of national development. Unfortunately, the debate between the state and non-governmental organizations (NGOs) is now polarized. The government distinguishes between 'good' and 'bad' NGOs, and generally either attempts to keep planning secretive¹⁰ or envisions debates in terms of confrontation, as suggested by Prime Minister Samak's recent declaration that 'he did not care about opposition from non-governmental organizations' (Charoenpo, 2008).

The fixity of the development discourse is also demonstrated by the obsessive focus on water resource and irrigation development (see above) and a disregard for alternatives, although reservations surfaced – at times – in official reports. For example, a World Bank report in 1969 noted that 'the northeast is merely the more striking example of the widespread predisposition to disregard the potential for rain-fed agriculture – at least at the official level'. Even if irrigation development was, arguably, a sound public investment option during the 1970s, the lack of re-evaluation is striking. At a time when neighbouring countries such as Malaysia have resolutely moved out of an agrarian economy to higher-value economic activities, the option of reducing the farming population through 'the introduction of substitute job opportunities', as put forth by Apichart Anukularmphai (cited in Le-Huu and Nguyen-Duc, 2003), is little debated. Billions of dollars worth of investment plans in irrigation infrastructure still make the headlines in Thailand despite the long-term decline in rice prices and the fact that agricultural labour is already in short supply and many remaining soils are salinity-prone (in *Isaan*) (Molle and Floch, 2008). This is besides the very low rate of land under dry-season rice cultivation, which remains at about 14 per cent of the total irrigated area (Kamkongsak and Law, 2001), an official figure that is disputed or seen by many as being optimistic. No doubt, the recent food crisis and hikes in price will probably lend support to continued investments.

CONCLUSIONS

After decades with the environment considered as a mere physical support to conventional economic growth, international institutions such as the World Bank or the ADB are supposed to now rest with a resource management paradigm, which should be reflected in their practices and, perhaps, might have somehow percolated down to borrowing countries (Colby, 1989). In the case of *Isaan*, or Thailand, in general, evidence of such a shift is suggested by several facts: the greening of legislation; the advent of the Ministry of Natural Resources and Environment; the requirement of EIAs (under certain conditions); the strengthening and maturing of environmental, human rights and/or livelihood-oriented NGOs of different stripes; the organization of civil society around struggles on the Huana or the Pak Mun dams; etc.

At the same time, it is debatable whether the mindsets of engineers and bureaucrats, or politicians' views of water resources, or the core business of consultant companies have really evolved in parallel. The above account suggests that most of the worldviews and interests that underpinned the ideologies of the hydraulic mission or the 'frontier economics' are alive and well. Avoidance, distortion or manipulation of EIAs, attempts to denigrate social movements, continued use of overriding objectives (food security, national security, poverty alleviation, etc.) to close debates, token participation of stakeholders to build legitimacy, and other political devices all show that practice has only been superficially modified. According to Chomchai (2001): 'national environmental policy seems to have been overshadowed and, indeed, supplanted by a development strategy that favours the industrial and commercial sectors and vested interests at the expense of natural ecological balance and overall national interest'.

Although the grand projects of the Cold War era may have reflected both the ideology of full river-basin development and the geopolitical interest of the US, the logic and bundle of political and financial interests underpinning large-scale water projects have not significantly subsided since that time. In developing countries, classic 'iron triangles' give way to influential and lasting 'iron rectangles' that combine politicians, state bureaucracies, private consulting and construction firms, and development banks and cooperation agencies, which all have vested interests in maximizing disbursement of funds (Molle, 2008). Relationships between these four apexes are very fluid and vary with time; but the confluence and coincidence of their interests are extremely strong.

This does not mean that these four groups of organizations are homogeneous. Other segments of the administration (typically the Ministry of Finance or the NESDB) may disagree and successfully oppose projects; development banks may also strengthen their social and environmental criteria and not support particular projects. Yet, the declaration of Prime Minister Samak – less than a week after being appointed – about a megaproject to bring water to *Isaan* provides a fascinating and

remarkable continuity to 60 years of water policy centred on the ‘desert bloom’ promise. Whose dreams and visions are being fulfilled by the river development schemes? ‘Who benefits from the projects and who determines what projects are carried out in the name of “progress and development”’ (Hudson-Rodd and Shaw, 2003)?

One of the main (unanswered) questions is why, after all, governance shifts are so hard to bring about. Why would it not be possible to do ‘good projects’, with adequate safeguards, compensations, detailed assessments of future impacts and strict screening of projects? For Grey and Sadoff (2006), who acknowledge the need for improved project governance, ‘the world is a different place in the 21st century, and there is no doubt that the costly mistakes of the past can and must be avoided in the future’; investment in hardware should be paralleled by ‘investment in institutions’, with capacity-building, participation and goodwill supposed to make a difference. The above account of decision-making in water resource development in *Isaan* suggests that this view includes a good dose of wishful thinking and that institutions are not easily swayed by the injection of money or rhetorical calls for ‘responsible growth’. Governance shifts are slow and result from the complex interplay of local, national and global dynamics, with democratization more likely to result from hard-fought battles than from the mere desirability of social and environmental sustainability.

NOTES

- 1 Notably at the World Bank; see Briscoe (2003); World Bank (2005).
- 2 A more detailed account of the history of water resources development is given elsewhere (Floch et al, 2007).
- 3 The report estimated that only 20 per cent of the population could benefit from large-scale together with river-pumping schemes and that small projects could go a long way in serving the water needs of the remaining 80 per cent.
- 4 In 1989, the Mekong Committee reported that it had introduced a new concept in the design of flood control and storage projects by constructing reservoirs in the areas affected by annual flooding (Mekong Secretariat, 1989). Beset by resettlement problems and constrained by the depletion of attractive dam sites in northeast Thailand, the intergovernmental body recommended that the Government of Thailand should adopt a strategy in a consolidated way so that each step would be taken with the firm knowledge that in the event that each project is demonstrated to be economically and technically feasible, the government would wish to pursue further implementation of such a scheme (Mekong Secretariat, 1989).
- 5 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, Cyprus or Tunisia; but their costs have generally prevented expanding the concept at a very large scale.
- 6 This department originated from the earlier DEDP and is now under the Ministry of Energy.

- 7 The project would also be justified because farmers in irrigated areas earn three times more than those forced to find their own water supplies, said Mr Thaksin, and because 'if the irrigation system was extended, both farmers and the government would reap higher revenues' (*The Straits Times*, 2003).
- 8 US interventions in the region have been prompted by fears such as the invasion from the People's Republic of China, regional security after the French defeat in Dien Bien Fu, deterioration of conditions in Laos, the inception and the active communist insurgency in Thailand, Thailand as a base for action in the Vietnamese War, the international trade in narcotics, and the Vietnamese invasion of Cambodia (Steinberg, 1986).
- 9 For instance, the domination of business in Chatchai's 'buffet cabinet' led to a *coup d'état* and greater scrutiny of business interests through political participation (election), resulting in the 1997 Constitutional Law. More recently, the presence of Thaksin in Thai politics characterized the alliance between business interests and politicians who control voters in rural constituencies. This has led to the latest coup in September 2006. The coup leaders gained political support not only from the middle class, averse to 'corrupt politicians', but also from high-rank officials who were manipulated by the Thaksin regime. Such shifts in power illustrate the competition between the three parties (Phongpaichit et al, undated).
- 10 An article in the *Bangkok Post* (2004) referred to military units conducting 'psychological operations' in order to convince local people to accept the construction of the Kaeng Sua Teng Dam.

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