(FIRST DRAFT)

THIRD BIENNIAL

ROSENBERG INTERNATIONAL FORUM ON WATER POLICY

Canberra, Australia, 7-11 October 2002

THE MEKONG RIVER BASIN: LESSONS FROM INTEGRATION EFFORTS AND TRENDS

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ABSTRACT

Efforts at developing the upper and lower basins of the Mekong are nowhere near the ideal of complete integration, despite the fact that they are part and parcel of an integrated ecosystem. In fact, China which rules the roost in the upper basin, started the ball rolling in earnest in 1940s by tapping the upper Mekong's tributaries for intensive irrigation development. Of course, the lower riparian countries(Thailand, Laos, Cambodia and Vietnam) did not make a start with the collective use of the river and its tributaries and set off on a similar path until 1957 when the Mekong Committee was brought into existence and were thus unaware of upstream consumptive use and its impact on the river flow. Nor had either basin, in its development efforts, been behaving as though the other existed until, unknown to the lower riparian states, China launched, in the early 1990s, its daring programme of developing a cascade of hydroelectric dams on the mainstream. It was in the dry season of 1995, when repair works were carried out on Man Wan--the first member of the cascade to be commissioned--that the lower riparians came face to face for the first time with the hard reality of upstream regulation. On the other hand, the two basins are being brought closer together by a coincidence of interest in navigation and the inter-basin movement of people and goods. Within the narrow confines of the lower basin, the Mekong Committee(1957-1995) became instrumental in the collection and analysis of basin-wide data as well as in raising funds for the

construction of a number of dams on the tributaries of the Mekong—tasks that the Mekong River Commission—the immediate successor to the Mekong Committee--has

lost no time in taking up, though the latter has focused its attention on regional projects like the elaboration of rules for the use of waters of the Mekong.. All projects, whether carried out with

the help of modern science and technology in the upper or the lower basin, have failed to pay proper regard to the state of the environment, while the indigenous systems are outstanding in their conservationist approach.

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INTRODUCTION

This paper begins by deploring the divide separating efforts at developing the upper and lower basins of the Mekong, though, apart from market-induced economic integration, there are clear indications that a coincidence of interest is bringing them closer together at the policy level. It is thus argued that the gaping divide is not unbridgeable and that China which controls the Mekong headwaters in the upper basin may decide to join forces with the lower riparian countries at a time which suits its book. In the meantime, China, which boasts a more or less monolithic political and decision-making structure, has got into its stride with its consumptive use of the upper Mekong's tributaries and the construction its mainstream cascade of hydroelectric dams without paying proper regard to their possible adverse impact on downstream co-basin states. For their part, the lower riparian states cannot but brace themselves for upstream regulation while their efforts at integrated development of the lower basin within the framework of the Mekong Committee(1957-1995) and the Mekong River Commission, the Committee's immediate successor, apart from being at a snail's pace, have not been friendly to the environment either. By contrast, it is argued that the time-hallowed indigenous systems of management of natural resources are in a class by themselves as far as conservation is concerned The paper concludes by arguing that, while the construction of national and pseudo-regional projects under the guise of export-oriented hydropower dams in the lower basin may bestow on

the co-basin states the invaluable experience that should stand them in good stead when it comes to grappling with mainstream dams, it does not *per se* constitute the *raison d'etre* of a river basin organization which should essentially consist in monitoring basin-wide changes through data collection and analysis and collective institutional building.

UPPER/LOWER BASINS DIVIDE

Use of the transboundary water resources of the Mekong basin has been characterized largely by a virtual absence of hard and fast rules which could readily have been derived from international water law. Moreover, their application to the Mekong case, owing the river's unique regime, could well have contributed to the further refinement of this nascent but growing legal field. However, with the historical accident of downstream states' apparently arbitrary drawing (in 1957) of the demarcation line between the upper Mekong (with China and Myanmar as riparians) and the lower Mekong (with Thailand, Laos, Cambodia and Vietnam as riparians), this situation has changed slightly.

Adoption of the infamous Golden Triangle, where the borders of Myanmar, Thailand and Laos meet, as the cut-off point between the two parts of the Mekong was not as arbitrary as might appear at first sight. To reach this landmark situated at about 500 m above MSL the river travels down a distance of about 2,000 km and loses, in the process, 4,500 in altitude, its headwaters being in Tibetan China's Tangula Shan mountain range located at about 5,000 m above MSL. Because of its topography and latitudinal configuration, the Upper Mekong, or the Lancang, the name by which it is known to the Chinese, is partly snow-fed and partly rain-fed, rushes through steep and narrow mountain gorges like an Alpine river and is susceptible solely of hydroelectric exploitation. It comes as no surprise, therefore, that the Chinese have lined up a cascade of some

hydropower dams for possible construction, though it is not too clear how many such dams have been planned. An earlier source (1995) in the Yunnan Provincial Government lists 14 possible projects whose total installed capacity could attain the 22,110 MW-mark, while a later source, perhaps by a process of elimination, more modestly enumerates only 8 such dams with a total generating capacity of 15,400 MW(Plinston and He,2000:242) . In fact, the Upper Mekong basin contributes only 18% to the river's total discharge (of about 500,000 million cubic metres) into the South China Sea. Possession of high head may thus be said to make up for what the Upper Mekong lacks in water quantity. In contrast, the Lower Mekong, apart from the Chinese contribution, containing , as it does, snowmelt from a temperate zone, is entirely rain-fed and tropical in nature. From the Golden Triangle to its distributaries emptying into the South China Sea, a distance of some 2000 km, it loses only 500 m in altitude, thereby making it a relatively placid, gently-flowing river capable of multi-purpose development. Struck by such a total contrast, one is tempted to assert that here one is confronted with two different rivers instead of one, though, of course, in reality, the entire Mekong constitutes part and parcel of an integrated ecosystem..

The year 1957 actually witnessed the foundation of what has become known as the Mekong Committee destined to 'coordinate' not only studies on but also proposed use of the waters of the lower Mekong. Henceforward, major proposals to abstract Mekong waters by riparian states had to go through the formality of approval by the Committee(Chomchai,1995:245). The requirement of consensus in the Committee's decision-making process helped stabilize the situation, at any rate for a time . Nevertheless, despite the riparian states' formal commitment to joint development of the lower Mekong's water resources, the Committee was not vested with supra-national authority to enforce a code of riparaian

conduct, which was, at this stage, still vaguely defined, and member states sometimes went out of their way to avoid submitting to the Committee certain proposals to abstract or otherwise make use of Mekong waters. Moreover, if disputes about Mekong waters arose, there existed no ready in-house mechanism for adjudication. Fortunately, even before the Committee's advent, in the absence of competing development efforts among riparian countries, there had been no open conflicts in their use of the river. If experiences in other international river basins could serve as a guide, such conflicts would have led to the same outcome in terms of basin organization in any case. The relatively underdeveloped state of the riparian states of the lower Mekong has thus turned out to be a blessing in disguise. In addition to devising machinery for the resolution of disputes, the Mekong River Commission, founded in 1995 as the Mekong Committee's immediate successor by the four riparian states of the lower Mekong, has, through the much-awaited outcome of its water utilisation programme, high hopes of improving the situation by laying down 'rules' to ensure 'reasonable and equitable' use of the Mekong river's water and related resources. Unfortunately, the Commission's jurisdiction does not go beyond the confines of the lower Mekong, China and Myanmar standing vis-à-vis the Commission as merely 'dialogue partners'. China, in particular, is said to have consistently displayed little interest in joining the Commission , not to mention its predecessor, no doubt because it feels that membership would constrain, rather than facilitate, its use of the river(Hinton,2000:19). This is, however, a matter of time. A calculus of cost and benefit of the Commission's membership may turn out to be favourable to China once it has brought to a close its cascade construction programme on the Upper Mekong.

Historically, in the late 1940s , even before plans for the upper mainstream cascade reached the drawing board, China's exploitation of the Upper Mekong's tributaries for irrigation purposes

began in earnest. Nevertheless, the country must have discovered possible use for their waters much earlier on. It may well be argued that such consumptive use, which, unlike its use for hydropower generation on the mainstream, yields no return flow, is bound, over the years, to have the long-term impact of substantially reducing the river's discharge. In its unregulated state the Upper Mekong system might have contributed much more than 18%--the current figure—to the Mekong's waters. For their part, the lower riparians did not openly discover any substantial use for the river until the late 1950s, and this about-turn may fairly be attributed to lively interest shown and intense pressure brought to bear by outsiders. With the full realization of the river's energy potential as being equivalent to that of an oil well turning out 1.5 million barrels of crude per day, the rest of an interdependent world cannot afford to sit idly by while a situation of poverty amidst plenty persists in the lower Mekong basin.

Of course, while obsessed with the question as to how best to develop the river's resources, the lower Mekong riparians had been kept in the dark for some time as to upstream developments. It may, however, be argued that they could have been more active in trying to glean crucial information from Chinese sources, had they been more resourceful and more successful in overcoming their mental blockade. Chinese sources were admittedly difficult to come by, while the more accessible Western sources had to wait until the early 2000s to deal with the subject-matter at issue. The lower riparians appeared to be completely complacent about their security until, in the early 1990s, they were given a jolt of upstream regulation impact. In the new circumstances of a regulated river, the basin's inhabitants residing below the Chinese border were brought face to face, for the first time, with the hard fact of their vulnerability, since, in this part of the Lower Mekong, the Upper Mekong's contribution to the river flow is not 18%, as in its distributaries, but 100%.

The Upper Mekong cascade has thus been more real than a pipe dream, the first dam to be constructed in the series, the 1,500-MW Man Wan (situated at 994 m above MSL) having come on stream in 1993. Despite its relatively moderate storage of about 10 million cubic metres (as against the corresponding figure of 227 planned for 5,000-MW Nuozhado lying at 807m above MSL, possibly the largest member of the cascade), it did not take long to make its appreciable impact felt on downstream river flow. Thus by the dry season of 1995 a record low level of the river that came about had begun to give the lower riparians an inkling of the shape of things to come, since it played havoc with Thai and Laotian riparian inhabitants alike. Thai touring boats were unexpectedly stranded in the Golden Triangle area; Thai farmers in the vicinity found it more difficult to lift the river water onto their fields, and Laotians, on the other bank of the Lower Mekong, were prevented from holding their traditional annual aquatic festival at Luang Prabang, their former capital. It transpired that works in Man Wan required temporary diversion of the Upper Mekong. A complaint is said to have been lodged by the governor of the Thai province concerned(Chiangrai) with his Yunnan counterpart who. while acknowledging that some tunnelling necessitated temporary curbing the river flow, refused to agree to notify his Thai colleague if such works were planned in the future(Hinton,2000:18). Obviously, the Chinese were unwilling to impose upon themselves even the obligation to notify the lower riparians of planned upstream activities.

The intricacies of international relations apart, there is no particular reason for China to treat the Lancang differently from the Yangtze, where the Three Gorges, the world's largest dam, is under construction, impoundment being scheduled for June 2003. According to an independent estimate, 2 million people (as against the official figure of 1.2 million) will have to be resettled, and the State is said not to be giving them much of a helping hand. 'The Prince

decides; the subjects obey' is said to be the order of the day, and the havoc the dam is likely to play with the environment will be something unheard of, the reservoir being predicted to be a 'gigantic cesspool'(Koller,2002:27).

Be that as it may, pending findings from further research, an idea of the likely downstream impact of the Man Wan dam could be had with a scrutiny of the post-impoundment survey of the Yali Falls dam built in Vietnam on the Se San river about 70 km above its border with Cambodia, where the Se San flows into the Sre Kong river before the latter's confluence with the Mekong. With an installed capacity of 720MW—less than half the size of Man Wan-- it is nevertheless the lower basin's largest dam built on one of its largest tributaries, thereby making its downstream impact all the more formidable. No sooner than power generation had begun following impoundment in 1998-- after 5 years of construction-- than the irregular releases of water from its reservoir led to a radical alteration in the hydrological regime and the water quality of the Se San river downstream. Unusual and dramatic fluctuations in river levels along the Se San are said to have made its major downstream environmental and socio-economic impact felt along the river in Ratanakiri province in north-east Cambodia. River levels were seen to be particularly low in the dry season of 1997 and 1998, and there has been no dearth of reports of serious illness of human beings and livestock alike with use of river water apparently contaminated with the *detritus* of the corroded river bed and banks. Food security and nutrition are also said to be jeopardized, as people have suffered an irreparable loss of their lowland and swidden rice crops through irregular flooding in tandem with a waning fish catch on account of a sharp decline in the fish stock, their main source of animal protein. Apart from its emission of confusing signals to migratory species, the Se San's water is said to have been tainted with increased turbidity, thereby adversely affecting all fish species to such an extent that some have

disappeared from the river scene altogether. In sum, the dam having precluded people from harvesting their traditional resources from the river, they are said to have been forced to fall back on the already overexploited terrestrial resources for the sake of survival. The familiar tale of woe is indicative of the shape of things to come with the prospective completion of the Chinese cascade on the Lancang.

While over the past four decades riparian states of the lower Mekong have made frantic efforts to put their house in order, the upper Mekong has remained a virtual no man's land at any rate in the eyes of the lower riparians. Claims that customary international water law applies to the use of the upper Mekong have been called into question by China's unilateral damming of the river and consumptive use of the upper Mekong's tributaries. In fact, little or no formal rapport exists between the two parts of the basin, though remains to be seen how Myanmar as well as China makes use of the dialogue status with the Mekong River Commission.

The tremendous headway China has made in infrastructural development on the upper Mekong mainstream stands in marked contrast to the lower riparian states' dismal failure to agree on anything approaching the Chinese model, despite long years of studies and immense resources devoted to them. Of course, the more monolithic political structure in China helps to speed things up a bit, while the lower riparians, apart from their diversity of needs, are subject to different political organization. While one could , for the lower riparians, well count the cost of missed opportunities, one could also set against it the welcome benefit of today's open options, constrained as they are by choices already made upstream. However, whatever the definitive upshot of the cost-benefit calculus may turn out to be, one thing is painfully clear: it may justly be argued that China's decisiveness on the upper Mekong in tandem with the lower riparians'

dilly-dallying has resulted unexpectedly in integration, by default, of development efforts on the entire length of the Mekong. Thus if mainstream dams on the lower Mekong are ever to be built at all, they will, of necessity, have to accommodate themselves to the configuration of the Chinese dams in the upper Mekong—a *fait accompli*. A leading in-house opponent of support to the Mekong Committee by UNDP, a foremost donor to the Mekong cause, once described work on the lower Mekong as a 'holding' operation. Ironically, there was much that was positive in her apparently negative epithet.

INTER-AND INTRA-BASIN ECONOMIC INTEGRATION

From the standpoint of *Realpolitik* good neighbourliness is a force too feeble to bring about integrated development of the Mekong river, let alone the entire Mekong basin, even when China is at pains to secure the goodwill of its southern neighbours for possible deployment in the international arena. A delicate balancing of upstream and downstream interests should, however, propel things in the right direction. This is eloquently illustrated by the sharing of data on the river for which China signed an agreement with the Mekong River Commission in April 2002. Under the agreement China and the lower Mekong countries will exchange hydrological data which should enable the lower riparians to forecast flooding in the wet season and (if dry-season data are also forthcoming) and low flows. Fortunately, the acid test of the helpfulness of the data swap has not been slow in coming. In early August 2002, barely four months after the inking of the accord, parts of north-east Thailand were once again submerged by the swelling Mekong flood(Nation, 9 August 2002:3A; Bangkok Post, 9 August 2002:5). By 21 August 2003 north-east Thailand was confronted with more flooding, the Mekong level being being said to be at its highest level in 30 years. This has been attributed to flooding in south-western China and the

opening of the floodgates there(Nation, 22 August 2002:4A). The highest level of the Mekong in central Laos since 1966 being expected to reach downstream Cambodia within 5 days, i.e. before August 2002 was out(Nation. 22 August 2002:8A), the Cambodians, were , late in August 2002, bracing themselves for a further 'disaster' following hot on the heels of a severe drought. It remains to be seen in an *ex post* evaluation whether water level data from China have helped the Thai, Cambodian and Vietnamese authorities to take opportune preventive and relief measures. Of course, these countries also have to guard against likely flooding health hazards like the spread of hepatitis and dysentery together with contamination by toxic chemicals and heavy metals especially from China. On the other hand, residents of Thailand's northern province of Chiangrai have, since 1996, reaped windfall gains from flooding, as the reverse side of the coin, in the form of collection of logs, tree branches and loose pieces of timber floating along the river, since these are later sold for use in making furniture and as firewood. The business is said to thrive from August to September and fetches, as long as it lasts, for each collector a net supplementary monthly income of no less than US $ 250—something much more lucrative than such alternative uses of labour as farming and labouring(Bangkok Post, 25 August 2002:1).

For its part, China obviously feels the need for water level data in the lower Mekong for purposes of navigation, the only alternative for the export of its industrial goods from Yunnan being the more costly overland route to its eastern coast. Of course, the Salween through Myanmar provides the Chinese with another outlet, which, unfortunately, is not as economically palatable as the lower Mekong.

The upper reaches of the lower Mekong that are of particular interest to the Chinese may also be said to constitute a lifeline not only for Laos, whose land transport systems still leave

much to be desired, but also for Thailand, whose tourism industry has cashed in on the river's pristine nature. Moreover, if China constantly sees to it that there is ample water for its cargo ships to travel down the Mekong, it will also be a gain for other river uses on the part of the lower riparians. It is, however, not always easy to find such a coincidence of upstream and downstream interests.

If the balancing of upstream and downstream interests--an inter-basin affair pure and simple-- is delicate, the reconciliation of conflicting uses of the river intrabasin-wise as well as interbasin-wise is even more intractable. With a singularly one-tract mind China has been spearheading, since 1992, a project to clear reefs in the river to improve international trade links by way of permitting the passage of larger cargo ships and succeeded in persuading Myanmar, Laos and Thailand to sign, in 20 April 2000, a commercial regional agreement to widen the 886-km-long navigation channel between Simao in Yunnan and Luang Prabang in Laos. The agreement coming into force on 26 June 2001, its ultimate aim is to enable vessels of the four contracting countries to sail freely and safely along the 886-km route between the port of Simao in Yunnan and Luang Prabang in Laos under common navigation regulations. The crux of the matter is the fact that the 331 km-long waterway from the China-Myanmar boundary marker 243 to Ban Khok Luang on the Thailand-Laos border is beset with the presence of more than 100 shoals, rapids and reefs, of which 11 major rapids and 10 scattered reefs seriously threaten safe navigation. Accidents in which vessels are sunk and cargoes lost at the shoals or rapids to be covered by the project are not uncommon. As things stand, most vessels, generally of 60 to 50 tonnage, hail from China which monopolizes skippering skills , though they are confined solely to wet-season cruising.

The first phase of the channel improvement project would blast 11 reefs including Khon Phi Luang(rapids) in Thai waters(Chiangrai)said to be the spawning areas of countless fish species and consequently the most important area for local villagers. The second phase would do away with a further batch of 51 reefs so as to enable vessels of up to 500-tonnes displacement to cruise straight from a Chinese port in Yunnan to Luang Prabang in Laos. It is hoped that, upon completion of the project, the number of accidents will be minimized and the navigation period prolonged, thereby making it possible for vessels of at least 100 tonnes to navigate in safety for at least 95% of the year.

Besides the zealous China, northern Thailand, offering China, as it does, such products as frozen chicken, dried longan, tyres and groceries in exchange for apples and other winter fruits, has high expectations about the river improvement's massive trade-creation impact on top of the boosted movement of a million river passengers: the current cargo tonnage of 0.4 million tonnes (2002) is predicted to rise to 1.5 million tonnes by 2010. The river being a public good whose use requires the wherewithal, it is feared ,however, that Laos, without much to trade, may be left in the lurch. For their part, the two downstream countries, Cambodia and Vietnam, not covered in the navigation agreement, have concerns about the river improvement's environmental impact in the form of variations in water levels, river-bank erosion and the possibility of pollution from navigation accidents.

The concerns of local inhabitants in the interface between the upper and lower Mekong are, however, more specific. There is much apprehension that the planned clearance of many rapids, shoals and reefs could cause irreparable damage to 1,200 rare fish species of which the giant catfish(*Pangasianodon gigas*), generally believed to spawn in these rapids, may be said to

be the prima donna. Some of the lesser species like *Cirrhinus chiensis* swim in the strong current and others like Barbodes gonionotus feed on the blue-green algae growing on the rocks. Generally, a variety of plants as well as of fish rely on shoals, cliff-like rapids, beaches and pools in different seasons as their habitat, and spawning and feeding grounds. When the water level drops in the dry season lasting from November to late April local inhabitants depend on the rapids as the sole source of animal protein. Blasting rapids without thorough studies might not only threaten the ecosystem but also change the river course and flow velocity, which could, in turn, affect the way of life of such downstream inhabitants as river-bank farmers and skippers of river boats. At the political level the 976-km long Thailand-Laos border demarcation, which is the thalweg ,could also be affected, though all the shoals and rapids are, on the basis of an old agreement Thailand concluded with France, technically in Laos.

Removal of natural obstacles to safe navigation in China's upper reaches begun earlier in 2002 are said to have caused serious damage to the northern Thailand's bank of the Mekong. Because such reefs and shoals used to bear the brunt of the impact of rushing water in the wet season in the past, their elimination has given rise to bank erosion on such a scale that a village in northern Thailand is said to have lost, since the beginning of the 2002 wet season, more than 3 ha of land (Punyogas, 2002:14).

Faced with prospects of social and political upheaval as well as an eological disaster on an unprecedented scale environmentalists in Thailand have managed to extract from the Thai authorities an undertaking to proceed with a comprehensive environmental and social impact assessment studies before going ahead with the project.(Bangkok Post, 19 July 2002:1_and 1August 2002:4 ; Marukatat, 2002:10; Wongruang, 2002: 8A) No doubt there is a need to

balance the interests of other river users, not least in earning a livelihood by such means as fishing and tourism against those of navigation and trade.

Closely connected with river improvement is rail link development. While Laos lacks a railway system; a study has been undertaken by a Thai company of the 13km route between Vientiane, its capital, and the Thailand-Laos Friendship Bridge, which connects with the Thai border town of Nong Khai. It is expected that on the Thai side the Nong Khai railway station will be linked to the bridge before 2005, thereby making rail traffic possible between Laos and the Thai railway network for the first time(Bangkok Post, 28 July 2002:1)

. I While, inasmuch as the movement of people as well as trade hinges on transport facilities, their improvements could facilitate such movement and trade, the ecosystem could at the same time be adversely affected , especially where one of its key elements becomes a much-coveted item. During a period of 12 months, between August 2001 and July 2002(Kanwanich,2002:1) over 10,000 pangolins, a protected species under the Thailand Wildlife Conservation Act of 1992 and under the Convention on International Trade on Endangered Species of Wild Flora and Fauna (CITES),are reported to have been smuggled out of Thailand with destinations in Laos, Vietnam and southwest China, the Mekong basin being used as a handy conduit. This is said to represent almost a fourfold increase over the whole of 2001(*Krungthgep Turakit, Jutprakai* section, 23 August 2002:3). Laos itself is said to be a source, though the animals also come to it, through Thailand, from Malaysia and Indonesia. In theory, under the Thai Act pangolins could only be kept with the Forestry Department Director-General's special permission, and violators are subject to a maximum jail term of 5 years, a fine of about under US$ 1,000 or both. In practice, however, smugglers frequently get off lightly. If

they are only charged with violations of the customs law, they can either pay the import tax with a fine or let the pangolins be confiscated and thereby avoid being detained. Of course, moves are afoot to tack wildlife law penalty on to that of customs, though they are unlikely to do the trick in the face of pressing demands, each truckload of the animals being said to fetch for the traders something like US$ 25,000 of profit. Some Chinese are said to believe that, besides making them virile, pangolin meat has a cancer-curing and cancer-resistant power and is highly nutritious. Equally, the scales are thought to speed up wound healing and skins are tanned for leather products. The cost of fresh pangolin meat in China today is said to have reached a much higher level than that of 1998 (US$ 45 a kg). Uncontrollable market-induced trade can thus cause serious harm to ecology, and riparian governments appear to lack the political will to put a stop to it.

Perhaps more serious than the transboundary smuggling of pangolins is the trade in war weapons as well as in illegal drugs. China, Laos, Myanmar and Thailand have, however, agreed to cooperate to control the drug trade stemming largely from the Golden Triangle region. In fact, China played host to a first meeting on illegal drugs in August 2002 and participants hailed from the UN International Drug Control Programme and other Mekong co-basin states all of which suffered from the threat of illegal drugs(Bangkok Post, 13 Auguat 2002:10). In particular, the drug threat is close at hand, opium poppy being grown in the Golden Triangle, where the United Wa State Army(UWSA), a Myanmar's minority group, holds sway over the drug trade(Bangkok Post 12 July 2002:2). All co-basin states are understandably exercised about the drug threat, as opium poppy has been expected to increase by leaps and bounds to fill the void left by Afghanistan recently forced to give up almost all of its production(Bangkok Post, 9 January 2002)

Integrated development of the Mekong could result not only from policy initiatives ,based as they are on a balancing of interests, but could also be, as in the case of the smuggled endangered species or trade in narcotics, market-induced. Flows of goods and migrants across national boundaries in the Mekong basin reflect efforts on the part of the private sector to exploit opportunities opened up by the market mechanism. While illegal immigrants particularly from other Mekong co-basin states with lower public health and living standards have depressed local wages to the benefit of entrepreneurs, some are destined for third countries, Thailand thus serving merely as a transit point. Their presence has given rise to serious public health, security and employment problems (Daily Manager, 20 August 2002:13), the country's relative wealth, lax immigration control and corrupt bureaucracy being blamed for the predicament(Nation, 18 August 2002:6A).

The seamy side of trade and movement of people does suggest the existence of a parallel economy probably involving international crime syndicates(Bianchini and Chabrun, 2002:56) which lose no time in exploiting globalization as well as such failings in the machinery of government. All co-basin states are thus vulnerable, inasmuch as the criminals are said to go to great pains to manipulate State machinery and influence decision-making for their benefit.

While, apart from the reverse side of the coin, policy initiatives on the transport front have raised high expectations about trade, other policy moves are also viewed in the same light. Encouraged by the high Chinese demand for dried longan and jasmine rice, the key northern province of Chiangrai whose modern river port of Chiang Saen is due for completion in August 2003, sees the key role to be played by the 300km river stretch from Chiang Saen to southwestern China. Nevertheless, it looks to China for further policy stimuli to trade in the form of tax breaks

on agricultural exports similar to those currently enjoyed by Myanmar and Laos as well as the official introduction of a letter of credit system(Bangkok Post, 4 August 2002:3). In fact, a recent trade mission from this northern province to south-western China hasfound that there is a lively demand for Thailand's jasmine rice, though it is constrained by the prevailing quota system. If the quota could be lifted and Mekong transport used, within the ADB's Greater Mekong Subregion framework, instead of the more costly ocean-borne alternative through Bangkok port, it is claimed that Thailand's export of jasmine rice would be given a shot in the arm. Of course, Thai jasmine rice is said to be confronted with severe competition from the cereal, albeit of a different quality, from Myanmar and Vietnam(Krungthep Turakit, 18 June 2002, p.20).

While, in theory, economic integration through intra-basin trade bestows gains on participants, inequality of economic power and disparity in stages of development could readily tilt the scales in favour of the dominant economic entity. In particular, the fragile Lao economy has recently been suffering from a currency outflow owing to capital flight and heavy imports, notably from neighbouring Thailand. In fact, the domestic Lao market is characterized by fierce competition among imports from China, Vietnam as well as from Thailand (Daily Manager, 2 August 2002:28) One type of such imports, in the form of purchases made by Laotians making their day shopping trips to north-east Thailand, is believed to constitute a daily drain of about US$ 100,000 from the Lao economy. To clamp down on the spree, an *ad valorem* 20% customs duty has been imposed by the Lao government on such items as electronic consumer and luxury goods carried by Laos residents on their return, and local customs authorities have also been cracking down on smuggling by means of Mekong speedboats.(Nation, 3 August 2002: 6A) While such a task is arduous, stopping the less visible capital outflow, which also contributes to the depreciation of the Lao currency, is even more so. In the overall context of promoting free

trade and investment for basin-wide benefit, one can only hope that trade and capital movement restrictions have not come to stay as permanent features of the Lao economy.

Of course, more trade could be expected within the framework of the China-ASEAN Free Trade Area , Myanmar and all the lower Mekong riparian countries being in ASEAN.(Association of South-East Asian Nations). It is hoped that the early harvest package(EHP) for quick tariff reduction can be launched in mid-2003 if the Chinese and ASEAN economic ministers endorse it in principle in September 2002 Such commodities as rice are said to be sensitive and will not be included in the first batch(Nation,16 August 2002:1B). Nevertheless, there is much apprehension that dumped Chinese agricultural products, apart from being hosts of pests and bacteria constituting health hazards confirmed by past inspection(Daily Manager, 2 August 2002:13), will swamp markets in countries like Thailand and sound the death knell for Thai agriculture. Economic integration on similar lines has also been envisaged within the framework of the ADB's Greater Mekong Sub-region(GMS), though the latter plan appears to have been particularly active in the tourism sector(Bangkok Post, Horizons,15 August 2002:8). Still another project organized along similar touristic lines is the Emerald Triangle encompassing an area of about 400 ha linking Thailand, Cambodia and Laos.

Movement of people as well as trade is closely bound up with the transboundary transmission of diseases to the detriment of public health. Of the existing cluster figures prominently malaria with fatal parasites of which the most drug-resistant strains are harboured in Thailand's border area with Burma and Cambodia. Owing to careless drug use, long gone is said to be the protection afforded by the likes of pyrimethamine and cycloguanil, not to speak of quinine, and the only remaining effective remedy is said to be artemisinine made from Chinese plant *qinghaosu*(Nation, 17 February 2002: 1A_&3A) As a water-borne disease, malaria is said to impose huge burdens on economic growth. Thus in countries where transmission is intense,

income is seen to be a third less than in other countries and growth reduced by 1.3%(Spielman and Teklehaimanot:2002:6A).

CRISIS IN TOP-DOWN RIVER-BASIN DEVELOPMENT

In Thailand, which has been in the forefront of development of the lower Mekong basin within the framework of the Mekong Committee, the common understanding of the term 'river basin development' consists in the construction of dams, reservoirs, weirs and irrigation infrastructure and the expansion of protected areas into upper water catchments to maximize the resource value of the system. This belief is said to have evolved from four decades of experience, during which river basin plans have not gone beyond an obsession with creating large-, medium – and small-sized water storages, whether for flood control or for dry-season water use. River basin is said to have been confined to a small group of technocrats, economists and irrigation engineers, together with foreign experts brought in by such international and regional aid agencies as the World Bank and the Asian Development Bank(ADB). This situation may be said to have originated from three key factors, namely, centralization of the social and economic planning framework, over-dependence on dominant 'expert knowledge' in river basin management and export-oriented economic development efforts that tie production to the global economy. Under such centralization irrigation legislation is said constantly to have allowed the time-hallowed and dominant Royal Irrigation Department(RID) to develop water resources unilaterally. Likewise the relative newcomer National Economic and Social Development Board (NESDB) is believed to have been able to draw up development projects without any reference to, or involvement of, people living in areas affected by the planned projects. Even in the current era of openness ushered in by the 'people's Constitution'of 1997, government approaches to river basin management continue to exclude popular participation or at best to allow only 'staged-

managed' participation. The management of the Kong-Chi-Mun diversion scheme in the north-east and plans to divert Mekong headwaters from the northern Kok and Ing tributaries into the Chaophraya, via the Nan river, two of the schemes which are likely to affect the Mekong mainstream, provide clear illustrations of the practice. Moreover, direction by 'experts' is believed to go hand in hand with centralized river basin planning Apart from the imposition of technological solutions, whether in the form of large dams or smaller structures, people are also said to be confronted with the loss of the status and value of their own water management knowledge. Despite the multitude of problems that public-sector water development projects have created for effective water management, there are said to be still limited opportunities for effective challenges to such 'mainstream' thinking and dominant knowledge system. Critics(notably Chantawong, 2002:2) point to the fact that, while dam construction in north-eastern Thailand has already given rise to problems of soil salinity, plans for further projects continue unabated. Again, while dams have been unable to solve flooding or water storage problems, society persists in placing its faith in the experts' rationale for further dam construction, the logic whereby water cannot be allowed to flow wasted and unused into the sea apparently continuing to underpin further dam construction and water diversion projects. Finally, economic re-orientation is alleged to have changed the system of values associated with managing water. From a pure public good, managed and used communally, water is said to have become a kind of input into industrial agriculture geared to the requirements of the world market.

Kristensen(2002:4), current CEO of the Mekong River Commission, confirms that the problem of how to involve stakeholders effectively in environmental decisions and the planning process has confronted the government not only in Thailand but also in other countries in the Mekong basin and the rest of the world. It is confounded, so he argues, by potential conflicts of

interest between communities at different levels, which are local, national and international. Local communities may be seen to oppose projects that are in the national interest or support projects that are not. Moreover, decisions within one country can be seen to have an impact on neighbouring countries. Thus illegal logging in Indonesia could be viewed partly as a product of neighbouring countries' forest protection policies generating a fresh demand for and escalating prices of Indonesian timber.

In the particular context of the lower Mekong basin, problems of public participation are said to have been compounded by poverty of the masses and the presence of multiple countries with differing national interests. While it is true that any large water resources development project in the upper Mekong could adversely affect millions of people in downstream countries, it requires much effort of the imagination to see how to involve the masses to be affected downstream in decision-making upstream. Nor is this the best approach to resolve a transboundary conflict of interests. Of course, the poor have limited access to the media and frequently low levels of literacy, and many lack the skills and confidence to participate readily in public debate. As things are, it is thus difficult to disseminate information effectively and equally difficult to secure responses to any proposed initiative, especially in countries where civil society has been seriously disrupted by warfare and where the basic infrastructure is being rebuilt..

While the critique of the top-down approach to river basin development may be well placed, the point that people are not always sufficiently appreciative of what is in their best interest is frequently overlooked. The 'merit goods' approach is paternalistic in that the government compels people to consume certain things considered to be meritorious, though there

is always the danger that special interest groups may make use of the government's coercive power to further their own views(Stiglitz,2000:87-88).

Be that as it may, as a reaction to such a paternalistic, elitist and externally-oriented pattern of river basin development, over the past decade popular scrutiny of river basin development projects has emerged in Thailand. Such scrutiny has been both about the projects themselves and about the process. On the substantive side, salient issues have included efficiency of dams and irrigation structures, environmental and social assessment, economic efficiency, the RID's water allocation principles, compensation mechanisms for those adversely affected by projects and water demand forecasting. Process concerns have included overly centralized State-centric decision-making systems, inability for people to gain access to and involvement in decision-making at all levels, and absence of opportunities for community-based knowledge to be employed in river basin development (Chantawong,2002:2)

GROWTH FRAMEWORK FOR RIVER-BASIN DEVELOPMENT.

In the past century and a half or so an unholy alliance between export-led growth, population increase coupled with its movement, industrialisation and urbanisation could be seen to have conspired to wreak havoc on Thailand's apparently robust environment. It has been found in a recent research project, for instance, that 15-year old mangroves in Thai forests have had to absorb up to an equivalent of 15.04 tons of carbon per 0.16 ha—three tons higher than their opposite number in Japan (Bangkok Post, 7October 2000). The economic growth phenomenon, which might aptly be termed Schumpeterian 'creative destruction' since it has generated an illusion of being creative, started off in the mid-nineteenth century when the country was, *manu militari*, compelled to open up. In the initial stages of economic laisser faire such demands as were made on the environment in the interest of promoting export of primary products from the

farms and the mines were not too exacting: the country's economy took time to transform itself from a closed, subsistence into an open, exchange one. With the adoption of partial planning in 1961, when the first six-year plan of development was launched, however, such demands, propelled as they have been from above, have gone beyond the carrying capacity of the environment, no matter how robust it may appear to have been at first. Of course, problems faced by the country with hazardous waste disposal, soil degradation, water quality deterioration, chemical and radioactive poisoning, coastal and marine degradation and loss of biodiversity are in no way unique to it and are shared by countries in the Mekong basin..

Detractors would put the blame for environmental destruction on the adoption of a 'copycat' or 'subservient' pattern of growth(Vinyatatn, 2002:7A). Indeed, within academic circles, there is no dearth of disciplinary explanations. Some natural scientists argue that massive environmental destruction is inevitable when the human population is expanding exponentially. This explanation is quite relevant to the Thai predicament since population explosion has been a clear concomitant of economic growth. This was true particularly of the period, prior to the onset of the Asian economic crisis, between 1988 and 1997 when double-digit growth placed the country in the league of the world's fastest-growing economies. Others emphasise that far too many new substances have been introduced into the environment even before their impacts on other species let alone ourselves have been ascertained. Economists tend to argue that people are generally too greedy and short-sighted, while Marxists, viewing things from an interdisciplinary perspective, concentrate their attention on a subset of the human race, the capitalists, and agree with moralists in arguing that this class of people is particularly avaricious and myopic. Various disciplines in isolation or in combination do boast their preferred explanation of the environmental crises consistent with their pattern of thinking, and there is no particular reason, at

any rate at the intellectual level, to take issue with any of these explanations rooted in individual disciplines of thought. Admittedly, each explanation does provide useful insights(Norgaard, 1994: 65).

Academic explanations are certainly useful for clarity of thought. Yet it may be argued that the crux of the environmental crisis rests on how the man in the street perceives the inner workings of practical politics considered to be the means by which the government carries out its mandate of maximising popular welfare. It is asserted that, in the last three decades, a substantial proportion of the impressive economic growth in the lower Mekong basin can be attributed to a 'one-off fire-sale of natural resources', which means that it may be harder to grow so fast when the trees, the fish and the soil are depleted. For the individual Thai there are said to be more personal concerns: he or she remembers fishing in a river or drinking from a stream as a child and regrets what has been lost when poisonous waters are seen today (Mallet: 1999:20-21) Again, a series of articles in the Daily Manager (e.g. 16 October 2000)purporting to represent such a viewpoint lament the fact that planned development in the country has resulted in pauperisation of the masses whose fate has been sacrificed at the altar of 'development'. It is claimed, in particular, that since the inauguration of the trend-setting first development plan of 1960, first priority has invariably been given to promotion of and assistance to the industrial and business sectors, in which politicians have obvious vested interests, at the expense of agriculture. In particular, it has been claimed that industrialisation, be it in rural or urban areas, reflects conspiracy on the part of politicians and business interests to ruin the farming class and turn it into an impoverished, landless proletariat. Of course, industrialization has thriven on the input of cheap power provided by Mekong development, which has equally brought water on to the farm. Again, at a Bangkok Post Seminar on the People's Agenda held in October 2000 a number of

academics and activists committed to acting as the man in the street's spokesmen pronounced upon the government's performance record. From this viewpoint most of the damage to the environment and rural communities has been inflicted by the government itself. In public-sector projects in a typical top-down 'development' programme, the government, itself a product of electoral politics mired with money and power, is said to have acted as an independent interest group unaccountable to people at the grass-roots level. Such projects are said to have typically allocated resources, without consulting localities concerned, to one group of people to the detriment of another: the rural sector is thus said to have been robbed of necessary resources to sustain its livelihood. Experience with 'promoted' private-sector projects in monoculture is said to be equally dismal: they are said to run counter to traditional norms in that they have been chemical-intensive in nature and to have destroyed the soil and polluted the water and have landed farmers in a mountain of debts. Such degradation of natural resources and the resulting poverty stemming from both public-sector and 'promoted' private—sector projects are predicted eventually to lead to the collapse of the countryside. In the meantime, lost in dire poverty and hardship, some villagers have been observed to resort to endless, frustrating protests and ,for the Pak(river estuary) Mun dam, a year-long roving barefoot exhibition in the north-east against it[Krungthep Turakit(Bangkok Business), 16 January 2002:2] , while others, particularly young ones, have been seen to migrate to the cities in search of better livelihood. For their part, the ruling elite is said to have suffered from something of an 'intellectual bankruptcy' indiscriminately jumping on the corporate-led globalisation bandwagon without realising how this could eventually harm the economy as a whole. In sum, the government policy, whether import-substituting or export–promoting, as well as export-led agriculture is believed to have resulted in a rapid growth of the urban sector while leaving the farming, rural one bankrupt.

The charge levelled at the government is, admittedly, grave, and there appears to be damning evidence in abundance to support it. How well-founded it is, however, is difficult to say at this point in time. Indeed, a completely impartial record of the government's 'development' performance may never be attempted, the matter at issue being highly politicised and emotive. No doubt, there are people who have benefited greatly from the government's projects in the rural sector, as is evident from physical improvements of the countryside; but, naturally, the gainers have no incentives to be as vociferous and conspicuous as the losers whose violent protests are all too familiar to residents of and visitors to Bangkok.

Simple public-finance analysis could tell what has gone wrong with public policies. Apart from obvious sins of omission, 'government failure' as opposed to the well known 'market failure' met with in the literature of public finance is said to be rife in the Thai government's management of resources. It is first and foremost 'failure of preference', since without local consultation the government is unlikely to produce the mix of public services that is socially desirable. It is also 'failure of production', as resources are squandered in producing things not usable by the bulk of the rural masses. Finally, it is 'failure of delivery', since the target beneficiaries fail to reap the benefits of public-sector projects (Tuckman,' 1984).

If the Thai government's management of natural resources has dismally failed the public finance test, it is also likely to perform not better in such other tests as those of accountability, transparency, coherence and sustainability.

IMPOSED NATURAL RESOURCES MANAGEMENT REGIME

It is still not possible to say how effectively the mandate given by the Constitution of 1997 to the State on the environment is being carried out, though at least one thing appears to be clear from its management of natural resources : it may be said to have placed too great reliance

on an open-access regime. The difficulty with it is not so much that it provides the impetus for the abuse and overuse of the forest, water and fishery resources (Kaosa-ard and Wijukprasert, 2000}--infamous ills of the tragedy of the commons-- as that it condemns most rural people to lifetime enslavement to the use of such resources in their natural state, their dependence on them being total. The regime, apparently inherited from Roman Law—the paramount wellspring of Thai legal erudition---dealing with *res nullius* (things belonging to no one),is convenient to run since it requires practically no management efforts on the part of the authorities. As in Roman Law *occupatio* or taking legal possession of a fragment of such resources tends to generate the dangerous illusion of ownership not only of the captured fragment but also of their entire mass whereas, in actual fact, the main body of these resources is *de jure* in the public domain and is therefore not susceptible of private ownership. In a manner typical of the John Stuart Mill's model, such widespread presumption of ownership leads the bulk of the rural people to build their life and even their community around the use of these resources and gives them no incentive whatsoever to exert themselves by, for instance, keeping their own fish ponds or cages instead of depending entirely on the natural supply of fish in rivers. While, in the past, the man-land ratio was still favourable the regime performed perfectly well. When, however, dams are seen to disrupt the natural flow of rivers and start adversely to affect the natural fish supply, or when there are too many people exploiting dwindling resources, people do not hesitate to clamour in protest. 'Traditional rights' or 'ancestral rights' to natural resources and the 'government's robbing the rural people of their means of sustenance' then become stock phrases in battle cries against the authorities. The open-access system has not only prevented the government from inculcating a sense of self-reliance among most of the rural people but clearly shows that the government's wounds sustained from popular protests may be said to have been

self-inflicted. What is more, business interests known in Thailand as 'capitalists'—a term construed not necessarily in the Marxian sense—go out of their way to exploit the rural people's over-dependence on natural resources and make use of them as their proxies to despoil the countryside.

Perhaps the more deplorable aspect of the so-called 'open-access' system is not that the rural people have been misled into believing that such access works to their advantage but that, in reality, the legal regime could give land ownership to the privileged few. Thus it is claimed that, by dint of the landmark Land Law of 1901, one elitist family of the country was able to occupy, through their labourer proxies, and eventually came to own a vast expanse of land (Bello et al,1998:138-139).

Unfortunately, Thailand at present has no law to limit the amount of land an individual may own, nor to impose high penalty taxes on idle land held for speculative purposes. It is possible therefore for a person to own a great deal of land and leave it entirely idle. At the same time, there is a mass of landless persons who lack a firm basis, in terms of *terra firma*, of livelihood.

Landlessness, which has inflicted untold hardship on the rural poor, appears to have come to a head in the form of illegal encroachment of unused private plots in 14 villages in Lamphun, north Thailand (Hutasingh, 2001:2). The encroachers seized unused land, a la Zimbabwe, and distributed it among members of the group, thereby taking the law into their own hands. In fact, encroaching villagers knew full well that their action was illegal but said that they were left with no choice but had to act so as to draw the authorities' attention to their long-standing land problems. In one case, the neighbouring 70-ha private plot owned by an absentee landlord family had been left unused for over 40 years, though the law was said by the encroachers to give the

State the right to revoke land titles to private property left unused for more than five years. It was claimed that the private plot at issue had been a public grazing area and a public farmland. While local farmers had, in a manner similar to the ancient Roman *possessio*, possessed it at a nominal rent payable to the State for generations, they had not been given land-right documents during their occupation On the other hand, a sea change took place when a land speculator, on the strength of the rumoured State plan to evict them, enforced a fire sale, presumably of possessory rights to the plot, a large part of which has been turned into golden teak plantations, the rest remaining unused. Apparently the Land Department has managed somehow or other to issue land title deeds to the speculator, presumably the legal fiction of sale by the State being used for the purpose. How ownership could be obtained only when land thus changed hands is still a mystery, law on land rights being in limbo--a state of affairs not different from that obtained in ancient Rome prior to legal codification in the form of the Twelve Tables. Of course, the villagers felt that they had been unfairly treated by the State, and this constituted another reason for the land encroachment. Unless concrete measures are drawn up, it is feared that encroachment on private land will continue, the Lamphun incident being the thin end of the wedge. Most Lamphun encroachers were members of the Alliance of Northern Farmers which have brought together 50,000 farmers in 500 villages in the upper North. They have called on the government urgently to revise land reform policy by allocating land plots which have been left unutilised to landless farmers who are in dire need of land for cultivation.

The upshot of this long drawn-out affair was, as has been expected, the uncompromising restoration of law and order whereby hundreds of policemen raided land held by the encroachers, burnt down their huts and destroyed their crops in May 2002(Bangkok Post, 23 June 2002:5). This came about at a time when the Alliance of Northern Farmers was at pains to settle the

conflict amicably, the apparent consensus being that, unless a fair division of land could be devised, the nationwide dispute between the State and farmers will not be solved . It is claimed that, while the rich account for only 10% of the population, they hold about 16 ha of land each(as against the corresponding figure of less tan 1 ha for the majority of farmers).

Indeed, according to recent research sponsored by the Thailand Research Fund(e Atthakor, 2001:2), a fresh direction in land management is urgently needed to help the country combat land shortage. It has been pointed out that State land management has been a total fiasco. In the absence of laws to limit land ownership, it is argued that a vast area of the country has fallen into the hands of a few wealthy landlords who have acquired it largely for speculation, while leaving it unused. It is estimated that up to 70% of Thailand's land area is not in use or under-used as a result of such land speculation--a rampant phenomenon during the economic boom preceding the crisis of 1997. This has represented an economic loss of no less than US$ 3,000 million per year. Pathum Thani, adjacent to Bangkok, with its ideal irrigation system, has been cited by way of illustration. Unused land in the province was estimated at 5,000 ha in the wake of the economic slowdown, swelling from 3,000 ha at the peak of economic boom in 1989, land prices being too high for development. The research project has also found that up to 73% of land with *Nor Sor 3 Kor* documents is 'owned' by wealthy people who individually have over 32 ha of land in their possession. The same thing is true of land with *Sor Kor* 1 documents, with 44% of land in this category falling into the hands of large-scale landlords. Of course, while such documents are not title deeds, they do guarantee eventual ownership.

The research project's thrust is its overriding concern over land shortage which could, as in the case of the Lamphun's land encroachment, result in a rising conflict between the parties

concerned. What is of great significance is that, pending a satisfactory solution to the current land shortage problem , expansion of agricultural land can in no way be expected..

Topping the list of remedial measures recommended for solving land problems are progressive land tax and land re-adjustment which could help boost the economic value of land resources. The former, without which landlords will continue to keep the land unused, is a velvet-glove substitute for such radical land reform as seems to have been suggested by the Lamphun encroachers, while the latter is aimed at increasing the effectiveness of land use. It has also been suggested that the concept of a land bank should materialise so that unused land may be mobilised and allocated to landless farmers. Curiously enough, since the economic crisis of 1997 something like 5 million ha of land has been seized by banks from defaulting customers, and this is said to offer much promise to the establishment of such a bank (Bangkok Post, 23 June 2002:5). Of course, the land reform process is recommended as part of a package made up of such efficient measures as land banks, land re-adjustment and land demarcation. The last element, marking off degraded forests to be given to landless villagers under the land-reform scheme, is destined to prevent further forest encroachment. A mechanism for land and land-related conflict management, including a tribunal and a working relationship between local administration and informal groups, is also called for. This is believed to offer a more effective alternative than the market mechanism enabling, as it does, wealthy landlords to rid the poor of land while much of it has been left unused.

Much of the foregoing analysis is confirmed by the People's Network of 25 River Basins, a grassroots movement in northern Thailand. The network claims that landlessness and land-rights conflicts stem from the government's draconian system of top-down, centralised management of natural resources allowing State authorities to exploit natural resources under

their jurisdiction whenever they want to do so without heeding local concerns. This is why countless forest villagers are evicted and their status is reduced to that of landless labourers while, at the same time, mining concessions and tree plantations are allowed to thrive in 'national' forests. This is also why the Irrigation Department believes that it can dam up any river in the country without concern for the locals' uprooting and impoverishment.

To undo such central control the grassroots movements in various parts of the country are in consensus that the locals need to have more say in managing natural resources--be they land, forests, rivers, mountains or ores-- in their areas. It is relevant to point out that the demand for community rights to co-manage nature resources with the State is endorsed by the 1997 Constitution. There are, however, no organic laws to make things happen, and this has been attributed to bureaucratic resistance.

To press for land reform, the grassroots movements are banking on His Majesty the King's philosophy of self-sufficiency, according to which each farm household needs about 3 ha of land to be self-sufficient. Past experience has shown, however, that land allotted to the poor all too frequently ends up, by hook or by crook, in land speculators' hands. The grassroots movements of forest villages in the north and the west believe this problem can be solved if the law recognises their traditional practice of land management which focuses on community land security rather than private ownership.

Despite all the pressure brought to bear on the authorities, the Agricilutural Land Reform Office(ALRO) has openly admitted failure in providing landless farmers with land, wealthy landlords having been blamed for disrupting the land reform scheme. About 10 million ha of land is under the ALRO's scheme, and ,after three decades of operation, the office has been able to allocated only 3 million ha and *Sor Por Kor* 4-01 or land reform document, which does not give

farmers ownership, has been issued to only 1.22 million farmers. In fact, land reform offficials have failed to seize land from landowners who illegally occupy their plots or leave them unused, and the ALRO needs more time and power to deal with these recalcitrant landlords. It is clear that, on top of time and resources, the greatest need is for the revision of the 1975 Land Reform Act to increase the penalty for landlords who illegally occupy agricultural land(Bangkok Post, 3 July 2002:2)..

An economic perspective does serve to corroborate the gloomy upshot of the foregoing politico-juristic analysis. The open-access system may be said to be conducive to a facile treatment of natural resources as either 'free' or 'public' goods. In the former scenario, 'capitalists' and their rural proxies are lured into behaving as though such resources are freely available for the taking without a limit, while, in the latter, the government being duty-bound to expend taxation proceeds to ensure the availability of such resources for 'public' use', the conspirators act as 'free riders' and contribute little or nothing to their upkeep. Of course, a licensing system for the use of natural resources would have avoided all such complications, rationed the use of resources more rationally and encouraged people to depend more on their own efforts.

INSTANCES OF IMPOSED WATER MANAGEMENT

To illustrate the pattern of top-down river basin development, the experiences from three dams in the Mun-Chi basin, which constitutes the bulk of the lower Mekong basin in Thailand, may be cited. While their construction has not been planned as a system, they can be seen to be closely linked probably by sheer coincidence.

Environmental disruption caused by dams is well exemplified by the impact of the Nam Prom(Chulabhorn) multipurpose dam, constructed in 1973 in the headwaters of the Mun, in the

province of Chaiyaphum. Located as it is at the top of the informal cascade, the dam is destined not only to generate hydropower but also to avert flooding and moisture deficiency, it being borne in mind that farmers both on Nam Prom(on which the dam lies) and Nam Chern, sub-tributaries of the Mekong, need sufficient water for their livelihood. Water drawn from Nam Prom is used first for generating power before being released into Nam Chern on the other side of the mountain ridge, advantage being taken of the sizeable drop in elevation of 375 metres. Herein lies the genesis of grievances of the farming inhabitants of the 200-km downstream reach of Nam Prom: irregular release of water from the dam has resulted in shortage of water for farming, extinction of aquatic life in the river and ecological devastation on both of its banks downstream of the dam. Since impoundment of the dam in 1973, despite a tacit understanding, something in the nature of a social contract, with the farming population, the dam authorities have not been able to provide sufficient water, lack of which had been completely unknown prior to the river's damming. Moreover, towards the end of 2000 the community suffered from very serious inundation owing allegedly to unannounced releases of stored water from the dam. While the Electricity Generating Authority of Thailand (EGAT)running the dam contends that such inundation has been due to an unusually heavy rainfall downstream and that the dam has managed to avert a much more devastating disaster, it has given relief to those affected not as compensation but as 'humanitarian' aid. It is clear, however, that, 29 years after impoundment, the much-maligned EGAT is still unable to meet its social commitment of providing sufficient water for farming on a long-term basis, and controversy over the possible negative impact of the dam on downstream areas is unlikely to be solved to the satisfaction of both parties(Daily Manager,24 January 2001:13). While more research needs to be undertaken on the dam's

downtream impact, what has been obsereved so far puts it in the same class as Man Wan in the upper Mekong and Yali Falls in Vietnam.

Fortunately, as far as another public-sector dam is concerned, changes wrought in the environment have not always been proved to be irreversible. Seven years of impoundment of the Rasi Salai dam, the second member of the informal cascade and one of the most controversial public-sector projects on the Mun, are said to have left nothing but devastation in its wake while irrigation water distribution, the chief benefit claimed for it, has not been effective (Chuskul, 2001:15). Opening of the 7 Rasi Salai dam gates in July 2000 to alleviate the negative environmental and social impact of impoundment and to allow land rights survey and stock-taking of the situation to begin is said to reveal the spectre of submerged wetlands (*pa tam*) filled with decomposed florae, paddy fields cluttered up with waste and *detritus* from corroded river banks.

In its former natural, pristine, state, every nook and corner of the Mun river bed and the wetlands in the Rasi Salai area served as an ideal habitat for fish in the flood season (especially from May to June) when fish migrated upstream for spawning, and groups of inhabitants in the area were in the habit of trapping big fish weighing 8-10 kg each while allowing the rest to go free. In fact, it is claimed that each wet-season catch used to be so copious as to allow the trappers to distribute it among relatives and sell the leftover or preserve it with locally-mined salt for subsequent bartering for rice. Similarly, in the dry season (especially from November to December)the 'hibernating' fish would return from cracks in the river bed and wetlands to the river mainstream in search of a safe haven, and this would permit another large-scale fishing expedition to take place. Resources were also invested in the purchase of fishing gear, in deepening and widening cracks in the river bed and in excavating small streams linking the river

and the wetlands. In fact, claims to 'ancestral rights' to fish-trapping areas and possessory rights to man-made structures were so generally recognised in an atmosphere of communal solidarity and give-and-take that such 'rights' are known to have been bought and sold openly.

In addition to fishing, rice farming, it has been claimed, could be practised on the banks of the Mun even in the dry season owing to the ubiquity of water but was particularly favoured by the advent of rainfall from April onwards. Equally, dry-season vegetable horticulture took place on both banks of the Mun, where all manner of insects and reptiles which throve there would later become food for fish in the wet season.

Such delicate ecological balance is said to have been ravaged by the impoundment of the Rasi Salai dam.

In the wet season of 2000, after the opening of the dam gates in response to popular demand, people reported sightings of big fish (being of 70-80 kg each) and even the much larger giant cat fish migrating upstream from the Mekong and claimed 'spectacular' catches after seven years of interruption. In one case the reporter of the sighting could only stand idly by and watch, since he did not have with him the right gear with which to catch the big fish any more. Witnessing the fish's homecoming, inhabitants of the area hold high hopes of the return of the good old times and the restoration of the natural ecological balance. Of course, the quoted article's author who paid a visit there in December 2000 could see nothing except visible traces of the devastated wetlands. It remains to be seen whether the long-term impact of opening the dam gates will vindicate the local inhabitants' optimism.

Besides Rasi Salai the Government authorised the opening, initially during the four months of the flood season and more recently for the whole of 2002, of the gates of the third member of the informal cascade, the Pak Mun(Mun estuary) dam situated quite close to the

Mun's confluence with the Mekong. The Pak Mun's area ecosystem may be said to resemble that of Rasi Salai upstream, and the detailed description of Rasi Salai applies equally to Pak Mun, which is even more controversial than Rasi Salai. To add to the kind of ecological upheaval of Rasi Sali, Pak Mun is at the tail end of the pipe, so to speak, and there is much apprehension that permanent impoundment would, *inter alia*, turn it into a huge pollution trap. The World Commission on Dams(WCD) found that this 'run-of-river' dam produces only 40 MW of electricity during it peak season, i.e. in April and May, something less than one-third of the output projected in the original feasibility study. Opening of its 8 sluice gates in June 2001 was undertaken for very much the same reason as that applicable to Rasi Salai upstream , and it remains to be seen whether the ecological balance can similarly be restored. After a decade of submersion an 16-ha islet emerged for the first time, and this gave rise to celebartion(Bangkok Post, 5 Marcch 2002:2) It is claimed, for instance, that, the number of fish species which had dropped after impoundment from 256 to 64 recovered to 135 early in 2002 and that even a giant catfish was caught (Krungthep Durakit, 16 January 2002:2). Research has found that, with the gates thus opened, fish in the Mekong are now able to migrate upstream into the Mun and Chi for spawning during the season, which runs from May to September. It is also been claimed that, after the gates' opening, the people's level of living has taken a turn for the better. On a day of fishing expedition, a sizeable income of US$ 25 could be earned and considerable savings in food expenses could thereby be achieved, and this has, *inter alia*, allowed schoolchildren to have a square midday meal instead of a ball of glutinous rice as was the case when the dam gates were closed(*Matichon* Daily, 11 February 2002:18). Conflict between opponents and supporters of the dam has also subsided, communal peace and stability being thereby restored. Of course, there is no such thing as a free lunch, and the other side of the coin has also to be looked at. By leaving

the gates open, the EGAT loses potential income from power generation and thereby seriously compromises its ability to service the World Bank loan which was used to finance its construction. EGAT has also been forced to import power from Huay Hoh dam in Laos to cope with rising demand. For their part, villagers who have put in investment for rearing fishes in floating cages have had their stock of fish drastically reduced and investment prospects jeopardized (Bangkok Post, 25 May 2002:2).Moreover, it is claimed by the Lao authorities across the Mekong that opening of the Pak Mun dam gates has brought erosion on to its Mekong bank, thereby adversely affecting farming in the downstream Lao province of Champassak(Bangkok Post.,17 February 2001:2). This needs to be further investigated, though it is astounding that returning the Mun river's estuary to its pre-impoundment, natural state, should have caused such damage. .

INDIGENOUS CONCERN FOR THE ENVIRONMENT

The relentless pressure of paternalistic, growth-dominated, export-oriented and natural-resources-intensive river basin development typified by the unprecedented expansion of production especially of cash crops in the past four decades in Thailand has meant, in practice, the lamentable neglect of the state of the environment in the lower Mekong basin. In the process the indigenous environment-friendly sentiment has also been steamrollered into dormancy and indeed moribundity. Fortunately, owing to the *Zielstrebigkeit* of the few and the tacit support of the silent majority, resurrection of the green ideology has not been an uphill task. One can thus bear witness its resurgence and its hesitating realisation in the form of grass-roots-level green power exerted in practice by a plain housewife's spearheading a four-year-old protest against the two proposed multi-billion-baht power plants in her southern home town of Prachuab Khiri

Khan, since the plants are seen as representing a threat not only to sustainable ecology but also to the traditional, simple way of life and the social solidarity of a fishermen's community. Her unwavering protest has already had its knock-on effect on other flashpoints ranging from the Eastern Seaboard industrial estates to the northern Mae Moh lignite power plant and another southern city of Songkhla (where construction of a gas refinery is being debated)(Bangkok Post, Outlook Section, 15 March 2001:1). Her exploit cannot help but fill one with admiration as well as nostalgia for the past in which the law reform process of 1805, under Rama I(founder of the reigning dynasty), stood out. It was, one may recall, triggered off by an adultery case where a badly-bruised husband could not bear the thought of seeing his delinquent wife get away scot-free. It was followed, in quick succession, by two other cases, one involving a woman forced to marry someone whom she did not particularly fancy and the other concerning a wife who had been sold by her husband into slavery without her prior consent having been secured.(Chomchai,1999:73). Each of these cases is a salient instance of the *cavalier seul* , irrespective of the gender involved, making himself or herself heard and doggedly fighting, for a good cause, the powers that be and against all the odds(Chomchai, 2001 in REPSI 2001:117).

The seemingly abrupt resurgence of the green climate from below is, at first sight, surprising in view of the apparent absence of general public awareness of the pressing need for environmental governance in the face of decades of wanton environmental destruction. Of course, it could be a delayed reaction, in a fresh atmosphere of openness ushered in by the constitution of 1997, to long-tolerated suffering , and, in any case, a sea change in the climate of thinking from time-hallowed deference to authority or mere fatalism to open opposition to projects imposed on the man in the street can only be expected to require a period of gestation.

The resurgent green ideology may be said to be permeated with a certain civic-mindedness comparable to the French's *civisme*_or the ancient Romans' *pietas*. This encourages the French to mobilise themselves behind the official effort to reafforest the Versailles garden devastated by violent storms of December 1999(Schalit, 2001:3 and Calmeyn, 2001: 33-42) and, in a similar vein, egged the ancient Romans on selflessly to serve their country in public offices and other undertakings.

In the green ideology *en renaissance* environmental governance may be said to be seen, from a public-finance standpoint, as a 'public good' from which, at any rate on paper, a potentially infinite number of people could benefit simultaneously, it being impossible to prevent anybody from benefiting, but which, because of the notorious 'market failure', could not be left to the market mechanism to provide on its own. Of course, the free riders' quality of life cannot but benefit from such governance, though each of these culprits persists in being the odd man out by continuing to ravage such key elements of the environment as the forest and wildlife for his or her own private gain unabated.

Such renewed focus on environmental governance may also be seen, again from the standpoint of public finance, to be a 'merit good', like insurance, to which people tend to attribute insufficient merit. It may, however, be said to represent a new breed of merit goods, since in contradistinction to such classical cases as housing, the 'merit want' it is destined to meet is imposed not from above but from below, the very livelihood of common people threatened by absence of environmental governance being the order of the day.

Apparently, the government lacking the political will to tackle environmental deterioration and the workings of its machinery being thwarted by institutional failure and 'government

failure', the man in the street can be seen to be playing an avant-gardist role in environmental governance. Yet, in a new openness made possible by the promulgation of the constitution of 1997, the normally lethargic government bureaucracy could be seen equally to be prepared to try out such novelties as the green tax further to cope with environmental ills. In view of the apparent renewal of confidence of government bureaucrats in their ability to make all the difference, one could reasonably expect a great deal of ***tatonnements***, with hiccups here and there, towards governance, although it is hoped that this is not another case of 'too little, too late'.

POCKETS OF ENVIROMENTAL GOVERNANCE

The first physical embodiment of the indigenous green ideology is represented by the planned Kaeng Sua Ten dam area in Thailand's northern province of Phrae , where, it is revealed by a social impact assessment, people use natural resources not only for subsistence but also for recreation, and spiritual and cultural activities. Unfortunately this fact has all too frequently been taken for granted. The villagers' desire to protect the forest in the proposed dam area is said to be in the interest of strengthening community ties, and the erosion of such ties consequential upon the likely loss of the forest would inflict immeasurable damage on them. Thus, left to their own devices, villagers claim to have set up their own community's rules prohibiting its members from felling even a single tree and have even helped to catch poachers and illegal loggers in the Mae Yom National Park in the projected dam area. The natural environment being indispensable for the community's cohesion, way of life and identity, post-construction resettlement of the dam area's inhabitants would thus, it is alleged in the study, entail disintegration of the community, as they would not be able to survive on forest products as before: they would, it is argued, live in dire straits, since they would not be able to adjust to a new way of life. Moreover, the villagers' age-old, tradition-hallowed knowledge about the forest and its biodiversity would, it is feared, be

lost for good. The authors of the study for the planned dam maintain that experience from the notorious north-eastern Pak Mun dam has taught villagers a lesson: fishermen in the Pak Mun area are said to have been robbed of the means of their livelihood as a result of the dam's construction; moreover, the community's traditional affinity with the Mun river has been severed and relationships among community members have changed for the worse(Bangkok Post.,15 October 2000).

Another instance of the implantation of the green ideology is provided again by northern Thailand. For centuries the mountains in the area have been dotted with small irrigation systems, called *muang faai* built and managed by farmers. Traditionally streams are dammed with a sturdy lattice-work of materials from the forest: rocks, hardwood, bamboo and earth. The dams raise the stream level just enough to allow diversion into an irrigation channel that flows by gravity down to the fields. Any silt flows over and through the structure or is carried into the diversion channel to end up on the fields. The *muang faai* has always been accompanied by a strict set of rules maintained by *muang faai* leaders, to ensure that the surrounding forest is safeguarded and the water distributed fairly to all members of the irrigation group. Of course, disputes frequently erupt as a result of water shortages at the beginning of the rice-growing and the dry season but there is an in-built system for resolving them(Chomchai,1995:246). This environmental-friendly system is ,however, being threatened. Since many of the forests have been logged over the past decades, construction materials needed for annual repair are no longer readily available and free of charge. In the rainy seasons mountain streams become wilder and damage structures more frequently, while soil washed from bare slopes ends up clogging the channels. To make things worse, with a view to eliminating the need for repair, many farmers have replaced the traditional structures with steel and concrete dams whose major disadvantage lies in the fact that they are not

as adjustable as traditional dams. Eroding soil and faster run-off can also cause erratic changes in streams and channels, demanding adjustments in dam height and channel maintenance. Introduction of new, untested technology and materials have thus brought on to the community, in miniature, problems faced by large public-sector dams. But whatever materials are being used, both modern and traditional dams require the forests as nature's structure.

Still another illustration of rational natural resources management by the indigenous people is provided by Mae Chaem district , Chiang Mai province in northern Thailand. Surrounded as they are by the formidable fortress of the Thanon Thongchai mountain range, the Mae Chaem forests had been well preserved and untouched by outsiders for many decades until the 1980s when they were exposed to large-scale cash-crop planting sponsored by international aid agencies in an effort to cut opium cultivation on the highlands. Yet, despite the best of intentions, the novelty led to extensive land clearing, rapid deforestation, soil erosion and drought, and, eventual abandonment of the programme has left visible environmental scars. This has entailed consequences quite contrary to those following from the indigenous regime of managing natural resources.

One approach adopted by the government to put an end to the environmental drift has been to turn the last remaining forest areas into national parks, wildlife sanctuaries and watershed areas and to outlaw human settlement, thereby making the area of 3,361 square kilometres encompassed by more than 6 national parks State property and accentuating the dearth of farm land. Indigenous people are thus banned from living and farming on what they claim as their 'ancestral' lands and are locked in mortal combat with the authorities over land rights. In the catchment of the Kok river, a northern tribuatary of the Mekong, the Royal Forestry Department

's designation of an area as another national park has also generated an uproar and violent opposition on the part of the local community(The Daily Manager, 3-4 August 2002:8).

As an alternative to the radical government remedy, Care Thailand, funded by the new Danish Cooperation for Environment and Development(DANCED) through Care Denmark, has, however, launched the Integrated Natural Resources Conservation (INRC) project aimed at broadening community planning by bridging the gap between villagers and government officers(Kungsawanich, 2001:1). Adopting the bottom-up approach through reinforcement of the time-hallowed community participation in natural resources management, whereby efforts are made to settle conflicts over the use of natural resources between ethnic groups and State agencies, Care has worked closely with *tambon* (sub-district) administrators in the project area.

In retrospect, mistakes of past management imposed by international aid agencies could be pinpointed--again in miniature-- and compared to those of large public-sector projects. Contrary to previous experience, forest encroachment in the Mae Chaem area occurred when villagers were dominated by profit-driven cash-crop plantation activities. Moreover, as mono-crop plantations consumed huge amounts of water, water wars between highlanders and lowlanders ensued. Instead of imposing a set of solutions on the communities, the Care's new bottom-up approach claims to have established village committees and mini-watershed networks to work out rules and activities for forest conservation. This is similar in nature to the 'meta-plan', the collective management model adopted by the pre-Columbian Kogi Indians and said to be emulated in Europe(Delannoy,2001:27-28) and the indigenous management system in the area itself. All stakeholders being thus able to air their concerns over round-table discussions, water warfare is said to have subsided. Besides, the village committee, comprising, as it does, district officials who are in touch with forestry officials, is said to enable the communities to be

saved from possible eviction threats. Equally, environmental conservation tactics spontaneously proposed by local communities themselves are said to be effective and address root causes. In its search for mutual understanding, the watershed management network committee is known frequently to meet to discuss concerns over common property areas. For instance, in a remote Karen hamlet of the Ban Mae Ya Sang village, community members are said to have devised their own set of rules and regulations to preserve the ecological balance of their important tributary, the Mae Raek which feeds the majestic Chao Praya system cutting across central Thailand. According to the rules such things as used pesticide containers have reportedly to be buried properly instead of being dumped on to the creek, and violators are known to be fined according to village rules. Other than paying a fine, wrongdoers are also said to face social punishment if they intentionally cut down trees or start fires in protected areas to expand their plantations. On the more positive side, important forest areas are said to be demarcated and there is said to be a deliberate effort to keep the entire forest relatively intact. The Karens are said to believe that the forest near a watershed area is sacred and no member of their community would dare to cut down trees in it. Moreover, they appear to have adopted the tree-ordination ceremony which has been practised by forest conservation groups elsewhere. In the ceremony sacred *sutras* are chanted and, once selected trees have thus been blessed, saffron robes being tied around them, they are deemed to be holy and there is a standing prohibition against their felling.

Apart from building up local institutions and reinforcing indigenous natural resources conservation strategies, Care is also said to have initiated sustainable land management of rice paddies, home gardens, animal farms and crop rotation. There is no doubt that sustainable farming practices are the key to forest conservation in the Mae Chaem district. In the past slash-and-burn agriculture has resulted from mono-crop production. As an alternative to this

unsustainable practice. Care is said to have encouraged a self-sufficient lifestyle through crop rotation, small animal husbandry, handicrafts and cotton weaving. With the growing influence of giant commercial enterprises, Care is known to have added one more stakeholder to its INRC model which now incorporates not only NGOs, government agencies and communities but also the agro-industrial giant Charoen Pokphand Group(CPG).

Although Care's approach is said to be bearing fruit in the form of slow recovery of forest areas, the threat of future deforestation remains, the constant challenge being to find a proper balance between economic gain and ecological well-being. If it is true that local customs, at any rate within certain tribal groups, are in favour of conservation, Care's facilitating role will come in handy when the communities are threatened with conflicts especially over the distribution of economic gain. The mountainous north of Thailand is home to numerous tribal groups and a unique gamut of flora and fauna. In the teeth of conflicts over rights to natural resources, a fresh approach termed INRC, something in the nature of a revival of tribal age-old customs, bringing, as it does, all stakeholders to the discussion table, may yet help preserve the country's biological and cultural diversity.

CONCLUSION

The Mekong basin boasts a total area of almost 800,000 square km, only about 24% of which lies in the upper basin (containing China and Myanmar). In a way integrated development of the Mekong basin denotes coordinated development of the upper and lower basin (encompassing Laos, Thailand, Cambodia and Vietnam) which, in turn, may be construed stringently or loosely. An austere, federal, straitjacket framework would be politically out of the question, at any rate for the time being, in view of national sensitivities in the area. This leaves, at the other end of the continuum, a loose-fitting garment version entailing a minimal level of

integration that allows co-basin states to seek to implement their pet projects while genuinely regional projects are, at the same time, actively pursued by way of constant consultation and dialogue. In fact, this proved to be a highly pragmatic approach adopted by the Mekong Committee, given the diversity of national interests and the varying stages of development obtaining in the lower Mekong basin. Admittedly, the approach is Fabian in nature and allows the member nations to accumulate, at their pace, experience in managing national projects—something which hopefully will stand them in good stead when it comes to grappling collectively with large-scale regional projects with more complicated transboundary dimensions and implications.

From such a perspective the lower Mekong basin can be seen to be dotted with national projects exemplified by Nam(river) Prom, Rasi Salai and Pak(estuaruy) Mun, all of which have played havoc with the environment in the Thai part of the Mekong basin. Thailand having the dominant and the most advanced economy in the lower Mekong basin, the Thai situation may be said to reflect or forerun the basin-wide scenario. If space devoted to Thai part of the basin in the paper appears to be out of proportion, it is because an institutional analysis is judged to be indispensable for an in-depth appreciation of basin-wide development problems. In any case, available space and time permit no more than an attempt at drawing up a catalogue of the basin's national projects, which would be a tedious exercise. Nevertheless, to round off the basin's *tour d'horizon,* mention has also been made of Vietnam's Yali Falls, which may be said to belong to a second generation of dams, Thailand having learned its lesson the hard way in preceding decades. Yet Yali Falls yields nothing better than the virtually identical tale of woe, and an opportunity to learn from Thailand's past mistakes has sorely been missed. .

The incremental approach, in which such national projects figure prominently, also offers these co-basin states an opportunity for acquiring a habit of working together on specific uses of joint resources—something which they cannot possibly gain through working in other regional catch-all groupings with ill-defined goals like the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), to take just one instance. In the context of the Mekong Committee such habit of sailing in the same boat for close on 40 years (1957-1995) led gradually to the emergence, on the strength of a community of interest, of the 'Mekong spirit', something in the nature of *camaraderie, esprit de corps*, *Gemeinsamkeit* and collective commitment to a shared purpose, tinged, as it is, with a willingness to compromise as well as with some give-and-take which, on occasions, helped prevent the Committee from coming apart and falling to pieces as it went through its vicissitudes. During the Committee's days the Mekong spirit was alive and kicking despite the sharp differences in their economic and social systems, Thailand, as the area's sole Western-type democracy complete with a market system, being the odd man out. Nor can it be claimed that their modern historical development was the cement of their singular cohesiveness; for Thailand had managed to cling on to its independence in the teeth of Western imperialist expansion while the rest of the basin fell into the hands of the Indo-Chinese French protectorate. Of course, all the co-basin states have been members of the Association of South-East Asian Nations; but, with the exception of Thailand, their admission to the forum has been too recent to have much of an impact on Mekong cooperation. This collective spirit is sufficiently robust to have survived the Committee's demise in 1995 and to make it possible for the Mekong River Commission to rise like a phoenix from the Committee's ashes.

The Mekong River Commission, being at a more mature stage of cooperation than its immediate predecessor, is little more than old wine in a new bottle, and only history will tell whether, by 1995, the Committee had, in reality, outlived its usefulness. It is true that the Commission is entering upon the crucial stage of getting the member countries to agree to rules for water utilization that are 'reasonable and equitable'--something of a truly regional nature while striving to have a clean break with the past, leaving in the lurch national projects dating from the Committee's days. On the other hand, the relatively slow pace of progress made by the lower riparians in genuinely regional pursuits has put the international donor community in a quandary. During the Committee's days the extent of aid dependence was such that the United Nations Development Programme (UNDP) had to foot some countries' bill for membership dues. While there is no denying the dimensions of investment called for in the collective exploitation of Mekong resources, it should come as no surprise if some aid donors have begun to question the basin states' seriousness of purpose and to contract donor fatigue.

Even at a minimalist level, integrated development of the entire Mekong basin will have to remain just an economic and political ideal to be aimed at and hopefully attained in the not too distant future. As things stand, China which rules the roost in the Mekong headwaters has relentlessly forged ahead with not only intensive irrigation development of the tributaries but also highly ambitious hydroelectric exploitation of the mainstream, regardless of whatever downstream impact its actions may have generated. With a drawn iron curtain nobody was able to look in , and the upper basin's development had thus been shrouded in secrecy until Western sources, as a bolt from the blue, made their startling revelations.

For their part, the lower riparians have not been blameless either; for they have gone about their business as if the upper basin does not exist. Apparently according to their thinking,

even if the upper basin does exist, the past stability of river flow makes it inconceivable that anything untoward upstream could adversely affect downstream areas. In retrospect, the lower riparians' stance has not been entirely irrational. As the mainstream of the upper Mekong can accommodate itself only to hydroelectric generation—a non-consumptive use of the waters—only more intensive irrigation in the tributaries and inter-basin diversion of waters can reduce the mainstream river flow. In its upper reaches the Lancang is barely 100 km from the Salween on one side and the Yangtze on the other, and it is perfectly feasible to divert waters into either of the two sister rivers, if need be. However, apart from the prohibitive costs of cutting tunnels through mountainous terrain, policy considerations could be seen to dictate avoidance, at all costs, of measures --including more intensive irrigation—that ould in any way jeopardize the security of the Lancang cascade. Unfortunately, the lesson Vietnam's Yali Falls taught the downstream Cambodians did not become known before 1996, and it was natural for the lower riparians to assume, until the early 1990s, that a Lancang hydroelectric dam could do no more than alter the seasonal distribution of the river flow, without an inkling that they might be particularly vulnerable in the dry season. It was not until the dry season of 1995, however, that those adjacent to China's south-west border were awakened from their long slumber by a record low Mekong level which suddenly dsirupted activities considered to be routine for as long as they could remember.

While it is anybody's guess when China's inward-looking stance will turn a corner, some integration can already be said to have come about, albeit in an *ad hoc* manner. Take the case of the accord the Mekong River Commission has recently signed with China for the exchange of hydrological and meteorological data, from which each basin has nothing to lose but everything to gain. Herein lies the crux of integration as a matter of policy. Unless a coincidence of interests

can be identified, co-basin states cannot be expected to budge, and good neighbourliness to which nations are wont to pay lip-service is too frail a force to do the trick. Identification of such coincidence is, admittedly, a delicate balancing act which calls for patience as well as tact and skill. Another area where there has emerged a similar coincidence of interests is navigation on which China has signed another agreement with Myanmar, Laos and Thailand. If the removal of natural obstacles to river navigation can proceed, over the ecologists' violent objections, as planned, another dimension of integration,i.e.through the movement of people and goods will also go forward.

Such *ex ante* or intended integration is, however, not all that can be said about the subject-matter, there being also *ex post* or unintended integration. Given the fact that the mainstream Lancang cascade will, sooner or later, be constructed *in toto,* the lower riparians, being latecomers as they are in the business, cannot but accommodate their plans to upstream works, particularly if the lower Mekong is to be dammed as well. In fact, in their daily life, the lower riparians are, for the first time, already getting accustomed to regulated flows of the Mekong, thereby generating integration by default. While this may not be the optimal scenario for the lower riparians, they have no choice but to make the best of a bad job.

Apart from policy-induced integration, economic integration of the basin has also been at work as a result of the operation of the market mechanism. Trade and the movement of people between the upper and the lower basin have come to stay, and such movements are to be further facilitated by improvements in the means of transport. Moreover, it is not unrealistic to envisage more economic integration generated by the sale of power from Lancang dams to the lower riparians, particularly if the distance involved is not too great, the likely markets being Myanmar, Vietnam and Thailand. .

Within the narrow confines of the lower basin, such economic integration has also taken the form of energy exchange. Laos' 150-MW Nam(river) Ngum hydroelectric dam which has been supplying Thailand with power since the completion of its first phase in 1971 has frequently been held up as a model for regional economic cooperation. Hailed by some as the basin's regional project *par excellence*, it is regional to the extent that its generating capacity has been so designed as to be in excess of domestic demand and to anticipate future increases of such demand but may be said, in the ultimate analysis, to be a spitting image of other national projects, its administration and control being entirely in the hands of Laotians and part of the power exported to Thailand being re-exported back to Laos to save Laotian transmission costs. It is true that Thailand is committed to buy 3000 MW of power from Laos especially from Nam Theun II, another export-oriented dam, by 2008. In fact, Nam Ngum can be distinguished neither from sister projects in Laos currently feeding the Thai market nor from their counterparts in Thailand and Vietnam, confronted as they have been with a myriad of problems not the least of which are environmental. As a tropical dam Nam Ngum has typically become a huge sediment trap, thereby seriously threatening the useful working life of its turbines. Linked to this is the rampant deforestation affecting Nam Ngum's headwaters and the sharp decline of the inflow into its reservoir. To cap it all, the dam's history of resettlement of displaced people has been a notoriously long-drawn-out one, and, to begin with, impoundment was such that it left no time for anybody to remove trees which had perforce to be submerged for some time.

Such pseudo-regional projects as well as national ones characteristically provide the wherewithal of economic growth; but the application of modern science and technology has compelled dam builders to turn a blind eye to the state of the environment. On the other hand, time-hallowed indigenous systems can be seen to be eloquently environment-friendly. Herein

lies, to put it crudely, a dilemma: modern systems which are in tune with large-scale production does not pay proper regard to the quality of the environment while environmentally-conscious indigenous ones are confined to subsistence. Naturally, any self-respecting modern nation does not wish to be tied down to a subsistence-dominated level of living and feverishly seeks the golden mean, if one can be found, while not denying itself the benefit of modern science and technology. The Mekong Committee was in the business of getting dams built for three decades and a half but unfortunately was in the thick of it solely at the fund-raising stage and never went out of its way to undertake such follow-up as thorough-going *ex post* evaluations. It thereby missed the opportunity to extricate basin states from the horns of the dilemma and get down to evolving something in the nature of environment-friendly intermediate technology for dam-building that would have been its greatest contribution to modern development. This is particularly deplorable in view of Andrew Balmford's recent finding that, 100/1 being the staggering cost-benefit ratio, the loss of services provided by Mother Nature truly outweigh the benefit of conversion of natural habitats for short-term gains (Nation, 12 August 2002:6A). It is hoped that, with the benefit of hindsight, the Mekong River Commission will fare better in this regard.

Apart from the Friendship Bridge linking Thailand and Laos—the first to be built over the lower Mekong--the greatest achievements of the Committee may be said not to have been embodied in the physical infrastructure as such but in the fundamental institutional framework. This encompassed collection and analysis of such basin-wide data as those on water quantity and quality (derived from its hydro-meteorological and water quality monitoring networks), topography and river contours—activities that no single co-basin state could have undertaken on its own. These data are indispensable not only for such short-term purposes as flood and low-

flow forecasting initiated by the Mekong Committee but also for a longer-term, in-depth appreciation of the changes the basin as a living ecosystem has been undergoing owing to the caprices of Mother Nature as well as human action and the implications of such changes for the basin's inhabitants. As the Committee's immediate successor, the Commission could continue such public-good activities constituting, as they do, part and parcel of the *raison d'etre* of a river basin organization. Of course, as the next logical step it is now rightly involved in elaborating rules for water use, and herein lies the crucial acid test of the political will to take the plunge on the part of member states. At an even more mature stage of development the Commission could set itself up as an impartial umpire and enforce such rules of the game as well as water-quality standards. Eventually,the ideal to be aimed at will probably be that of a Mekong river authority modelled after the TVA—the original model for the Mekong Committee—which should act not only as a neutral arbiter but also seek to harmonize national laws with the co-basin states' international obligation to protect the environment. One distinctive merit of such an authority consists in its ability earn income from a regional project like a mainstream hydroelectric dam and to raise funds in the world's leading capital markets—something that should bestow on it an autonomy and thus free it from a donor-driven work programme which has been a pain in the neck for some time in the past.

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