

## **Local knowledge in the Management and Utilization of Urban Wetland Area: A Case Study of Oxbow Lake, Northeast Thailand<sup>1</sup>**

*Sommaï Chinnak*<sup>2</sup>

*Ubon Rajathanee University*

### **Abstracts:**

This paper is a part of the research project “*Way of Life, People and Wetlands: The Dynamic of Natural Resource Management in Oxbow Lake of Urban Communities between Ubon Ratchathani and Warin Chamrap Municipality, Ubon Ratchathani Province*” which was funded by the Thailand Research Fund (TRF), and conducted by local villager researchers (Thai Ban) in collaboration with university researchers.

This project aims to explicate the relationship between the ecosystem of oxbow lake and local knowledge of the people who live along the oxbow lake in an urban area. There is special emphasis on the repertoire of knowledge regarding natural resources management, ecosystems, and modes of thought in a community and natural interaction context.

Our research found that while this ecosystem had in the past been neglected by state authorities and the urban populace, the livelihoods of poorer people in the urban area are still closely linked with the oxbow lake. Locals depend on the oxbow lake for many productive activities, including fishing, agriculture, livestock, foods gathering, brick making, among others. The patterns of resource utilization of these people reflect the complexities of local knowledge. In the past, this area was not regarded as valuable by the state or regional businesses, so the area was designated “a pasture field” or “public space” not as a “resource”. But perceptions—and the discourse—have changed. In the intervening years, the state and businesses have come to classify this region as a “resource” appropriate for commercial exploitation; this has led to conflicts between local communities and state/business interests, and has had severe impact on the integrity of management practices based on local knowledge. In light of this, our project proposes that state policy regarding such urban areas must consider the cultural diversity and local

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<sup>2</sup> Assistant Professor (Anthropology)

The Mekong Sub-region Social Research Center (MSSRC),

Faculty of Liberal Arts, Ubon Rajathanee University, 34190. THAILAND.

Tel: 662-45-35 3761 Fax: 662-45-288-387

Email: [sommaï@la.ubu.ac.th](mailto:sommaï@la.ubu.ac.th), [schinnak@hotmail.com](mailto:schinnak@hotmail.com)

knowledge/practices of the poor people who live there, in order to set the basic conditions necessary for sustainable development.

**Keywords:**

Local Knowledge, Wetland Area, Oxbow Lake, Ubon Ratchathani Province, Northeast Thailand

**Background**

Wetlands are ecosystems rich in biodiversity and highly valuable to local communities. Local people use the wetlands both directly and indirectly for such things as housing, foods collection, recreation, tourism and others. For hundreds of years, local communities have relied for food and medicine on the abundant and diverse supply of plants and animals in the flooded forest.

Subsequent overuse of wetland resources especially by state and business has impacted the ecosystem both in terms of quantity and quality. The reduction in quantity of the area of the wetlands has impacted its volumetric efficiency, changing it from a neutral wetland to a semi-neutral one. Quantity has been reduced through deforestation, increasing land tenure to 100%, and reducing water volume in the dry season to shallow levels or even drought. Quality of the wetlands has been degraded by a reduction in biodiversity and impacts on the region's hydrology function. The wetland's decline may be attributed to both natural and man-made factors.

However, the most severe problems stem from national development policy, which has promoted economic growth while at the same time disregarding the ecological value of the wetlands. State policy considers wetlands to be waste areas with no useful resources, filled with insects and thus spreading disease. As a result, the state places wetlands low on the environmental list of priorities. This view has led to the destruction of wetland areas by various activities, some intentional, some not, and by practices of exclusive state management and use.

Wetland degradation must be resolved quickly if it is to be resolved at all, and it is essential to allow local people—as owner of the resources and as stakeholders in management policy—to participate in management. Doing so will increase both motivation and awareness of the value, significance and benefits of wetland conservation (Ubon Rajathanee University, 2005).

Scientific research on wetlands worldwide degradation may be characterized largely as ignorant. As environmental issues go, wetlands take a backseat to such environmental problems as pollution, the ozone layer, and the rainforests, and knowledge about the wetlands is scarce among researchers,

government agencies, and environment enthusiasts. Whoever said ignorance is bliss never thought bliss could mean disaster.

In the case of Thailand, although some academic research projects on wetlands were undertaken, they tended to ignore any social aspects, including community organization, villager's way of life, and the relation between people and community with the ecosystem. Studies of the planning and management followed 'old-school' patterns: top-down perspectives which did not allow communities to participate in the study or to help plan resource management (Yos, 2000).

### **The Project**

Overall, our project has aimed to understand and explain local knowledge and expertise regarding resource management in an urban wetlands area. The project area comprises ten communities in Warin Chamrap Municipality, Warin Chamrap District, Ubon Ratchathani Province, and Northeast Thailand. The area covers 1,836 rai (about 734.4 acres) supporting a population of 7,253 people, in 1,533 households.

Although the communities are located in an urban area, their way of life may still be characterized semi-urban. The area itself is part of the Mun River ecosystem and constitutes an important component of the broader Mekong River ecosystem. Even though the ecosystem under study is located in a largely urban area, the inhabitants still rely on the natural resources from the oxbow lake and flood plain for their livelihoods. The seamless relationship between local people and natural resources has given rise to a complex and sophisticated indigenous knowledge for resource management.

This research avoided looking only at the Oxbow Lake ecology, or any single dimension for that matter. Instead we strove to pay attention to the complexity of, and linkages between, ecology and social systems through an interdisciplinary approach combining ecological and social science methodologies, both qualitative and quantitative. If anything, we stressed social science methodology and particularly qualitative research above other approaches.

We focused on four central concepts: the power of resource and resources management discourse; the commons property; community rights; and community resource management in a semi-urban area.

### **Research Findings**

#### *The development of the communities*

Common perceptions hold that the communities in the wetlands area are new communities, comprised of people who essentially trespassed into the flood-prone area. Some even suggest that the houses of these people *cause* the flooding, revealing rather obvious biases against the people whom they actually know very little about.

In our study, we found that all 10 of the communities were well adapted to the specific geo-ecology of the wetland area. We also found evidence confirming that some communities have a history of more than 200 years—hardly trespassers—and that the area was an important extension of Ubon Ratchathani city. In the past, this area served as an important junction, leading to the development of a variety of communities and livelihoods. Given its proximity to the city, this peripheral region was, and continues to be, both diverse and dynamic, fostering what we term a semi-urban way of life among its inhabitants.

### ***Resources, Management and Utilization***

In our study, we found that the Oxbow lake wetland area constitutes a form of community's capital which underpins an extensive knowledge system and forms of local wisdom developed specifically for resource management and utilization.

This wetland area is critical for the people who live in the area—in particular the poor—who rely on the Oxbow lake for their subsistence. Although this was not their exclusive source of income/subsistence, they nevertheless relied heavily on this ecosystem for food, especially protein (in the form of fish and other marine fauna) and vegetables. With food diversity rivaling a supermarket this ecosystem is a key source of food for thousands in Ubon Ratchathani province. The values, presented in economic terms, of the resources drawn from the wetlands area, are depicted in Table 1 below.

**Table 1: Product values derived from the wetland each year**

<b>Items</b>	<b>Value (Baht)</b>
fishes	2,000,000-3,000,000
brick	44,550,000-59,400,000
Cow/buffaloes	1,876,000-2,680,000
<i>Man Seang</i> (a small plant yielding starchy, edible roots)	194,400-486,000
flowers	480,000
hawksbill turtle	126,000

### *Wetland area in the winds of change*

The changes in—or, more succinctly, the destruction of—the wetlands ecosystem resulting from development projects in the region and province, and the rezoning of the area to include commercial and business districts, has forced changes in locals' way of life and has created great difficulty in maintaining basic livelihoods.

At present, this wetland area is a complexity dimension: first, it is a semi-urban area and second, it is impacted by development schemes at the regional, provincial, and local levels. Development and rezoning in the area led to land-grabbing among various groups, including industrial and commercial interests from Ubon city. The development of the regional, provincial and local areas follows national development policy which aims to transform Thailand into an industrial country. Policy favors those projects serving to fuel industrial expansion.

At the same time, because its lush flora, diversity of fish species and beautiful view, the wetlands form a natural conservation area for tourism near the city. The goal of tourism in the area is to serve foreign and middle-class domestic tourists, by transforming parts of the wetlands into recreation areas and by aiming to keep other parts 'pristine', i.e., free of human interference.

Both of these development agendas—industry and tourism—treat locals as obstacles and trespassers, making day-to-day life and survival ever more challenging. "Development discourse" in either guise has marginalized people in this area both intentionally and unintentionally. If urban development policy continues on its current path, the semi-urban communities will be either swallowed or excluded by urban expansion.

Urban expansion and development has not gone unchallenged however. Locals, aware of their marginal place in the emerging discourses of development, have tried to adapt to their new social and ecological niche, and in some cases have begun creating counter-discourses and have challenged the authority and agenda of those who are expanding into what they perceive to be their land. Some villagers have formed organizations and social institutes to resist their marginalization, and to work for an equitable distribution of wetland control such as the Ubon Ratchathanee's Slum Network.

### **Conclusion and Suggestions**

Past studies of wetland areas largely neglect the importance of wetlands in urban areas. This might be linked to an urban bias which views business development as intrinsically more worthy than natural resources or environmental concerns. Even academics, like urban sociologists and

anthropologists and other who have studied wetland areas, exhibit an urban bias and treat wetland issues as less important than other more urban-centered interests. In reality, urban areas consist of many subcultures which make the city colorful and diverse. Understanding the people in semi-urban areas will extend our models of urban society and ecology, and may lead to policies that will improve the sustainability and equity of urban development.

The results of our study show clearly that the oxbow lake and its surrounding flood plain vegetation are critical for the way of life of the people who live close to the area; that the communities have a long history in the wetlands area; that local knowledge and social organization are closely attuned and adapted to wetlands ecology; and that the conceptual framework for this wetland area should be geared towards a geo-ecological *cultural* model, one which includes humans and their productive activities as a fundamental part of the ecosystem.

Such a model will then show that the knowledge the community has regarding natural resources and environment management, although not explicitly formulated in state law, business policy, or scientific axiom, is a form of knowledge (re)produced from generations of experience, and one which offers a viable approach to mediating relations between humans and their natural environment.

Resources in the wetland area form the basis of life for the people in the communities, and as such the oxbow lake's and flood plain vegetation's resources are held to be common property; community members hold that as long as one does not destroy resources or violate specific communal rights, anyone has the right to use the resources of the wetlands. In other words, resource access rights come from the rights for basic livelihood, and include a duty for resource co-management within a framework of community rights. Villagers viewed the oxbow lake and its surrounding flood plain vegetation as common property which the people *who looked after it* could utilize. This implies that the communities regard the oxbow lake and flood plain vegetation more as public resources than individual.

When state policy restricted access to resources (primarily through rezoning), people perceived of this as a breaking of *community* rights. Villagers interpreted state intrusion and the granting of land to individual businesses as trespassing on community property, and they struggled to protect it. The state viewed the villagers' as trespassers on what was, after rezoning, private land. Villagers attempting to legitimate their position framed their protests in terms of community rights, traditions and morality, not state law. These are values held more dearly—and which are deemed more pertinent to everyday life—than an abstract and distant legal code. Villagers pay more attention to

community order and local standards than to the outside public world at large. Community rights, developed over generations, emerged from the relationship between humans, their neighbors and their physical environment; such rights are developed as locally-specific forms of ecological (both social and natural) adaptation, and are largely incommensurate with ‘modern’ capitalist notions of individuality and private property.

Development of this wetland area must acknowledge the legitimacy of locals as stakeholders, and it must include their frameworks of social and ecological organization. Restoring biodiversity of this wetland area must include social processes in addition to state law; or, put another way, state law must take into consideration not only local people but local forms of organization and knowledge as part of developing a strategy for the participatory area management.

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