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Environment and Society in the Lower Mekong Basin

This paper for the WCD Regional Consultation for East and Southeast Asia emerges from work being done collaboratively by the Institute for Development Anthropology (IDA) and the Can Tho University School of Technology, under Oxfam's Mekong Basin Initiative. The Mekong Basin Initiative seeks to contribute to the identification of an approach characterized by an appropriate balance among the well-being of local communities, power, agriculture, flood management, transportation, and the natural environment: in short, a development that is both socially and environmentally sustainable. The positions taken in this paper, however, engage only its author and the Institute for Development Anthropology. A fuller exposition can be found in IDA's 1999 monograph, *Environment and Society in the Lower Mekong Basin: A Landscaping Review*, by Pamela McElwee and Michael Horowitz.

The lower Mekong basin is a great and splendid collaboration between nature and people. Brutalized by chemicals and ordnance during the recent years of warfare, and by class and ethnic conflicts, the region has sprung back and is today among the most productive rice-growing and inland fisheries areas of the world. The major changes cited for the remarkable increase in production since the end of the American war are the introduction of high yielding varieties of rice and the effective ending of state ownership of land (Nguyen Van Sanh, Vo-Tong Xuan, and Tran An Phong 1998:44-52). But the essentials of small holder production, based on integrated production of rice, vegetables, fruit trees, poultry, swine, and ruminant livestock, long predate those changes.

Although the soils of the Mekong Delta are not good for the production of soybean, groundnut and tobacco; others like sugarcane, kenaf, jute, coconut, and cocoa are very well adapted to the Mekong Delta. The coconut trees of the Mekong-Delta are good for 80 to 85% of the total coconut area in Vietnam... Sugarcane is adapted to ridged land...in the acid sulphate soil regions...[averaging] yields of 55 ton/ha... [Farmers] are well experienced with growing excellent varieties of seedless pomelo, orange, mandarin, star-apple, sapodilla, durian, banana, pineapple... From 1985 to 1995, the fruit producing area increased from 92,100 ha to 175,670 ha.

The number of buffalo and beef cattle area decreasing...whereas pig and poultry (especially duck) production are increasing... One of the reasons for the decline in cattle production was the increase in farm mechanization. Recently goat has been introduced as an alternative for meat production...

Fishery products supply half of the protein requirement for the population and rank third as foreign currency earner in Vietnam. In 1992, total fishery production amounted to 1.09 million ton, comprising 730,000 ton from marine fisheries and about 355,000 ton from inland fisheries of which the Mekong Delta provided more than 53%... The export value from aquatic products came up to US \$71 million in 1988 and increased to US \$94 million in 1990, which is 45% of the total export value for aquatic products in Vietnam. Furthermore, fish and other aquatic products are important components of the daily diet (Ibid.:51052).

That extraordinary productivity of the Mekong Delta is once again under threat, not from war this time but from the violence of unsustainable economic development. The delta is threatened by global climate change-induced rising sea levels that may cover the lowlands with salt. It is threatened by deforestation, both locally (De Koninck 1999) and upstream in Laos and Cambodia, where logging leads to accelerated

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siltation in such critical flow-regulating areas as the Tonle Sap. It is threatened by chemical intoxication from fertilizers, herbicides, and pesticides. And it is threatened by dam-induced changes in the quality, timing and quantity of river flows that provide water at key times in the production cycle, flush out salts and dilute acids, renew fertility with silt, and maintain the integrity of the coastal mangrove areas against the erosive power of the sea.

The basin is divided into three main stretches: the Upper Mekong-Lancang includes the Tibetan plateau and the mountainous stretches of China through which the river flows. The Middle Mekong is the lower but still elevated area of much of Laos and northeastern Thailand. About 25 km upstream from Vientiane, the river cuts a gorge through the Korat Plateau, and from here to the Cambodian border it follows the rim of the plateau. Once the Mekong leaves the southeast edge of the Korat Plateau, it drops over the Khone Falls. The lower basin begins below these falls, and has a mean elevation just a few meters about sea level. It meanders through the plains of Cambodia before meeting the Tonle Sap river. This confluence creates the backflow of water into the Great Lake, and forms a series of tributaries that eventually flow to the South China Sea.

The lower basin has a population of around 50 million people in Thailand, Vietnam, Cambodia, and Laos. Our work focuses on the basin in Cambodia and Vietnam, with some 30 million people. In Vietnam, the Mekong Delta consists of 11 provinces and around 3.9 million hectares of land, of which almost half is devoted to rice culture. The coastal areas of the Delta provide rich fisheries.

The importance of the Mekong to local populations is not the only role the river plays in the region. It is also an impressive potential source of hydropower. It is estimated that the Mekong could irrigate 4.3 million hectares of land and produce over 24,000 megawatts of electricity. A number of major hydropower projects have been proposed for the mainstream and its tributaries, and a high impoundment has been built at Manwan in China. The possible environmental and social implications of the dams has caused some reanalysis by concerned parties. According to the Asian Development Bank (1994), "the logic of treating the entire Mekong River watershed...as a single planning unit is clear. The construction of major dams on the main stream in Yunnan Province to generate electricity, or the removal of the rapids between Lao PDR and Myanmar to improve river transport, could affect the seasonal flows through all six countries and the hydrology of the major rice-growing region in the delta... Contamination of the Great Lake...in Cambodia could seriously impact the breeding grounds of migratory fish species which are harvested from the PRC to Vietnam. In short, the Mekong River is an integrated system such that the impact from development in one area may be felt throughout the entire system, and rational economic-cum-environmental development planning must take this into account."

Yet to what extent is the Mekong basin treated as a single coherent region? To what extent, for example, do the social and environmental impact analyses undertaken by major development financing institutions transcend national boundaries?

One of these organizations has just completed a development plan for important rice-producing regions of the Delta in Vietnam (World Bank 1999). The key to the project is improved bunding, dikes and drainage to reduce saline intrusion in productive areas. According to the Appraisal Report (pp. 10-11), the anticipated economic rate of return for the project, if it is implemented without delay, is 30 percent (ranging from 15% to 45% for different sub-projects)! Yet there is no mention in the document of possible consequences of developments in other riparian states that may adversely affect the quantity, quality, and timing of freshwater flows coming into the Delta from *upstream*.² It may well be that the Appraisal team is aware of the critical importance of these waterflows in reducing salinity both through flushing and through

² There is also no mention in the appraisal report of the possible health consequences of reduced salinity, such as a possible increase in fresh water snails that host the pathogen for schistosomiasis.

hydrostatic pressure resisting the inland migration of sea water. Nonetheless, the social and environmental analysis presented is uniquely national.³

The work being jointly conducted under the Oxfam Initiative addresses three main topics: the ecological and environmental landscapes of the lower Mekong; the agricultural and other productive landscapes; and the human sociocultural landscapes. It is concerned with identifying management strategies for the dams that will allow for the continued, indeed enhanced productivity, of the region, while generating power, expanding land in irrigation, providing for riparian transportation, and flood control. In June 1999, an International Symposium towards Cooperation, Utilization, and Co-ordinated Management of International Rivers was held in Kunming, China. Although the scope of the meeting was worldwide, considerable attention was devoted to the Lancang-Mekong basin. Without overestimating the importance of the meeting, it is nonetheless significant to point out that its location in China, the most upstream of the Lancang-Mekong countries, indicates an understanding of the need to coordinate planning and operation among the six riparian states (PRC, Burma, Thailand, Cambodia, Laos, and Vietnam). But until now, true coordinated planning, the long-established Mekong River Commission notwithstanding, can hardly be said to have happened. Such transnational discussions as have occurred tend to be primarily between potential power producers (like Laos) and potential consumers (like Thailand).

Yet there is reason for some optimism. Since most of the planned interventions remain as propositions, there is still time for a coordinated effort to avoid the adverse consequences that have been experienced by many other transboundary dam-regulated rivers in other parts of the world, and to make of the Mekong a model for sustainable, equitable, participatory development. But for this to be achieved, the major funding agencies must stop treating the region as a set of discrete national blocks, with whom bilateral agreements are made. In the absence of a genuinely coordinated effort transcending political boundaries, the outcomes, especially, though not exclusively⁴, on the downstream countries are likely to be tragic, generating not sustainability but degradation, not economic improvement but accelerated impoverishment. Surely, this can be avoided.

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³ There are other curious statements in the document: "As for the upland crops--mainly maize, sugarcane, and vegetables--the domestic prices are attractive, and marketing, particularly of maize and sugarcane, is not a problem" (World Bank 1999:17). Yet an article in the Viet Nam News of December 25, 1999, was headlined *Sugar Industry Hobbled by Unsold Stock, Dropping Prices*. "Cane-growing areas are a distance from sugar plants and the transport expense is high, thus increasing the per tonne production price. When the sugarcane arrives at the mills, frequently they are dry, reducing the sugar content." Apparently, marketing of Vietnamese sugar is indeed a problem.

⁴ Downstream developments can also adversely affect upstream regions. Traffic through the Delta and middle Mekong basin, for example, is critical if China is to have riparian access to the sea.

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