

MEKONG REGION WATER DIALOGUES

WATER AND WETLANDS, THE MEKONG'S BLOOD AND HEART

January 2010

On November 30-December 1, 2009, 40 representatives from government, NGO, and business from Vietnam, Thailand, Cambodia, and Lao PDR met in HCMC to discuss the role of civil society in water resource management decision-making. The workshop was part of the Mekong Region Water Dialogues (MRWD), a project supported by the Ministry of Foreign Affairs of Finland to address water governance issues in the four Lower Mekong countries.

This meeting focused on wetlands management, particularly in the Vietnamese portion of the Mekong Delta. According to one of the presentations, the government of Vietnam has spent billions of dollars on flood control projects but the disruption of the delta's natural hydrology has created new and unanticipated problems. Most significant is the increased potential for catastrophic floods as a result of the loss of the delta's natural absorptive capacity.

The risks inherent in the structural approach to flood control, much beloved by government planners around the world, has led some of the region's leading scientists to advocate for non-structural approaches, also known as ecosystem-based adaptation or EBA. EBA uses the sustainable management of ecosystems to provide services that enable people to adapt to both current climate variability and change. It increases the resilience and reduces the vulnerability of ecosystems and the people who depend on them.

A key element of EBA is the maintenance of wetlands because of the vital role they play in regulating floods, recharging groundwater, and as sources of food, fuel, and fiber for local communities. In the words of Dr. Duong Van Ni of the DRAGON Institute of Can Tho University, water is the "blood" and wetlands are the "heart" of the Mekong River and that to sustain the provision goods and services upon which millions of people survive, the Mekong needs blood that flows and a heart that pumps.

During the wet season, thousands of wetlands in Laos, Cambodia, and Vietnam—which together account for two-thirds of the Mekong's flow—serve as small reservoirs that recharge the river during the dry season when the flow is one-twentieth of its wet season peak. Without the buffering effect of these wetlands, the flood peaks would rise and dry season flow would fall. In hydrological terms, the Mekong's flow would become "peakier".

In Vietnam, the conversion of over 90 percent of the delta's wetlands into rice fields over the past 30 years represents one of the world's most dramatic man-made environmental transformations. It has been achieved through the construction of a dense network of dykes and canals that drain water away as quickly as possible, thereby permitting multiple rice crops a year. The result of this transformation has been a huge increase in rice production to feed a growing population and for export—Vietnam is now the world's second largest rice exporter. But the costs in terms of reduced water quality, falling groundwater levels, and increased dry season salt water intrusion are becoming apparent.

These impacts are typically blamed on climate change when they are the predictable but unintended consequences of the massive hydrological alteration of the delta. Climate change is increasingly used as a scapegoat for a wide range of environmental problems that are the results of a planning system that not ignores or downplays the risks of intervening in

complex natural systems. While the climate is changing and sea level is rising, these are happening slowly and their effects are dwarfed by direct human impacts.

Most of the Mekong Delta's natural wetlands have been reduced to small fragments. These include Tram Chim, which is part of the Plain of Reeds, a vast inland depression that extends into Cambodia. Before human modification, the plain was a natural floodplain that helped regulate the flood pulse of the Mekong River. Today, it is better known as the Plain of Rice. Tram Chim was established in 1985 to preserve a small representation of the Plain of Reeds. In 1994 it was upgraded to a nature reserve and in 1998 to a national park. It is run by a management board that reports to the Dong Thap People's Committee. Presently, Tram Chim National Park covers 7,600 hectares and comprises a mix of seasonally inundated grasslands, regenerating *Melaleuca* forest (which was planted in the late 1970s), and open swamp. Dykes and canals dissect the park into five zones.

The recent history of Tram Chim is instructive in terms of ecosystem management. In 2002, fire broke out in U Minh Thuong, a protected area in Kien Giang Province about 200 km from Tram Chim. The fire destroyed 5,000 hectares and the media reported at length on the economic value of the lost timber. The fact that fire is a natural part of the local ecosystem as it creates new niches for plants and wildlife was not reported.

The negative media coverage of the U Minh Thuong fire led to a government decision that made fire suppression the top priority in protected areas. Today, when you enter many protected areas in Vietnam, the first things you see is a large dial showing fire risk. In Tram Chim, the response was to build canals around the park to maintain a high water table during the dry season and a ready supply of water for fire fighting. Between 2003 and 2005, populations of the Critically Endangered Sarus crane, which visit the park in March-April every year, fell sharply as the grasses they depend on were submerged. The hydrological isolation of the park also led to a decline in water quality.

In 2005, Dr. Ni and his team with the support IUCN, WWF, and the U.S. Forest Service negotiated with the park a water management regime that more closely resembles the natural hydrology. This has involved building sluices that allow water drain out of the park and the destruction of portions of the canal to allow more natural water flow. This 3-year experiment is expected to demonstrate how a more natural hydrology is essential to maintaining the park's biodiversity and that fire is not a serious risk to the park.

The fires in Tram Chim are largely caused by local people who resent being excluded from the park. The cost of conservation has fallen most heavily on the landless, who form 40% of the local population and whose access to communal resources has declined as rice production has intensified and the area of communal land has shrunk. In response, the park has initiated a permit system that for \$6/month per household allows local people to harvest grasses, fish, and other resources from the park. Not only should this reduce arson but it could also provide the basis for a participatory monitoring system since the time spent in the park and the fishing technologies used are recorded by the park rangers.

But even if the biological integrity of Tram Chim is preserved, what of the rest of the delta? And how can the Tram Chim experience be used to influence water policy across the delta? One of the lessons from Tram Chim is that well designed pilot projects, coupled with effective advocacy, can be used to convince decision-makers of the benefit of new approaches. The work done by Dr. Ni and others on testing a more natural hydrology fed into national legislation in the form of a ministerial decision issued in 2006 that permitted such activities. In Dr. Ni's opinion, persistent lobbying by respected scientists and the

collection of data on the park's water quality were essential to persuading the provincial and ultimately the national government. Dr. Ni also works with local communities around the park on alternatives to a second rice crop such as sesame and water melon, and to promote organic farming that minimizes the use of fertilizers and pesticides and offers both health and economic benefits to the farmers.