RSIS COMMENTARIES (21/2007)

RSIS Commentaries are intended to provide timely and, where appropriate, policy relevant background and analysis of contemporary developments. The views of the authors are their own and do not represent the official position of the S.Rajaratnam School of International Studies, NTU.

Destructive Mekong Dams: Critical Need for Transparency

Richard P. Cronin *

26 March 2007

THE once war-ravaged Mekong River Basin is under new assault by the relentless forces of development and globalization, with energy-hungry China leading the charge. Also known as the Greater Mekong Subregion (GMS), the basin encompasses significant parts of China's Yunnan Province and five downstream Southeast Asian countries – Cambodia, Laos, Myanmar, Thailand, and Vietnam. The Mekong remains one of the world's least developed major river systems, but this is rapidly changing. The rush to exploit the river system's huge hydroelectric power potential has created a dire threat to the unique monsoon "flood pulse" hydrology of the river system and the exceptionally rich biodiversity that it sustains.

The forces arrayed behind hydropower far exceed the limited power of global and regional environmental organizations and local civil society who have sought to slow or block the destruction of the river system's natural hydrology and ecology. Achieving a paradigm shift away from destructive development will require a radically different approach involving the creation and sharing of transparency with all stakeholders.

Threat to the River System

China is constructing a massive cascade of eight hydropower dams on the upper half of the Mekong, which it calls the Lancang Jiang, as it tumbles through the high gorges of Yunnan province. This project poses the single greatest threat to the river system and the human security of more than 60 million people who live downstream, for whom its waters are their lifeblood. Many of these are ethnic minorities who already are politically marginalized.

When completed in another decade, the Lancang cascade will generate almost 15,000-Megawatt (MW) of electric power, about 80 percent of that of the massive and controversial Three Gorges Dam on the Yangtze. Yunnan's hydropower is the key to Beijing's strategic plan to develop its impoverished southwest, forge greater economic integration with Southeast Asia, and meet the needs of its booming and power-hungry eastern seaboard.

China's Lancang cascade poses the greatest threat to Cambodia's Great Lake and the 100 km long Tonle Sap River, which connects the lake to the main stream at Phnom Penh, and Vietnam's Mekong Delta. The operation of the dams will reduce the seasonal extremes of flood and drought in the Great Lake that are critical to its twin roles as a vast breeding estuary for the Mekong's fisheries and a moderator of the length and severity of the flood in Vietnam's low-lying Delta region -- its "rice basket."

Already, the filling of China's two moderately sized dams at Manwan and Daochoshan have noticeably reduced the annual downstream flow of vital flood-borne silt and aggravated the effects of a prolonged drought. China recently completed the third dam in

the cascade, the 4,200-Megawatt Xiaowan Dam. Rising 292 meters, the Xiaowan Dam is the tallest and is half again as high as Hoover Dam on the Colorado River. Just filling the dam's 15 *billion* cubic meter reservoir, which will extend about 170 kilometers upstream, is estimated to take 5-10 years using half the upper Mekong's flow.

Two of China's downstream neighbours, Laos and Vietnam, are also building dams on the Mekong that will have transboundary effects, but scale matters. The Xiaowan Dam alone will produce more electric power than the combined capacity of all of the lower Mekong countries combined.

Elusive Cooperation

Cooperative water resources management has remained an elusive goal. Until recently, the Mekong River Commission (MRC), established in 1995 by Cambodia, Laos, Thailand, and Vietnam, with support from multinational aid donors, had made little real progress towards its goal of fostering cooperation. Last year, two decades later, the four MRC countries finally agreed on procedures to maintain wet and dry season flows into the Tonle Sap River and Great Lake within "acceptable" high and low ranges.

Because China, along with Myanmar, has declined to join the MRC, the most important source of mainstream dry season flows is outside the agreement. Beijing refuses to share either significant information about its dams or the results of its own environmental and hydrological studies. China did commit in 2002 to provide daily data on upper Mekong water levels during the flood season, but only from two monitoring stations. At a minimum, China could join the MRC and agree to operating rules that give priority to maintaining predictable water levels and preserving the river's natural flood-drought extremes.

Last summer the World Bank and the Asian Development Bank (ADB) joined forces with the MRC to formulate an ambitious new Mekong Water Resources Assistance Strategy (MWRAS), oriented towards large-scale hydropower, irrigation, and water transfer projects. Environmental groups have strongly criticized the initiative for its strongly pro-hydropower orientation and the MRC's replacement of its charter objective of "environmentally sustainable development" with "balanced development," a lower standard.

Issue of Transparency

Rectifying the current imbalance of stakeholder power in the interest of cooperative and environmentally sound water management can only be accomplished, if at all, by a bold approach to creating full transparency regarding the transboundary and basin-wide impact of dams and other large-scale water projects. This can be done through the creation of an interactive simulation model of the entire Mekong basis using satellite imagery that literally and figuratively transcends political boundaries and proven modeling software. The MRC and regional research institutions have already validated the technical feasibility of developing river simulation models using radar, infrared, and photographic imagery. Because of political sensitivities regarding China, however, studies to date have been limited only to the individual tributaries of the lower Mekong.

Given the institutional and political obstacles to official cooperation, the most expeditious and reliable way to get the job done is through a partnership of private foundations, civil society, and aid donor governments with a strong orientation towards sustainable development. Making the model freely available in the form of a CD-ROM or downloadable program could empower currently ignored stakeholders, including displaced communities and their NGO advocates.

The reverberations from the "democratization" of information via the basin-wide simulation model could dramatically shift the terms of the debate over hydropower. While the cost of developing such a model would be considerable – several hundred thousand dollars at least – the long-term environmental and social payoff would be priceless.

---

[*] *Richard P. Cronin heads the Asian Political Economy programme of the Henry L. Stimson Centre in Washington, DC. He contributes this article to RSIS Commentaries of the S.Rajaratnam School of International Studies and the views expressed are his own.*