

## Thai Baan Research: An Overview

## FOREWORD

Local knowledge has long been the subject of interest among scholars as well as practitioners of development, but collecting local knowledge for later dissemination has always been in the hands of outsiders who claim to have certain capabilities to understand it. In most cases, local villagers often played a secondary role, treated as informants or respondents during the investigation. Despite the increased interest in local knowledge in development circles, it is often treated as inferior to scientific knowledge. The latter is often seen as superior and the key to solving villagers' problems.

The Thai 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. It reflects their practical understanding of the complexity and dynamics of natural resources, the way resources have been used, and the moral economy of those who depend on them for their livelihoods. For the Pak Mun villagers who tried many ways to voice their concern and register their grievances about the environmental, economic and social impacts of dam construction, the Thai Baan research is means and another phase of their contested development. Their intention was to represent their own “social reality” which has largely been neglected or ignored. This type of research is meaningful for them because they can take control over the process and “write” their own story on how they perceive and interact with their environment and how to coexist harmoniously with it.

Thai Baan research is more than conventional participatory research. Villagers chose what they wanted to study and their communities decided who were to be members of the research team and key informants. They collected data as they went about their everyday life: fishing, making fishing gears, selling their catch, collecting plants and vegetables, and preparing food for Buddhist monks. Outsiders worked with them as advisors, research assistants and helped write and edit their report. The Thai Baan villagers are the authors of their own research.

SEARIN supported the Pak Mun villagers during the research so they could tell their version of their social reality. With empirical data collected by those who know the interconnection of the diversified Mun River ecology, fish species, seasonal migration, plants and vegetables and their sustainable livelihood, it is hoped that Thai Baan research demonstrates the social reality which was previously simplified and misrepresented. We hope the Thai Baan research will empower the Pak Mun villagers by telling their story to the public. We also hope that their truth will bring better environmental justice to Thai society.

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## Introduction

Local people have often found it difficult to be part of formal discussions on development planning. Consultation has frequently been superficial and only during the final stages of implementation. While they have regularly been sources of information, it is only rarely they have had any influence in designing the research processes, or contributing to analysis and decision-making.

Recently, there has been considerable interest among researchers and development planners for local knowledge and participation; however, it is striking that the vast majority of this research has been undertaken as an extractive research activity where once again local people are sources of information – rarely involved in final analysis and presentation. This has led to misinterpretation and misrepresentation of local interests.

Traditional research methods addressing natural resources and livelihood issues are sometimes limited. This is all the more common for complex river-based ecosystems and local economies that do not fit established thinking. These ecosystems support a wealth of biodiversity and natural resources, subject to dramatic seasonal changes of flood and recession. The complexity of local livelihoods is not fully appreciated and there is often a focus on one particular feature of local livelihood strategies. Thai Baan research illustrates that rural livelihoods are based on the combined use of a wide range of resources adapted to seasonal changes. While development interventions have largely focused on rice farming, Thai Baan reveals the importance rice farming as a component of diverse, integrated livelihood strategies.

It is often assumed that local knowledge is somehow different than scientific knowledge, and it can only be credible once it has been verified by scientists. While there are differences between local and scientific knowledge there are many similarities. Like scientific knowledge, local knowledge involves empirical methods, gathering information, analysis and interpretation. However, local knowledge is often more holistic and based more on experience. In this way, Thai Baan research strengthens local people's capacity to analyse challenges and solve their own problems. As such, Thai Baan provides a platform for local people to better participate in decision-making processes and for these processes to be better informed, allowing a broader range of ideas and interests to be represented.

The Thai Baan Research carried out in Thailand demonstrates the capacity of local people to undertake a wide range of research activities and document the close relationship between rural livelihoods, culture, and complex river-based ecosystems. The research was a platform for local people to share experience and local wisdom as a means to deal with the natural resource management dilemmas they now face.

The implications of this research go further. Experience in development and natural resources management – particularly when it is concerned with dynamic river ecosystems – has shown the importance of a holistic understanding and integrated management approaches. These approaches depend on a high degree of local participation during all stages of planning and decision-making. Such participation has often been lacking and decisions made without full consideration of their social and environmental implications resulting in missed opportunities for sustainable river management based on local wisdom and experience.

Thai Baan research offers a way forward for local people's wisdom and experience to be the cornerstone of natural resource monitoring and assessment, and for local people to take a leading role in local sustainable development.

This paper presents a background to the Thai Baan research carried out over the last four years at six sites in Thailand: Pak Mun River, Rasi Salai in Mun River Basin, Lower Songkhram River Basin, Salween River Basin, Chiang Khong along the Upper Mekong, and Kaeng Sua Ten in the Yom River Basin. Detailed information on each site is contained in the individual reports at the end of the paper.

### **Establishing And Training The Research Teams**

The first Thai Baan research was undertaken at Pak Mun and other villages were interested to learn how the methods could be adapted and applied in their situations. Although there are some differences in how Thai Baan research was carried out and issues the research addressed, the methods and process, including the establishment of the research teams, remained similar at each of the Thai Baan research sites. Villagers met to discuss the benefits that Thai Baan research could provide and during informal talks, discussed why they wanted to undertake Thai Baan research. This helped clarify research goals and objectives, and created a common sense of purpose among the villagers.

During the first village workshop, villagers decided which among them were interested in becoming involved in the Thai Baan research and the important issues the research should address (e.g. ecosystems, fishing gear, plants and vegetation, river bank agriculture, livestock in wetland areas [particularly buffalo and cows], traditional water management, wildlife and insects [in Salween and Kaeng Sua Ten], and social and cultural issues). Within the same workshop, the membership of the research teams was established. Teams of Thai Baan Researchers (TBRs) were selected to focus on each issue. Some members were selected because of their special knowledge and became core researchers while interest and availability were criteria for other members.

Research Assistants (RAs) – a combination of village young people, NGO workers or volunteers from universities – also joined as research team members. Their main responsibilities were to help coordinate fieldwork, documentation (e.g. collecting samples, taking photographs), arranging regular meetings, and assisting in field research.

At least three workshops were held for the research teams during the 12 months of research. In these workshops, teams presented, discussed and commented on findings. Additionally, the workshops allowed the teams to discuss methods and logistics, and to suggest ways to improve the process. These workshops were held at convenient times so that Thai Baan researchers from other sites could participate.

In each of the Thai Baan research areas, all villagers were welcome participate. In particular, women's participation was important because their knowledge about food and health was extensive. In Salween, the original teams comprised mainly men as the villages were far apart and it was easier for men to travel. However, women gradually became involved and proved to be an essential source of important information. The exchange of experience and ideas among the teams was an important step in introducing and strengthening the Thai Baan approach.

Training TBRs and RAs was led by a combination of NGO workers and experienced members from other Thai Baan research teams. For example, research teams looking at fish agreed on tools for collecting data, local names of species and whether they are commonly found or rare or endangered, migration patterns, habitats, spawning grounds, and differences between local and introduced species. There was also training on data collection methods and documenting field research.

Throughout the process, RAs prepared draft reports for comment by the research teams. The RAs were also involved in special training on organising information, writing skills, photography, and made regular field visits to Thai Baan research areas. As the research progressed, the draft reports from each of the teams were compiled as main reports that were further discussed at interim workshops. The final reports were presented at the final workshops. Academic researchers, government officials, journalists, NGOs and other interested people were invited to participate and comment on the research findings at each workshop.

### **Fieldwork**

Thai Baan research is based on empirical methods – collecting data, documentation, analysis and peer review – and grounded on traditional Thai values of cooperation so fieldwork was undertaken as a communal activity. Teams organised the logistics and combined research activities with celebrations of eating and merrymaking (*kin khaow ba*). Collecting data, discussing and learning were social activities that helped build a sense of community.

All the findings are supported by evidence including specimens, samples, and photographs. Social and cultural information was gathered during group discussions with all villagers including headmen, fishers, farmers, traders, teachers, local ‘taxi’ drivers, and small business owners. Representatives of village and sub-district committees also participated. This ensured that where there were development conflicts within the villages, they could be addressed and resolved. It also ensured the research had credibility with all local stakeholders and not perceived as belonging to a single group.

Each research issue was discussed by at least 20 people. Through experience, it was found if the number addressing each issue was less than 20; it was difficult to have productive group discussions. Peoples’ availability to participate in research activities and discussions depended on their other commitments, and so larger groups proved to be more practical. During group discussions it was found necessary to have no fewer than ten people participating, particularly when the topic was fish, given the large number of species in each research area and slight differences between the species.

Data collection involved field surveys, mapping, specimen collection, and photography. During field trips, TBRs added supplemental information about the issues for the RAs to record. For example, while collecting information on river bank agriculture, TBRs demonstrated agricultural practices and this allowed RAs to ask more detailed questions and record more complete information.

Interviews with key informants, sometimes not on the research team, also provided important information. For example, elders had knowledge of traditional fishing gears that are no longer used. RAs joined the interviews and recorded the information.

### **Summary Of Findings**

Thai Baan research illustrates the close relationships between ecosystems, livelihoods and local culture. Each of the research teams identified a number of ecosystems in their local language, and explained the importance and inter-relationship of these ecosystems to the other natural and social components (Table 1). Thai Baan identifies a complex understanding that is not always captured in currently available scientific information. For example, 27 wetland ecosystems were identified in Songkhram, over 20 in Pak Mun and 12 in Rasi Salai. Each of these ecosystems has specific characteristics and used in very particular ways by local people.

River/area	Number	Sub-ecosystems
Pak Mun	19	Kaeng, Khum (Khum Din, Khum Hin), Wang, Wuen, Don (Don Kaew, Don Hin, Don Din), Kan (Kan Kaeng, Kan Klang Wang), Tham, Hew, Bung, Bok Hin or Kra Bok Hin, Taad, Lhum Hin, Huu, Paew or Pong, Kon, Sarng,
Rasi Salai	12	Non, Hong, Nong, Lueng, Maab, Kud, Huay, Wang, Haad, Nam Jan, Nam Sub, Bor Klua
Chiang Kong	10	Pa, Kok, Don, Haad, Rong, Long, Nong, Jam, Nam Huay, Rim Fang
Songkhram	27	Nong, Huay, Pak, Say, Haad, Bung, Taam, Kuy, Kud, Kaeng, Hong, Sum, Kum, Som, Doom, Sok, Sarng, Nam Jan, Tong, Don, Non, Kok, Ba, Dong, Pone
Kaeng Sua Ten	16	Wang, Haad, Kaeng, Tham, Long, Lang, Don, Huay, Buak, Pong, Pa Peung, Pa Pae, Pa Lao, Lom
Salween*	23	Kae, Klo, Gui (Gui Po, Gui Pha Doe), Lue (Lue Pu, Lue Cha La), Ja-kae, Ti Ja Ra, Ti Pa Dae, Mae Wa Ko, Mae Meu Ko, Nho, Tea Lor Su, Tea Lor Jor, Tea O Klue, Wei Gyi, Nor Ou Ru, Tea Nue, Si Kor Tha, Tea Sa Nue, Tea Wor, Tea Yon Kui-a Lae, Tea Ka Ti

**Table 1:** Sub-ecosystems (\* Initial)

This understanding of local ecosystems is significant. For example, one of the obstacles to wetlands management has often been presented as a lack of understanding among local people of the importance of wetland systems. In many ways this is a problem of language. Although the term 'wetland' may not be well understood, the types of ecosystems that could be classified as wetlands are very well understood. Indeed, the Thai Baan research reveals a more sophisticated and detailed classification of wetland types than used by wetland specialists and planners.

The knowledge of fish species, habitats, migration patterns, and breeding and spawning, provides the most detailed body of knowledge currently available. Obtaining this level of detailed information on fisheries in the Mekong Basin has been a major challenge for fisheries researchers and regional organisations. The very nature of the fisheries and the number of ways people use the fisheries have presented challenges for fisheries agencies trying to assess production value in the Mekong Basin. Thai Baan demonstrates the potential that local people have for taking on the responsibilities of regular assessment and monitoring as a basis for local management.

There was limited information available about the Salween River Basin prior to the Thai Baan research. What was available consisted of lists of fish species but these proved to be less extensive than provided by the Thai Baan research. Thai Baan in the Salween illustrated which fish species are important and which species were rare (Table 2). Many species found in the Salween are different than those found in other areas of the Mekong Basin.

River/area	Number	Native and Short-distance Migratory	Long-distance Migratory	Endangered/rare
Pak Mun	129	25	104	
Rasi Salai	112	79	33	
Chiang Kong	88	32	56	14
Songkhram	97			
Kaeng Sua Ten*	57			23
Salween*	70			

**Table 2:** Fish Species (\* Initial)

The diversity of fishing gears found in each of the Thai Baan research sites (Table 3) illustrates the sophistication of local knowledge of feeding, migration, breeding and spawning habits. Much of the gear used in the Thai Baan sites targets particular species or species groups and habitats, and are used at specific times of the year depending on water levels, flows and water quality.

River/area	Number	Comments
Pak Mun	75	During dam gate closure, 30 gears could not be used
Rasi Salai	54	During dam gate closure, only 11 gears were used. After dam gates opened, 46 gears can be used. Two gears are no longer used.
Chiang Kong	71	
Songkhram	85	
Kaeng Sua Ten	6	initial
Salween	23	initial

**Table 3:** Fishing Gear

Thai Baan also reveals important cultural values and social bonds. An important example of traditional social and economic relations of reciprocity between people using different resources in Songkhram, Pak Mun and Rasi Salai is the bond of 'seow' whereby people who are either predominantly fishers or rice farmers have, over generations, created a bond of friendship and exchange rice and fish ('*khaow laek pla, pla laek khaow*'). Farmers fish from the river several days using fishers' boats and gear and in the same grounds, staying in the same temporary shelters, eating together. Fishers wanting to exchange fish for rice do so with their 'seow' or relatives of their seow. Without a seow it is difficult to make these exchanges in other villages.

### Implications

Thai Baan research generated a wealth of information – much of which is not available from other sources or easily accessible to outside researchers. This provides important baseline data for natural resource management, assessment and monitoring in the research sites. This information makes it possible to make informed decisions about local development and natural resource management and is important for local development institutions (e.g. Tambon Administration Organisations), local schools and government officials.

By participating in Thai Baan research, villagers were able to establish networks within each area and other research sites where previously they had no interactions. Villagers gained a greater understanding of common interests and concerns beyond their immediate local context.

Thai Baan research allows villagers to present their interests and concerns based on sound data that has credibility with decision-makers. Villagers are able to explain the importance of their natural resources for their daily lives, their cultural well being, and the importance of maintaining the integrity of their resource base. The Thai Baan research provided a platform for local people to represent their interests and concerns to a wider audience including academics, journalists, students, government officials and the general public. Involvement in Thai Baan has allowed villagers to address their resource use conflicts and begin to solve some problems. For example, in Songkhram, a long-standing concern about over-fishing and resource degradation has begun to be addressed by local people. Local people have gained a better appreciation of the impacts of various fishing practices and are now in a position to address these problems.

Restoring traditional resource management practices and passing this knowledge on to young people in the local communities is an important element of the research. Thai Baan has generated renewed interest in local culture and history among young people, and provided input to the development of local curriculum.

Thai Baan is an ongoing process of learning and exchange. The first round of research has been completed and the first set of research reports prepared. The interest now is in how this research can be applied. Thai Baan has considerable potential for regular monitoring and assessment of river ecosystems. The scale and complexity of these ecosystems presents serious challenges to government agencies and research institutes who often undertake these responsibilities without the participation of local people.

## **Individual Site Reports**

### **Chiang Khong along the Upper Mekong**

The research, conducted by 146 village researchers from 13 riverside communities in Chiang Khong and Wieng Kane district of Chiang Rai province, found the Mekong River at Khon Pi Luang Rapids hosts a complex riverine ecosystem, consisting of 10 sub-ecosystems (Table 1). Some of these sub-ecosystems are vital habitats and spawning grounds, as well as important fishing grounds. A sand bar that emerges during dry season is also a habitat and breeding ground for many bird species such as the Great Thick-Knee.

The rapids are habitat for fish like *Pla Kae* and *Pla Kod*. The research found 99 fish species in the Mekong within the research area. Among these, 88 are native (39 without scales and 49 scaled); while 11 are alien species and 14 are rare.

Of 201 plants recorded by researchers, 153 grow in the sub-ecosystems. These plants are used by the villagers in many ways including as food, herbal medicine, and for making fishing gears. One of the most important plants is *Kai* or Mekong seaweed. *Kai* is important in local economy, especially for women who earn income from its collection. Moreover, *Kai* is also an important food fish.

The research found there are 71 traditional fishing gears used by the local fishers although 9 of them are no longer used. Local fishers are organized into groups, sharing “*Lang*” or fishing ground which is considered as common property of communities. Each *Lang* has rules which fishers must follow.

During dry season, emerged sand beach and sand bar are riverbank gardens for the villagers. Many vegetables (e.g. soy beans, cabbage, lettuce, and corn) are grown on this seasonal agricultural land. The land used for riverbank gardens is also common property, shared among villagers. Each year the emerged land varies in area, but always managed by the villagers. Unusual water fluctuation in the Mekong and riverbank erosion during the dry season of 2003 destroyed many gardens, especially in Baan Don Ti.

The research suggests that changes in the Mekong River caused by Upper Mekong development have affected local livelihoods in many ways. During the last few years, changed waterways, bank erosion, and water fluctuation, have reduced the fish population and *Kai* production.

### **Pak Mun River**

The Pak Mun Dam was built in 1990 by the Electricity Generating Authority of Thailand, with support from the World Bank. It was considered as a means for development for Pak Mun villagers and Thailand as a whole. However in the eyes of the villagers, the dam is seen as an obstruction to their own pursuit of development and has destroyed their livelihoods and ruined their path for development.

The construction of the dam impeded fish in the Mekong River from migrating upstream to the Mun River to spawn. As a result, diversity and fish populations in the Mun River decreased dramatically. When the dam was built, villagers found only 45 of 265 fish species indigenous to the Mun and Mekong rivers remained in the Mun River in the Pak Mun area. To demonstrate the impacts of blocking the flow of the Mun River caused by the dam, the villagers requested the government to open the sluice gates for a year to assess the dam's impact on the fisheries and livelihoods. The Thai government agreed to open the dam gates on June 14, 2001 for four months and conduct studies on fisheries, social impacts and electricity supply. In December 2001, the government agreed to keep the dam gates open through June 2002.

Convinced of the correctness of their own perspective, villagers affected by the dam expressed interest in conducting their own research. The villagers established a research program known as *Ngan Wijai Thai Baan* or *Thai Baan Research* (*villager research*).

The research found that before the Pak Mun Dam was built, the Mun River was one of Thailand's richest, supplying the entire northeastern region of Thailand with plentiful natural resources. The Mun River, the largest tributary of the Mekong, originally provided habitat for 265 fish species. It hosted a complex riverine ecosystem of rapids, islands, channels, underwater caves, eddies, pools, and seasonally flooded forest.

Villagers found that opening the dam gates for one year had dramatic impacts, bringing much of the fishery and associated ecosystem back to life. Village researchers found that 129 species of fish returned to the Mun River. The return of fisheries revitalized the local economy. Small businesses earned more income and the opening of the gates encouraged villagers who had left the community to work as wage labourers to return home. Some returned with their families.

Thai Baan research found that fishers in the Pak Mun area use more than 100 fishing methods. Among the 75 types of fishing gears, more than 30 were not used when the dam gates were closed because the ecosystem was not suitable.

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. The livelihoods of the Pak Mun villages include their culture, traditions and communal values. The research uncovered a delicate and interwoven relationship between Pak Mun villagers and the natural ecosystem of the Mun River and illuminates the Pak Mun struggle with the facts, understanding, knowledge, and livelihoods of the villagers—the people who are affected directly by the presence of the Pak Mun Dam.

If the developers had followed a process of consultation like the *Thai Baan* research at the early stages of project design—the waste of money, losses to livelihoods, and political conflicts might have been avoided and that this would have been to everyone's benefit.

### **Rasi Salai in the Mun River Basin**

The research was conducted by 36 communities affected by the Rasi Salai Dam and found that the seasonally flooded forest, or *Pa Taam*, in Rasi Salai is one of the most fertile areas in the middle reaches of the Mun River. The complex ecosystem, according to local knowledge, comprises 12 sub-ecosystems. With seasonal flood, 250 plants species grow in the area. These plants are used for food, herbal medicines, and animal feed. During the wet season, inundated shrubs become fish habitats and spawning grounds. The research found 115 fish species. The fish is for household consumption, traded for rice and salt, and income. The research found that there are 48 traditional fishing gears used by local fishers.

The fertile land left after the seasonal floods is used for grazing cattle. Cattle provide economic security for villagers because they can sell them when they need cash. It is obvious the seasonally flooded forest is important to these 36 communities. Villagers use the forest in many ways all-year round. The sediment from the floods fertilizes the land where villagers grow rice and vegetables. The research found that there are 15 native rice species and 45 types of vegetables grown on the farms. During the dry season, there are about 150 saline sources, some which provide salt for household consumption, or traded for rice and fish. Families without agricultural land can make a living from salt production.

### **Salween River Basin**

The Thai Baan research conducted in the Salween River Basin along Thai-Burmese border was conducted by Karen-Thai villagers from 102 communities where the Salween dams are planned. These Karen-Thai villagers (many without Thai citizenship) are an ethnic minority that have lived in the area for generations. A decade ago, the Salween forest was declared a National Wildlife Sanctuary and National Park, prohibiting people from living in the preserved forest.

The research found the Salween River and its tributaries are a habitat and spawning ground of more than 70 fish species. Fish are an important source of protein for villagers in this remote area.

In the hilly forest, there are more than 300 plant species used as food and herbal medicine. The villagers practice rotational high-land rice farming and grow 55 native rice species and over 200 native vegetables for household consumption. In the valley, villagers practice wet-rice farming in paddy fields and use traditional water management to irrigate their rice paddies.

The research found in this remote jungle, Karen people living in harmony with nature. The river and forest provide everything they need; food, cloth, and herbal medicine. There is a deep respect for their natural resources with many ceremonies held every year to pay respect to Mother Nature. "Drink water, save water; live in the forest, save the forest." This, the elders have taught their children.

### **Lower Songkhram River Basin**

During rainy season, the water from the Mekong expands the seasonally flooded forest to 5-600,000 rai. In the dry season, there are 27 sub-ecosystems. The research found there are 208 species of plants used by the villagers for food, herbal medicine, and raw materials.

The rich ecosystem of the Songkhram River and its seasonally-flooded forest provide habitat and spawning ground for 136 fish species. Fish is the main source for animal protein for the local communities. It was found that Songkhram fishers used 49 types of traditional fishing gears.

During the dry season, villagers cultivate rice and vegetables on the rich flood plain. The research found 77 rice species and a large number of vegetables, securing livelihoods and income for the villagers. Moreover, the Songkhram area is fertile grazing field for cattle. Raising cattle is a main activity for generating income for local communities.

The research concluded that local livelihoods depend on the rich natural resources of the seasonally-flooded forest. The fertile ecosystem is security for the local communities.

## **Kaeng Sua Ten in the Yom River Basin**

The Thai Baan Research at Kaeng Sua Ten was conducted by 120 villager researchers from four communities living in the Mae Yom Forest (with one of the largest remaining stands of golden teak in Thailand) along the Yom River. It is planned to construct the Kaeng Sua Ten Dam here.

The research found the Mae Yom Forest to be very fertile with a rich biodiversity. The researchers determined there were two ecosystems, riverine and forest. The riverine ecosystem consists of many sub-ecosystems like streams, rapids, and beaches. These complex sub-ecosystems are habitats and spawning grounds for 58 fish species and other animals.

The forest ecosystem hosts various species of tree and plants. The research found 270 tree species, 134 herbal medicine plants, 44 edible wild plants, 36 edible vegetables, 27 mushrooms, and 7 bamboos. These non-timber forest products are vital for local villagers for food and herbal medicine, household consumption and sale in local markets.

The healthy forest is also the home of 31 wildlife species, including peacock, which is extremely rare and is found in only two Thailand forests. Twenty-eight insects that live in the forest is also villagers' food.

Foods from the river and forest are important not only for the Mae Yom villagers, but also for those from other areas. These products help generate income for the local economy, creating security for the villagers. The villagers have been trying to maintain traditional natural resource management to use them in sustainable ways.