

## **FINAL DRAFT**

### **Title: Tai Baan Research - from Community Awareness to Adaptive Wetland Management in the Lower Mekong Basin**

**Authors: David J.H. Blake<sup>1</sup> and**

**Rattaphon Pitakthepsombut<sup>2</sup>,**

### **MWBP Thailand Demonstration Site, Lower Songkhram River Basin, Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (IUCN-The World Conservation Union, Thailand)**

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#### **ABSTRACT**

Tai Baan Research is a novel approach to natural resource management in the Mekong Basin, which places the local resource users themselves as the central actors in terms of making research decisions, conducting empirical research, creating ownership of results and subsequent participatory decision-making based on increased awareness of local knowledge amongst key local stakeholders. In some ways, Tai Baan Research resembles conventional, scientific research approaches (e.g. employs empirical methods, data collection, analysis and interpretation), but is unconventional in others (non-extractive, more holistic, more experiential and allows for cultural-spiritual explanations of phenomenon). In this sense, Tai Baan Research is highly adaptive to the local context, involves greater participation of people and more closely responds to the needs and priorities of wetland communities. Tai Baan Research originated in some dam-impacted communities of the lower Mun River in Northeast Thailand in 2000-2001, as a means by which local people could take control over the research process to more adequately reflect their aquatic resource-based livelihoods than had thus been evident in externally-driven, academic and commercially-motivated research through which the villagers played a limited, largely passive respondent role only. The sense of ownership, credibility and confidence in the results generated by the Tai Baan Research at Pak Mun, helped to convince other river-based communities elsewhere in the Northeast and North of Thailand to adopt the same general approach as a means of documenting local natural resource diversity and usage patterns. In 2003, the newly formed Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP), with assistance from local NGO's and in collaboration with provincial government partners introduced Tai Baan Research to four villages in the Lower Songkhram Basin (LSB) under the Thailand Demonstration Site of MWBP. In many ways, the LSB is unique in Thailand with its extensive floodplain wetland ecosystems and complex

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<sup>1</sup> The first author is a Technical Advisor with the Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP), based at the Lower Songkhram Basin Demonstration Site, Thailand. He may be contacted by email at [djhblake@yahoo.co.uk](mailto:djhblake@yahoo.co.uk)

<sup>2</sup> The second author is the Project Co-Manager of the Lower Songkhram Basin Demonstration Site of MWBP in Thailand. He may be contacted by email at [rattaphon@iucnt.org](mailto:rattaphon@iucnt.org)

hydrology, intimately linked to that of the mainstream Mekong. The Songkhram wetlands support a hugely productive fishery, with impressive fish and aquatic biodiversity, which has for long been understudied and inadequately represented. The international importance of this wetland complex has recently been recognized by the Office of Natural Resources and Environmental Policy and Planning, which in early 2006 announced that they intend to propose the LSB as a potential future Ramsar Site. For local people, facing many challenges to their traditional livelihoods from various causes and sources, Tai Baan Research offered an opportunity to self-explore and express their local realities to outsiders. Just as important was the capacity building and creation of a network of Researchers who could exchange lessons and experience. While some of the research findings have started to be published in books and disseminated to a wider audience through various media, the Tai Baan Research Network itself has now started to take a more active role in local natural resource conservation activities, such as creating fish conservation areas, rehabilitating degraded forest areas or protecting existing forests from illegal encroachment. This paper describes the Tai Baan Research development process, analyses the local situation and how participatory research of resources and livelihoods has progressed to a more active phase of practical wetland management.

*“Biodiversity and cultural diversity are closely related. To destroy cultural diversity is to destroy the opportunity to study and utilize local ecological knowledge for the benefit of mankind”. – Yos Santasombat, 2003.*

## INTRODUCTION

Tai Baan Research<sup>3</sup> may be considered a novel form of research approach in the Lower Mekong Basin, which helps address some of the issues and shortcomings evident in more conventional forms of participatory research being applied in rural development and natural resource management circles. It consciously devolves power in decision-making to the resource-users themselves, thus empowering them to take greater responsibility for management and conservation of natural resources, in this case wetlands resources. While the last decade or two has seen considerable interest amongst academic researchers, non-government organisations and some government agencies in local knowledge and participation, it is a truism that the vast majority have approached research in an extractive manner, where local people tend to be regarded as passive sources of information, and rarely involved in research planning, results analysis and later use of findings (Vaddhanaphuti, 2005). Hence, this has tended to lead to misinterpretation and misrepresentation of local interests and in many cases, poor development decisions may be taken which can compound local problems by reducing self-reliance and encouraging resource degradation.

In 2002, a preparatory phase was started for the four nation Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP)<sup>4</sup>, which had selected the Lower Songkhram Basin, as the Demonstration Site in Thailand, for piloting activities and approaches designed to help build local capacity in wetland management and biodiversity conservation. A

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<sup>3</sup> In Thai language Tai Baan Research translates as *ngan wijai tai baan*, literally meaning “villager research”. It does not refer to the Thai people per se, but all villagers of the lowlands of the Mekong Basin from southern Yunnan province to parts of northeastern Cambodia that speak the common Lao language and generally refer to themselves collectively as “*tai baan*”.

<sup>4</sup> MWBP is a joint programme of the four riparian governments of the Lower Mekong Basin – Cambodia, Lao PDR, Thailand and Viet Nam – managed by the United Nations Development Programme (UNDP), The World Conservation Union (IUCN) and the Mekong River Commission (MRC), in collaboration with and other key stakeholders. With core funding from the Global Environment Facility (GEF), the programme aims to address the most critical issues for the conservation and sustainable use of natural resources in the Mekong wetlands ([www.mekongwetlands.org](http://www.mekongwetlands.org))

project office was established in the District Administration Centre of Sri Songkhram District, Nakhon Phanom Province, in the heart of the Lower Songkhram Basin (LSB) wetlands and starting with a small core staff, a partnership network with community representatives, local government, non-government organisations (NGO's) and civil society representatives was gradually built-up over time. The MWBP Demonstration Site, aware of the history of natural resources conflict in the LSB and knowing the importance of wetland ecosystems to local livelihoods, wanted to introduce an approach to natural resources assessment, monitoring and eventual improved management, which would yield long term benefits for local resource users.

Tai Baan Research was chosen as a suitable methodological tool to adopt in the LSB, because it was recognised that in a large and complex wetland system with many stakeholder groups and livelihood options, it was important to devise an entry point to natural resource management that involved many community members from the start. It was also deemed important that the approach taken would not only be acceptable to local resource users themselves, but would be credible for partner institutions from government, non-government and civil society sectors. Although in its infancy as a research method and not well known generally, partner organisations were curious to try the Thai Baan approach, believing it could help express actual local knowledge about wetland resource use, rather than the superficial approaches which had been tried in the past. That was over three years ago, and the start of a long journey of discovery for village researchers, external facilitators, project partners and interested observers alike.

### **What is Tai Baan Research?**

It is not possible to simply define Tai Baan Research – it means different things to different people – so we will not attempt to do so. The following quotes from various stakeholders give a diverse view of what Tai Baan Research means in their opinion.

*“Tai Baan Research – research undertaken by villagers – has recently emerged as a counter-research approach, aiming to reveal local knowledge about the environment and how villagers interact with it.”* Chayan Vaddhanaphuti, Ph.D. Chairperson, SEARIN Advisory Board

*“Tai Baan Research represents an approach that builds on local people’s wisdom, experience and traditional culture for assessment and monitoring of natural resources and livelihoods. It presents an opportunity for dealing with the challenges of long-term regular monitoring of complex, dynamic river systems that allows local resource users themselves to set their research agenda, collect and analyse data and contribute to making informed decisions.”*  
Richard Friend, IUCN Programme Manager, MWBP

*“Our Thai Baan research can explain and prove that the results have come directly from our livelihoods that depend on natural resources of the Songkhram River. Local people conduct this research by themselves, with the outputs from the research encouraging local people to learn and find a way to collaborate with government, especially Tambon Administrative Organizations (TAOs), in order to conserve and restore the natural resources in this area.”* (Suriya Kotamee, Chairman of Thai Baan Research Network and TAO representative)

In some ways, Tai Baan Research may be likened to conventional, scientific research approaches (i.e. it employs empirical methods, data collection, results analysis, peer review and interpretation), but is unconventional in others (i.e. non-extractive, more holistic, more

experiential and allows for cultural-spiritual explanations of phenomenon<sup>5</sup>). In this sense, Tai Baan Research is highly adaptive to the local context, involves greater participation of people and more closely responds to the needs and priorities of wetland resource dependent communities.

### **A short history of Tai Baan Research**

Tai Baan Research was borne out of a sense of frustration amongst a small, but active group of Thai academics and NGO workers that local knowledge was systematically being ignored or misrepresented during conventional research assignments, especially when undertaken by university research teams and private consultancy companies that were hired to conduct Environmental Impact Assessments (EIAs) for state infrastructure projects (Hirsch, 2004). Research practices were generally non-participatory, extractive and superficial, not allowing local people to adequately express their use and understanding of natural resources, livelihoods, society or ecosystems (Santasombat, 2003; Vaddhanaphuti, 2005). They perceived that such shortcomings had serious implications to both outcomes of the state implemented projects and general policy and planning concerning natural resources management in Thailand. The gap between local knowledge and external expert generated “scientific knowledge” became most starkly clear in the case of Pak Mun Dam, the most controversial dam project built in Thailand’s history (Amornsakchai et al, 2000; Roberts, 2001; Hirsch, 2004; Blake, 2006a).

#### **BOX 1. Pak Mun Dam Hydropower Project**

The Pak Mun Dam was constructed with World Bank financial support between 1991-94, at a site 5 kms above the River Mun’s confluence with the Mekong mainstream. Built as a “run-of-the-river” 136 MW dam, the project cost 91 % over original estimates in 1988, and according to data from the World Commission on Dams Case Study, the power plant could generate only 15 % of its capacity as reliable 4 hour peak capacity. Simply put, in the dry season there was less water than anticipated and in the wet season, backed up water from the Mekong reduced head to the point where there was virtually no power being generated for several months. Pak Mun was formerly the site of one of the most important riverine fisheries in Northeast Thailand, largely based on seasonal migrations of fish from and to the Mekong, plus the most significant dry season rapids fishery within Thailand. According to Roberts (2001), the lower Mun rapids had by far the highest overall biodiversity of any fish habitat in the Mun River and quite likely the highest bioproductivity.

While originally planned as a “multi-purpose development project”, it failed to deliver any benefits from irrigation as originally planned, while tourism actually declined in the area due to the destruction of rapids in Kaeng Tana National Park and the drowning out of popular rapids at Kaeng Sapue. In terms of fisheries, while the EIA predicted fish yields of around 100 kg/ha/year in the reservoir (without stocking), actual yields were nearer 10 kg/ha/year (with stocking). Valuable migratory species disappeared altogether, while the number of household dependent on fishing crashed and there was large out-migration from the area as the local economy suffered. As of March 2000, the government was obliged to pay \$US 19.5 million in compensation for lost fishery benefits, but with claims on-going due to few replacement local livelihood options being created by government schemes. Fish species in the lower Mun were estimated to have decreased from 265 pre-1994 to only 96 species post-dam construction. The costs of Pak Mun Dam to Thai society and environment are still being counted.

(Sources: Roberts, 1993; Amornsakchai et al, 2000; Roberts, 2001; Keppelman et al, 2003)

<sup>5</sup> For example, documenting local stories, myths and legends in an uncritical manner is very much a part of Tai Baan Research; which seeks to understand local belief systems as a facet of cultural diversity.

After many years of opposition and protests by local people and NGO's at Pak Mun Dam in Ubon Ratchatani Province, which frequently raised the issue of severe declines in fishery production hurting local livelihoods, the Thai government ordered the Dam's operator – the Electricity Generating Authority of Thailand (EGAT) – to open the gates experimentally for one year in June 2001, to allow fish upstream to spawn. A local university team was commissioned to carry out a range of studies to assess the pros and cons of opening the gates, including impacts to fisheries (Ubon Ratchatani University, 2002; Hirsch, 2004). This was seen as a good opportunity by the NGO Southeast Asia Rivers Network (SEARIN), which had hitherto monitored impacts of the Pak Mun Dam on the local environment and communities, to initiate a parallel study, named "Tai Baan Research" to look at changes in river ecology before, during and after the dam gates were opened. Local fishers and other resource users volunteered to gather data, which was recorded by SEARIN staff and volunteers, about issues of the Mun River ecology, fish species, fishing gear, riverbank vegetation and agriculture.

*"We are the owners' of the problems, the ones who received the impacts. They were our resources, it was our lives that were destroyed. When the dam was opened the fish returned, nature returned, even our lives returned. How do we make other people see and believe the things we want to say? That's why we thought we should record it and collect it as evidence."* Paw Dam Chatapan, Villager from Ban Dawn Chi Wern and Tai Baan Researcher at Pak Mun, quoted in Srettauchua, 2002.

The Tai Baan Researchers found to everyone's surprise that when the dam's gates were opened, there was a rapid improvement in fisheries, and fish which had not been seen since before the dam was built, started to return. In total they found 129 species of fish returned to the river, as the complex riverine ecosystem comprised of rapids, islands, deep channels, underwater rock caves, pools and riparian vegetation came back to life (Srettauchua, 2002; Vaddhanabhuti, 2005). The author witnessed this river renaissance during June 2001, when the gates were first opened and villagers from distant villages who had not bothered fishing the Mun for years while the gates were closed, came to try their luck with cast nets in the free-flowing waters. Many were rewarded with migrating fish swimming up from the Mekong which were no longer blocked by the bio-geographic barrier of the dam and could access spawning and feeding habitat long denied them. The Tai Baan Research found that not only fish returned and the riverine ecology started to recover, but so did the local communities as social, cultural and spiritual bonds and kinship strengthened in the Pak Mun area (Kan-Onsri, 2002). According to Vaddhanabhuti, (2005) *"The research at Pak Mun revealed that villagers' livelihoods cannot simply be calculated in terms of income and compensation packages, as cost benefit analyses have done"*. This cultural and societal element of Tai Baan Research is essential to appreciate beyond the purely, factual data collection part of the research.

The Tai Baan Research results obtained at the end of the year-long process were published and distributed, and generally were viewed with greater credibility than the more "academic/scientific" approach of the Ubon Ratchatani researchers, using traditional data collection methods (Ubon Ratchatani University, 2002; Hirsch, 2004), As events transpired, the

government paid scant attention to either the results of the Tai Baan Research nor its own sponsored study at Pak Mun and the Cabinet ruled that in future the dam's gates would operate according to an eight month closed and four month open formula, apparently as a compromise to all parties (Foran, 2003). In fact, the decision pleased few if any of the actors involved, and the dam has continued to be a source of conflict and controversy ever since (Chinvarakorn, 2002; Foran, 2003; Keppelman et al, 2003; Kloepper, 2006; Schuettler, 2006).

Following from the local success and acceptability of Tai Baan Research at Pak Mun, the same approach was then taken by SEARIN to communities on the middle Mun River impacted by Rasi Salai Dam, some 120 kms upstream. Here the issue was also conflict stemming from loss of wetland natural resources, soil salinisation and lowered ability to maintain livelihoods by local people, following construction of a low irrigation dam under the Khong-Chi-Mun Project. 36 communities joined the Tai Baan Research, which focused on the role and importance of the seasonally flooded freshwater swamp forest (*paa boong paa thaam*), in local villagers' livelihoods (Tai Baan Committee of Rasi Salai, 2005; Vaddhanabhuti, 2005). While the dam headpond had flooded much of the former ecosystem causing massive die-back of the natural vegetation and encroachment by the invasive weed *Mimosa pigra*, through a historical analysis and research of current practices by local people themselves, a detailed picture of the complex *paa boong paa thaam* ecosystem was built up, demonstrating again the depth of understanding and knowledge that local resource users possess.

In 2002, the Tai Baan Research<sup>6</sup> model was adopted by thirteen communities situated next to the Mekong River in Chiang Khong and Wiang Gaen Districts of Chiang Rai Province in Northern Thailand. These villages were starting to notice unusual fluctuations in river levels, increased erosion and changes in the riverine ecology, thought to be caused by upstream developments, including hydropower dams and the Mekong Navigation Improvement Project. As well as being an important fishery in general, Chiang Khong is also the location of one of the last dedicated fisheries for the rare giant Mekong catfish (*Pangasianodon gigas*) or *pla beug*<sup>7</sup>. However, there had been rapid decline in fish catches during recent years and popular dry season aquatic products like *kai* (a kind of filamentous algae harvested and eaten) were becoming scarcer, prompting concern amongst local villagers that there was something amiss with the river. The Tai Baan Research was instrumental in documenting the riverine habitats and sub-ecosystems found; vegetation and plant species; fish and fishing gear and riverbank agriculture. In addition, using simple empirical methods, the villagers were able to document some of the impacts resulting from hydrological changes (Srettachua, 2004).

## The Songkhram context in relation to Tai Baan Research

It was against this background and history that Tai Baan Research came to be adopted and adapted by MWBP to the specific context of the Lower Songkhram Basin. While the Songkhram River has not been impacted and altered by large-scale infrastructure developments to the same extent as the Mun River, it has nevertheless been a scene of massive land use changes and many natural resources related conflicts over several decades (Watershed, 1996; Breukers,

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<sup>6</sup> In Chiang Rai Province, the village researchers adopted the northern Thai (*pasa muang*) equivalent of Tai Baan for their Research group's official name, specifically "*kanaa nak wijai jao baan chiang khong – wiang gaen*" or "Jao Baan Research Group of Chiang Khong – Wiang Gaen". For the purposes of this paper though, we will refer to them as Tai Baan Researchers.

<sup>7</sup> The Giant Mekong catfish is an IUCN – The World Conservation Union *Red Listed* species, considered "Critically endangered" and has been adopted as an MWBP "Flagship Species", one of only four species chosen to highlight Mekong biodiversity on the brink of extinction in the wild. Apart from the upper Mekong River between Thailand and Lao PDR, the only other documented giant Mekong catfish fishery was in Cambodia's Tonle Sap *dai* fishery (Lieng et al., 1995).

1998; DEQP, 2004; Blake and Pitakthepsombut, 2006). These can be summarised into the following main categories:

1. Conflicts between local people and private agribusiness companies over land rights, access to natural resources and issues arising from contract farming promoted locally
2. Conflicts between local people and the state over land rights, especially land title and community rights to natural resources e.g. common land, forest and fishery resources
3. Conflicts between local communities and certain state agencies over plans to construct a large dam and irrigation reservoir near the mouth of the Songkhram River
4. Conflicts between local elites and villagers over land rights and access to land, especially for livestock grazing, fishing and wetland product gathering rights
5. Conflicts between communities over shared resources, especially fisheries where different communities tolerate different fishing methods considered to be damaging stocks or not.
6. Conflicts between villagers themselves over land and natural resources, especially the sustainable harvest of them and equitable access.

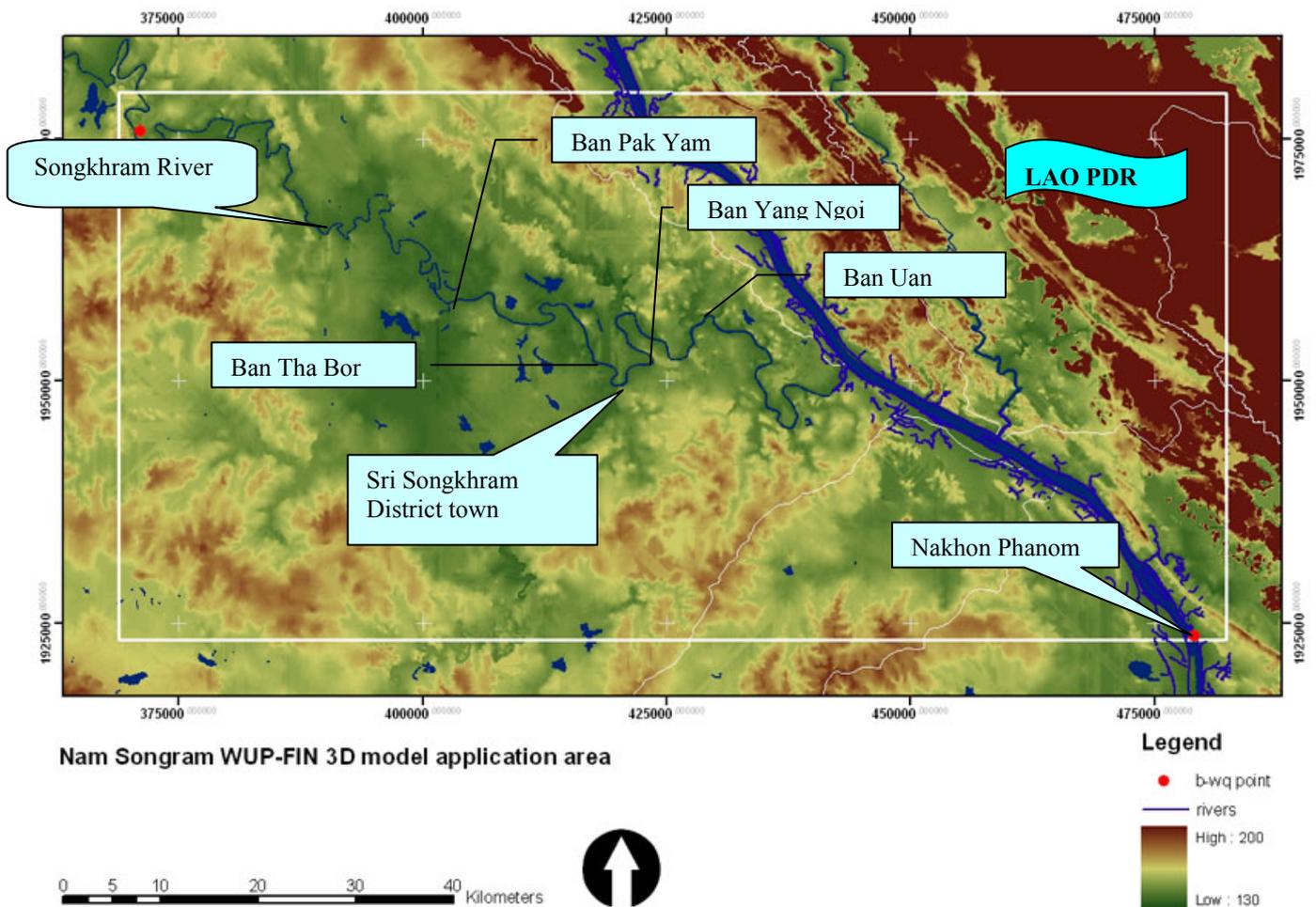
With these existing tensions and conflicts (evident or suppressed to outsiders' view) , it was considered important to use a neutral approach method to gain acceptance and trust by the various stakeholders involved. Hence, the systematic documentation of wetland biodiversity information, the community-based approach, the capacity-building for natural resource management and networking aspects of Tai Baan Research were stressed as being the main benefits expected to emerge initially. Local district and provincial agencies were keen for MWBP to start work in the area, realising their in-depth knowledge of the wetlands was sparse. Key agencies contacted at the provincial level were the Nakhon Phanom Natural Resources and Environment Office and the Nakhon Phanom Agriculture and Cooperatives Office, who both gave their full backing to the project.

On the other hand, some local NGOs and academics who had earlier been involved in the Nam Songkhram Project opposition movement, were just a little cautious at first about MWBP's motives, believing that MRC and IUCN were "pro-dam organisations" (Personal communication with Sakhon Nakhon Rajabhat University Lecturer, 3<sup>rd</sup> August 2006). To ease these concerns and include as much local involvement as possible, the Nakhon Phanom Environmental Conservation Club (NECC), a civil society organisation based in Nakhon Phanom, were recruited to provide guidance, training and advice to the project. In addition, the "Songkhram River Conservation and Rehabilitation Club", another local civil society formed by villagers was contacted and the Chairman – Mr Suriya Kotamee – subsequently became the Chairman of the Tai Baan Research Network for the Lower Songkhram Basin. The actual Tai Baan Research process was initially facilitated and guided by SEARIN staff, who were able to bring lessons learned from implementation at the three other sites where research had been conducted. In this way, a broad coalition of partner organisations were brought together and supported the principles and practice of Tai Baan Research in the LSB wetlands.

The actual communities originally involved in the Research were selected on the basis that they all were within Sri Songkhram District of Nakhon Phanom Province, each came from a separate Sub-District, all were situated next to the Nam Songkhram River and most importantly, the community leaders and villagers were all willing to join the Tai Baan Research, after first being taken on exchange visits between villages to discuss natural resource management and conservation issues of common interest . Thus, the following four villages decided to join the Tai Baan Research Network, which started in practice around mid-2003:

- Baan Pak Yam, Sam Pong Sub-District
- Baan Tha Bor, Tha Bor Songkhram Sub-District
- Baan Yang Ngoi, Sri Songkhram Sub-District
- Baan Uan, Hat Paeng Sub-District

(See Map of Lower Songkhram Basin below for Tai Baan Research village locations)



## The Evolution of Tai Baan Research in the Songkhram case

Participatory natural resource research based on local knowledge is a dynamic and at times, challenging undertaking (Baker, 2004). It requires time, patience, perseverance and flexibility on the part of the facilitators (outsiders) and researchers (villagers) to succeed. The villagers frequently do not work according to neatly arranged time slots, and the research activities must fit around their daily work schedules, not those of the facilitators. The facilitators must work closely with the village researchers, building up relationships based on trust and mutual respect (Baker, 2004; Vaddhanabhuti, 2005). It should be stressed that the village researchers are volunteers, freely deciding to join the research activities out of a desire to contribute their knowledge and learn from others'. This distinguishes it from other so-called "indigenous knowledge" research in the Lower Mekong Basin, where the villagers have been paid for their participation in activities.

From the experience of the Tai Baan Research carried out in the four villages between June 2003 to mid-2005, a number of clear steps can be identified, as shown in Box 2 below. They are not meant to be prescriptive steps, but act as a guideline only, as different locations and circumstances may find a slightly different approach works better. Part of the uniqueness of Tai Baan Research is that the villagers can both set the research agenda and the timetable, but obviously within limits and under the guidance and in cooperation with the facilitators (known as Research Assistants).

**BOX 2: SUMMARY OF BASIC STEPS IN TAI BAAN RESEARCH**

(Source: Adapted from Baker, 2004, quoted in Blake, 2006)

STEP 1: Generate interest in TB participatory resource research amongst local target communities by holding village meetings and conducting exchange visits

STEP 2: Generate ownership of TB research as a co-learning process, between local resource users and outside facilitators

STEP 3: Hold training workshop for Research Assistants to familiarize them with their facilitation role

STEP 4: Formulate specific research goals or issues to study based on local needs and interests

STEP 5: Set-up research schedules for each village and four village network

STEP 6: Initiate research – compile background information on each issue area, involving considerable group exchange and empirical observations from the field

STEP 7: First progress report – presentation of initial results, to local network and to TB researchers from other river basins to provide feedback and comments

STEP 8: Second Phase research – collect more detailed information on each issue area to fill in knowledge gaps

STEP 9: Encourage other related activities e.g. holding environmental awareness raising events or income generation activities from wetlands-derived products

STEP 10: Second Progress Report – consolidate research findings and present to diverse outside audience, including government and NGO officials

STEP 11: Third Phase of research – cross-check consolidated data, including verifying and editing draft reports

STEP 12 – Final progress report – Researchers present detailed findings on all issues to diverse audience of local and non-local stakeholders. Discuss and plan next steps in implementing local natural resource management and conservation

STEP 13 – Publish and dissemination of results to all interested parties in river basin, including schools and explore ways to integrate findings of research into local curriculum

## **A brief overview of research findings**

In the case of Songkhram, the Tai Baan Researchers chose to study the following research topics:

- Local ecosystems
- Fish species
- Fishing gear
- Flooded forest vegetation

- Floodplain agriculture and water management
- Raising livestock (cattle and buffalo)

The participating villagers split themselves into sub-groups, according to their individual research interests and further refined the specific research topics within each issue e.g. resource classification; livelihood importance; past trends versus current use and availability; marketing mechanisms; and cultural and social importance of the resource. Logistically, the villagers would meet regularly in their own villages to research and discuss each issue in sub-groups, and then would occasionally meet together between the four villages to exchange their findings.

First the researchers collected background information on each issue and then it would be discussed, agreed upon and recorded by the research assistants. Often the researchers and assistants would go out into the *paa boong paa thaam* or onto the river with fishers to collect direct specimens and record empirical evidence from the field. Specimens of fish could be photographed en situ, while plants could be dried, stored or mounted for later focal group discussions about the specimen's characteristics, properties, uses, seasonal changes, etc.

A vast amount of data was quickly collected, which would be consolidated and summarized for later presentation at Progress Report Workshops, held at intervals of 4 – 6 months. These Workshops fulfilled several important functions. Firstly, they were a chance to track progress of the research and feed it back to a diverse audience of researchers themselves, local and provincial government officials, various NGO and civil society representatives from across Thailand and MWBP staff employed in the regional and national project offices from the other three countries involved. Secondly, they allowed the village researchers themselves the chance to present the results of their research to outsiders, which not only immeasurably increased the local ownership of the Tai Baan Research, it also served to boost capacity and confidence of the villagers. This is an interesting role-reversal from the more traditional state-village relationship of villager as obedient listener and government official as teacher / lecturer doling out prescriptive treatments for “poverty alleviation” and “development”. Thirdly, they provided useful exchange forums where villagers could learn from the results of other sub-groups and hear constructive criticism or suggestions from the outside audience to help them focus future research efforts.

While Tai Baan Research was not primarily concerned with quantitative data collection, but tended to be more focused on qualitative data, there was nevertheless some useful quantitative information collected by the Researchers, which is summarised in Box 3 below. They did not, for example, collect data on household incomes or other socio-economic data, but much preferred to focus on biodiversity (including agro-biodiversity), spending many hours debating the ecology of some fish species, or the best time of year and location to find a particular mushroom species. Villagers tend to see the environment around them in a holistic manner and do not break everything into its constituent parts, as scientific knowledge frequently teaches. Their indigenous knowledge is by nature confined to a specific locality, area or set of ecosystems or, to borrow a popular phrase amongst social scientists, it is “situated knowledge” (Santasombat, 2003).

One area of particular interest, due to its conservation significance, where quantitative data was obtained and recorded, pertains to a fishery for the giant Mekong catfish or *pla beug* which still

exists to this day against all odds<sup>8</sup>. The Tai Baan Researchers compiled a list of *pla beug* catches annually from 1952 up to the present time, which shows there has been a gradual decline in catches over the past five decades, followed by a slight recovery post-1987 and then another drop in just the last few years (Tai Baan Research Network of the Lower Songkhram Basin, 2005b). According to local fishers, the *pla beug* are thought to be attracted to certain favoured spots to feed on the floodplain where a certain type of aquatic weed grows (*tao*) during the rainy season which may be acting as the equivalent of piscine “salt licks”. Villagers strongly believe that one of the main contributing factors to the decline of *pla beug* seen in the Songkhram River has been the construction of small dams and weirs which have blocked access to the feeding grounds of the fish at crucial times of year (Tai Baan Research Network of the Lower Songkhram Basin, 2005b). *Pla beug* caught in the past few years have been much smaller than in the past raising suspicions that the fish may be the results of stocking of juvenile catfish by the Fishery Department.

**BOX 3: Summary of some TB Research Findings from four villages**

(Source: Tai Baan Research Network of the Lower Songkhram Basin, 2005)

**Fish and other aquatic organisms**

Total number of fish species identified – 124  
Number of native fish species identified – 115  
Number of fish found in Songkhram river year round – 58  
Number of fish that migrate seasonally to and from Mekong – 57  
Number of “rare” fish species – 14  
Number of extinct or “endangered” fish species – 11  
Number of turtle species – 5  
Number of shrimp species – 4  
Number of mollusc species – 10  
Number of crab species – 4  
Number of edible aquatic insect species – 6

**Fishing Gear**

Total number of fishing gears identified – 79  
Number of traditional fishing gears – 71 (with 8 gears no longer used)  
Number of large-scale, commercial fishing gears – 8

**Local Vegetation from *paa bung paa thaam***

Number of plant species identified – 191  
Number of edible fungi species identified – 17  
Vegetation types were sub-divided according to different categories of local usage, e.g. edible foods; fish feed; livestock fodder; fuel; made into household implement; cultural or religious uses; herbal medicines; etc.

**Agriculture and home gardens**

Number of traditional rice varieties planted in past – 47  
Number of traditional rice varieties planted in present – 7 (almost entirely replaced by modern HYVs)  
Traditional knowledge and practices for forest-based agriculture has been almost entirely supplanted by modern, high external input systems of irrigated, monocrop cultivation

**Livestock – Cattle and Buffalo raising**

7 breeds of cattle and 2 breeds of water buffalo raised locally  
Approx. 50 % of households in each village own large livestock, which are extensively grazed on common land around the village and form an important component of local economy

**Ecology**

28 separate sub-ecosystems both aquatic and terrestrial were identified, according to local terminology, which could broadly be split into four distinct categories, based on relationship to floodplain and water features. In wet season, many sub-ecosystems disappear under floods which cover up to 1,000 km<sup>2</sup> of land surface, but emerge in dry season as the floods recede.

Another area of Tai Baan Research that has provided novel information, not hitherto available to outside researchers has been in the area of wetland classification according to indigenous knowledge. While the Mekong River Commission has done some wetlands classification of the Lower Songkhram Basin and distinguishes 16 wetland classes for Northeast Thailand (Blake and Pitakthepsombut, 2006a), the Tai Baan Researchers have recognised 28 different wetland habitats or sub-ecosystems locally<sup>9</sup> (Tai Baan Research Network of the Lower Songkhram Basin, 2005a). The Tai Baan Researchers broadly classified these into four classes, namely: Upper Floodplain; Lower Floodplain; features and habitats associated with *paa boong paa thaam*; and Riverine habitats. The detail in which the local villagers are able to describe and classify the landscape and ecology around them attests to their in-depth knowledge of complex ecosystems, which in many ways is similar to empirical scientific knowledge. However, local knowledge tends to be more holistic and based on experience (Vaddhanphuti, 2005). In early 2006, Thailand's Office of Natural Resources and Environment Policy and Planning (ONREPP) declared that it would like to propose the Lower Songkhram Basin as a future Ramsar Site, which would naturally raise the international profile of the wetlands considerably (Blake and Pitakthepsombut, 2006c).

### **How is Tai Baan being used? - Current status and activities**

*"At the beginning, the government did not recognize or understand Tai Baan Research, but after being involved in several meetings to exchange experience and learn about the research results, they started to accept it. I found that many government agencies have come to adjust their integrated management plans by relating to the Thai Baan Research outputs."* (Mr Jumphon Chang-in, Forestry official from Nakhon Phanom, Office of Natural Resources & Environment)

Once the Tai Baan Research had been conducted for two years and the results had been collated, verified by peer review amongst the Researchers and disseminated to a wider audience via various medias, including workshops and two publications in Thai language<sup>10</sup>, the next challenge was how to use the collective knowledge generated from the four villages for the purposes of improved wetland management within the Songkhram Basin, whether at the local or community level, or at the wider provincial or basinwide level. Primary goals of MWBP at the Demonstration Site level from the outset have been to strengthen capacity in integrated natural resources planning processes, especially at the Sub-District level; to establish community-based management at key sites; to identify and promote sustainable livelihood strategies; to strengthen networks of resource users; and to develop an education and awareness raising programme to address unsustainable resource use practices. To this end, the results and

<sup>9</sup> These are listed in Annex 6 of the Situation Analysis: Lower Songkhram River Basin by Blake and Pitakthepsombut, 2006.

<sup>10</sup> Although published in the Thai language, much of the actual research was conducted in the local Lao dialect and there are many references to such local language and terminology. There is an Executive Summary available in English on the MWBP website at [www.mekongwetlands.org/common/download/IUCNT\\_ThaiBaanResearch.pdf](http://www.mekongwetlands.org/common/download/IUCNT_ThaiBaanResearch.pdf)

lessons of the Tai Baan Research has informed and influenced the direction and decisions made in achieving these goals. To put it another way, by conducting Tai Baan Research as the main entry point in engagement of diverse actors and stakeholders in the LSB, based on empirical research by the resource users themselves, has allowed a strong foundation to be built by the project locally which has encouraged wider participation and credibility amongst partner institutions, than might otherwise have been the case.

As an example of how Tai Baan can inform and influence local decision-making concerning wetlands management, one could take the formation of Wetlands Committees at provincial and district level, in Nakhon Phanom and Sri Songkhram respectively. Both of these Committees have been established voluntarily by the respective Provincial Governor and District Chief, in partial response to the positive reaction locally and nationally to the published results of the Tai Baan Research, which have been seen as an accurate reference guide to the wetland resources of the LSB. As the District Chief of Sri Songkhram commented to the authors not long after he assumed his post, *“When I first arrived here I thought the floods were a natural disaster, but after reading the Tai Baan Research book, I realised that they were a natural occurrence. The book has helped me to appreciate what the local ecosystem is like, what the important resources are and how villagers use them”* (Mr Nakhon Khongnuan; personal communication, June 2005). The Wetland Committees are composed of key government agency representatives with roles and responsibilities in natural resource management in the LSB, plus invited representatives from NGO’s and civil society, including the Chairman of the Tai Baan Research Network for the Lower Songkhram Basin.

The findings of the Tai Baan Research are also a key component of the approach being used in assisting and training the Tambon (or Sub-District) Administration Organisations (TAO’s) in integrated natural resources and environmental planning and management, with a strong focus on the seasonally flooded forest. The TAO’s are being specifically targeted by MWBP for capacity building in natural resource management and planning processes, because of a clear mandate handed down from central government according to decentralisation initiatives under the 1997 “People’s Constitution”. Yet at the same time it is recognised that they have a very limited capacity to fulfill their mandate and have mostly struggled to implement more than local infrastructure development projects, many of which have further compromised local wetland integrity and biodiversity. According to one local NGO leader: *“The Tambon Administration Organisations tend to have very little knowledge and experience of natural resource management. They are excellent at digging canals and building roads, but still have no experience of what integrated development means.”*<sup>11</sup> Since early-2006, MWBP field staff who facilitated the Tai Baan Research, in collaboration with staff from the Thai Environment Institute (TEI), have been working closely with five TAOs in Sri Songkhram District to improve their capacity to plan sustainable local development projects, which take into account local knowledge, livelihoods and the unique characteristics of the wetlands ecosystem. The Tai Baan Research findings and certain local leaders amongst the Research Network have been instrumental in providing valuable input to the TAO’s.

In a similar way, the local Area Education Office in Nakhon Phanom, impressed by the Tai Baan Research, has requested help from MWBP in integrating the findings into the local curriculum which is now becoming a part of educational policy in Thailand, following decades of centrally-set curriculums with little relevance to the local context and setting. With the help of local

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<sup>11</sup> Comments made by Mr Laothai Nilnuan at an MWBP Demonstration Site partner feedback meeting in Sri Songkhram District, 21 May, 2005.

teachers and academic institutions, steps are now being taken to identify key messages and components from the Tai Baan Research which can be woven into curriculums tailored for different age groups. At the same time, work is underway to set up a “Local Learning Centre” in Ban Pak Yam, which will be both a living museum showcasing indigenous knowledge, culture and livelihoods, but will also be an important learning resource for local villagers, students and outside visitors.

Meanwhile, the Tai Baan Researchers themselves have started to feel empowered by the success of their research efforts and have been more active in pressing for local strengthening of community-based resource management rules, regulations and actions. There are two main areas in which the villagers have become more involved in conservation type activities. The first is community forestry, whereby villagers have either been nursing native tree seedlings and planting them out in community forest areas, or have been more clearly demarcating boundaries and tightening rules governing utilization. The second is fishery conservation activities. For example, several of the villages have tightened up the rules governing existing fish conservation zones (FCZ’s), while some villages have even established new FCZ’s or expanded old ones. The villagers negotiate their own rules and regulations on fishing, according to what they think is locally appropriate, but one of the outcomes of Tai Baan Research has been a resurgence in interest in the benefits of having an actively managed FCZ, and in the case of Ban Tha Bor village, they now frequently see fish species which were previously scarce in that stretch of river. This is not only as a result of forbidding fishing in front of the village temple for a 200 m stretch, but also from making the environment more fish-friendly by introducing artificial reefs of rubber tyres and tightly tied branch bundles to attract fish.

Buoyed by the success of the Tai Baan Research model in engaging local resource users and key local stakeholders in the LSB, MWBP decided to duplicate the approach at its three other Demonstration Sites in Cambodia, Lao PDR and Vietnam. Even though the social and political systems of each of these countries may vary, there are common threads and approaches which can be adapted to the local situation, to allow greater participation and bottom-up approaches in the development planning process at local levels. Hence, with the advice of the ex-Director of SEARIN who helped initiate the Tai Baan Research approach in Pak Mun, Rasi Salai and Lower Songkhram Basin communities, there are locally appropriate equivalent efforts now being piloted in Attapeu Province of southern Lao PDR and the Plain of Reeds in the northern part of Vietnam’s Mekong Delta. In the case of the Mekong mainstream of Stung Treng Province of Northeast Cambodia, which is also a Ramsar Site, a local NGO has been implementing “Salaphoum<sup>12</sup> Research” in cooperation with four villages for over a year with some promising results now starting to become evident. However, it is not just MWBP which is assisting local communities in implementing Tai Baan type research in the Lower Mekong Basin, but Chiang Mai-based SEARIN too has been actively working with communities on the troubled Salween River bordering Thailand and Burma, and the Mae Yom River around the Kaeng Sua Ten proposed dam site in northern Thailand. Along with the Chiang Khong Tai Baan Research on the upper Mekong, the findings of these various Tai Baan Research sites have been published in Thai language books and widely reported in the media, generating considerable interest amongst certain sections of society.

## **Where is it going? – the future**

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<sup>12</sup> “Salaphoum” has the same meaning as “Tai Baan” in Cambodian, although ironically the *lingua franca* of most people living in riverside communities of Stung Treng Province is Lao and so the meaning of “Tai Baan” is implicitly understood by local villagers.

*“Thai Baan research must work continuously with the government offices, while academic institutions and other relevant organizations should take advocacy roles in order to adapt and encourage this research, that provides the best opportunity in using grass-roots information for participatory management planning.”* (Mr Sansonthi Boonyothayarn, Chief of Provincial Agriculture & Cooperatives Office, Nakhon Phanom)

Now the Tai Baan Research concept has been widely field tested and found to be a valid and cost-effective methodology for natural resources assessment and data collection on specific issues, the challenge for the facilitating organisations such as SEARIN and MWBP must be, *“Where to go from here?”* While the capacity and ability of the community members and leaders who participated in the research has undoubtedly been raised, it is not to the point where the Tai Baan Researchers can form a viable independent group. In the case of the Songkhram, the communities are not under imminent threat of losing their homes, land and river-based livelihoods as they are on the Salween River or Kaeng Sua Ten. Neither was Songkhram Tai Baan Research a reaction in response to an existing state infrastructure project, as it was at Pak Mun and Rasi Salai. However, the threats on the Songkhram are insidious, widespread, multi-sectoral and almost as damaging as the more acute shock to riverine ecosystems associated with a large hydropower or irrigation dam across major Mekong tributaries or the mainstream itself. Some of the more conservation-minded villagers recognise this linkage and want to strengthen the Tai Baan Research Network to both exchange ideas with local groups (upstream especially) and at the wider national or even international level, acting as a kind of regional exchange network mechanism.

Thus, it is seen as a high priority to both facilitate greater exchange between Tai Baan Research groups (trans-basin and trans-boundary) and to work towards institutionalising the Tai Baan Research Network as a fully self-regulated civil society organisation that is able to access funds from donors independently. If these goals could be achieved, then the roles of external institutions would be greatly diminished, as the resource users themselves could be acting as frontline spokespeople, monitors and protectors of the important natural resource base found in the Lower Songkhram Basin.

## **Conclusions**

If any approach or methodology for promoting participatory natural resources management in the Thai context has the chance to succeed in the long term where many others have failed, it is Tai Baan Research. From its roots of struggle and opposition by local people to a large state-imposed hydropower scheme at Pak Mun, the Tai Baan Research Network has expanded and developed new roles, experiences and methodologies for participation and knowledge dissemination by diverse actors in the state and non-government sectors, to achieve wide recognition and acceptance in Thai society. High interest by the media and establishment of a broad coalition of partners and stakeholders, has helped in widely promoting the concept and practice of Tai Baan Research.

To summarise what Tai Baan Research is and is not as an alternative research approach, please refer to the Box below:

**BOX 4. *Thai Baan Research:***

- ❖ Is a research system that allows local resource users to set the research agenda and priorities
- ❖ Puts local people at forefront of research process and outsiders play the roles of facilitators, mentors and documenters of results and findings
- ❖ Goes beyond conventional approaches to participatory research
- ❖ Presents local ecological knowledge and livelihood linkages in a form and context which is easily understood by the resource users themselves
- ❖ Uses local languages and dialects as the main form of communication wherever possible, thus building “ownership” of research results
- ❖ Helps build networks and strengthen capacity of local resource users, both at intra- and inter-basin levels
- ❖ Can serve as a unifying force for traditionally marginalized groups and stakeholders, giving them a voice to the outside world
- ❖ Allows locally appropriate and informed management decision-making by local people, local institutions and external agencies alike
- ❖ Is relatively cheap and cost-effective to support for govt. and/or donor agencies
- ❖ Has potential to be introduced across all four Lower Mekong Basin countries and is adaptable to different local contexts, languages and cultures e.g. Karen groups in Salween Basin
- ❖ Is complementary to decentralization and integrated water resources planning initiatives

***Tai Baan Research is not:***

- A quick and easy approach to participatory research. It takes time and commitment on both the villagers and facilitators’ sides
- Applicable to all situations and locations regardless of context, unless there is a certain “enabling environment” in place
- A panacea for solving local natural resource conflicts, but is one tool which can be effective in allowing local people and outsiders to better understand and appreciate the relationships between ecosystems, livelihoods, society and culture

Tai Baan Research provides a clear demonstration of the close links between aquatic resources and local livelihoods, economy and culture, all of which have been consistently ignored or downplayed in past development decisions. Tai Baan Research also helps build capacity and awareness of local people to better manage their resources, through building active resource user networks locally and nationally, allowing them to interact and exchange with groups facing similar challenges in other basins, both in Thailand and now in Cambodia too. Hence, Tai Baan Research is more than just participatory resource research at the local level, but provides an opportunity to link issues across a wider spectrum of resource users and actors than has previously been possible. Such approaches may offer local authorities and more senior government planners and policy makers new options with regards to sustainable development and conservation of Mekong Basin wetlands, based on a more inclusive, holistic mix of scientific and local knowledge. The challenges facing the Mekong Basin are significant and complex, but not insurmountable with adoption of new approaches to development which acknowledge past mistakes; are more transparent, equitable and sustainable, while putting a more realistic value on the cultural, societal and environmental heritage of the wetlands-based communities.

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