

# **Coastal Resources Management for Participatory Conflict Resolution in Songkhla Lake: A Case Study of Tha Sao Community, Singhanakhon District, Songkhla**

การจัดการทรัพยากรชายฝั่งเพื่อแก้ปัญหาคความขัดแย้ง  
แบบมีส่วนร่วมในทะเลสาบสงขลา :  
กรณีศึกษาชุมชนท่าเสา อำเภอสิงหนคร จังหวัดสงขลา

Received: December 8, 2022

Revised: February 21, 2023

Accepted: March 27, 2023

*Narit Doungsuwan*<sup>1</sup>

*นฤทธิ์ ดวงสุวรรณ*

*Usman Whangsani*<sup>2</sup>

*อุสมาน หวังสนิ*

## **Abstract**

This participatory action research (PAR) aimed to examine the conflict situations over coastal resource utilization and propose participatory strategies for managing the coastal resources to solve the conflicts in Songkhla Lake. Data were collected through questionnaires, group discussions, and public hearings

---

<sup>1</sup>Institute for Peace Studies, Prince of Songkla University, Thailand

สถาบันสันติศึกษา มหาวิทยาลัยสงขลานครินทร์ ประเทศไทย

<sup>2</sup>Institute for Peace Studies, Prince of Songkla University, Thailand

สถาบันสันติศึกษา มหาวิทยาลัยสงขลานครินทร์ ประเทศไทย

Corresponding Author: Usman Whangsani

Email: usman.w@psu.ac.th

from fishermen, community organizations, The Thai Sea Watch Association, and related agencies. The research findings indicated that the fishery resource conflicts in Songkhla Lake mainly resulted from illegal fishing incursion into conservation areas by employing illegal and destructive fishing tools. They could be resolved at two levels: conflicts among the locals need mediation as a resolution, while conflicts between the locals and the state can be addressed by strictly adhering to the law, resolving disputes through mediation before litigation, and making joint agreements that define the areas for fisheries co-management, such as conservation zones, voluntary fishermen, and resource restoration activities. Knowledge and information support on management should be provided, and the community should be involved in consulting, planning, and creating agreements or regulations.

**Keywords:** participatory conflict resolution, coastal resource, Songkhla Lake

### **บทคัดย่อ**

การวิจัยเชิงปฏิบัติการแบบมีส่วนร่วมนี้มีวัตถุประสงค์เพื่อศึกษาสถานการณ์ความขัดแย้งในการใช้ประโยชน์จากทรัพยากรชายฝั่งและเสนอแนะแนวทางการจัดการทรัพยากรชายฝั่งในการแก้ปัญหาความขัดแย้งในพื้นที่ทะเลสาบสงขลา โดยการใช้แบบสอบถาม การสนทนากลุ่ม และการจัดเวทีรับฟังความคิดเห็นจากชาวประมงพื้นบ้าน องค์กรชุมชน สมาคมรักษ์ทะเลไทยและหน่วยงานที่เกี่ยวข้อง ผลการวิจัยพบว่า สถานการณ์ปัญหาความขัดแย้งด้านทรัพยากรประมงในทะเลสาบสงขลา มีสาเหตุหลักมาจากการฝ่าฝืนบุกรุกทำประมงในเขตอนุรักษ์ การใช้เครื่องมือประมงที่ทำลายล้างและผิดกฎหมาย

**ID: 265068**

***Social Sciences***

ทำให้เกิดความขัดแย้งในการทำประมงของชุมชน มีแนวทางการจัดการแก้ปัญหา 2 ระดับ ได้แก่ 1) ความขัดแย้งระหว่างชาวบ้านกับชาวบ้าน ให้มีการเจรจาไกล่เกลี่ยข้อพิพาทระหว่างกัน และ 2) ปัญหาความขัดแย้งระหว่างชาวบ้านกับรัฐ ให้มีการเข้มงวดในการใช้กฎหมาย ไกล่เกลี่ยข้อพิพาทก่อนดำเนินคดี จัดทำข้อตกลงร่วมกัน กำหนดพื้นที่จัดการประมงร่วม เช่น เขตอนุรักษ์ ประมงอาสาและกิจกรรมฟื้นฟูทรัพยากร โดยมีข้อเสนอควรสนับสนุนข้อมูลและองค์ความรู้ด้านการจัดการ และให้ชุมชนมีส่วนร่วมในการปรึกษาหารือ ทำข้อตกลง วางแผนหรือกำหนดกฎระเบียบร่วมกัน

**คำสำคัญ:** การจัดการความขัดแย้งแบบมีส่วนร่วม ทรัพยากรชายฝั่ง ทะเลสาบสงขลา

## **Introduction**

Songkhla Lake is Thailand's largest brackish water lagoon located on the eastern side of the southern region, covering a total area of 1,042 square kilometers across Songkhla, Phatthalung, and Nakhon Si Thammarat. Songkhla Lake is divided into three main areas. The first part is called the upper lake which is on the northwest side of the lake, located in Phatthalung. The second part is a central body of water called the “high seas”, with an area of about 831.26 square kilometers. The third part is the southernmost tip called Songkhla Lake or Lower Lake, which spans an area of 182.34 square kilometers. The water conditions are both brackish and salty. It ranges from the mouth of the lake (Hua Kao Daeng) to the strait of the estuary that connects to the central lake (Office of Natural Resources and Environmental

Policy and Planning, Prince of Songkhla University, Thaksin University & Songkhla Rajabhat University, 2005).

The differences in the ecosystem of Songkhla Lake have contributed to its rich biodiversity over time. There is a wide variety of aquatic animals, including freshwater, brackish, and salty. A survey conducted in 1985 identified over 770 species of aquatic animals and plants in Songkhla Lake. In 1998, there were more than 500 species of fish, including brackish and freshwater fish along with approximately 30 species of shrimp, and 20 species of peacock mantis shrimps, serrated mud crabs, and squids. According to the latest survey, the aquatic animals in Songkhla Lake encompass a diverse range of species, including fish, serrated mud crabs, shrimps, mantis shrimps, squids, and shellfish, totaling 720 species. Of these, 465 species are fish (Marine and Coastal Resources Research Center, 2009). Because of the abundance of Songkhla Lake, fishing has become the primary occupation for many people residing in the surrounding areas. Their important tools and equipment used in fishing include Pong-Pang, a standing trap (Sai-Nang), and a surface gillnet. Fishing is carried out using a variety of fishing tools throughout the lake.

Tha Sao Community is a coastal community in Songkhla Lake, where fishing is the main local occupation. Various fishing methods are used in this community, including surface gillnets, standing traps (Sai-Nang), Pong-Pang, and cages for raising seabass. Due to the limited fishing areas and the high number of fishermen in the community, destructive and illegal fishing tools have been used, causing a significant reduction in fishery

resources. As a result, conflicts have arisen in the fishing areas, and the use of such destructive tools also leads to disputes in the community. Therefore, discussions have been held to manage the fishing conflicts and to build sustainability in the coastal resource management in the community.

This research was conducted in a community on the lower side of Songkhla Lake. A case study was used to examine conflicts and fishery conflict management at both community and local levels. The study adopted participatory action research (PAR), an investigative process that involves the affected people in four steps: planning, action, observation, and reflection. In the first step, planning, the target community was explored to analyze and identify problems requiring resolution through community feedback solicitation. The action step involved investigating information and presenting the gathered data to establish problem-solving strategies. This was followed by the next step, observation, where the activity was monitored, and data was collected for analysis. The data was then used for reflection and evaluation of creating participation, understanding the current situations, finding a way out for the community, and proposing appropriate resource management to address conflicts.

## **Objectives**

1. To investigate the conflict situations in the coastal resource utilization in Songkhla Lake
2. To propose participatory strategies for coastal resource management to resolve the conflicts in Songkhla Lake

## **Literature Review**

In the study of coastal resource management in the lower Songkhla Lake area, the concepts related to conflicts, conflict management, Songkhla Lake, and coastal fishery conflict management, and other related research studies on fishery conflict management were reviewed as follows:

### **1. Conflict and Conflict Management**

Conflict is typically perceived as a circumstance in which distinct factions encounter difficulties in coexisting or engaging in a struggle for limited resources. The source of incompatibility may stem from disparities in advantages or beliefs. Conflicts may become more complex when one group possesses greater access to resources or decision-making power, impacting conflict resolution. Consequently, it is unsurprising that conflicts can encompass power dynamics as a central element (Banpasirichot, 2012). According to Vatthanasapt (2004) conflicts manifest in various forms and can be categorized into five categories. One such category includes conflicts concerning information, characterized by under-informed perspectives, rumors, and false information. Relationship conflicts, on the other hand, are shaped by the strength of the relationship, with conflicts being less likely to arise in stronger relationships. Conflicts of interest arise when rational interests are not in conflict, but conflicts are created by irrational interests. Another form of conflict is value and belief conflicts, which are related to differences in core values and beliefs among individuals or groups. Finally, structural conflicts

are characterized by issues surrounding power dynamics, rules, and regulations, which can lead to problematic outcomes. Rattana (2010) analyzed the conflicts related to natural resources and the environment and argued that the degradation of resources is an important factor that puts pressure on the communities to use resources at the local level. There are several important indicators, including resource struggles leading to conflicts between individuals, between individuals and the state resulting in disputes and protests against the government's policies on natural resources and environmental management in different cases. This is similar to the findings study of Hart and Castro. (2000) which summarized the meaning of natural resource and environmental conflicts as the conflict arising from accessing, controlling, and utilizing the resources. It arises due to differing uses by individuals such as forests, water, fields, and land or due to individuals' needs. With different management, conflicts can increase when each side has different interests and needs that diverge from existing policies or plans. Therefore, conflicts of benefit are often an inescapable part of society.

Banpasirichot (2012) conducted a comprehensive review of ideas and studies from domestic and international academics on conflict management focusing on conflicts that possess multiple levels and characteristics. The techniques and strategies identified include avoidance of incompatible goals, deflection of controversial issues, control of conflicts, reduction of harmful or violent conflict behaviors, confrontation of conflicts, provision of guidelines for action in routine conflicts, and prevention of conflicts possibly culminating in violence by reducing conflict conditions and violence in social structure and

politics. Additionally, strengthening the culture of conflict resolution through peaceful means, such as socialization and social learning processes. Regarding the conflict management approach, Makraphirom (2007) concluded, based on conflict resolution experience, that resolving various aspects of violent conflicts often requires a combination of different systems and methods, including resolving conflicts within the community-based self-management system. In situations where conflicts between a community and external organizations or state authorities more severe and prolonged, conflicts may remain unresolved. While legal systems and judicial processes administered by state agencies may serve as a means of conflict resolution, it is not uncommon for individuals who are economically disadvantaged to be denied justice, resulting in hidden and unresolved conflicts. It is thus essential to appropriately design and develop mindsets, methods, and processes of conflict resolution for different individual cases (Whangsani et al., 2022). However, conflict situations and violence in Southern Thailand manifest in diverse forms, including security conflicts, resource conflicts, conflicts stemming from state development projects, and sociocultural conflicts, all of which can significantly impact individuals and communities. (Tissamana, 2015).

## 2. Participatory Coastal Fisheries Conflict Management

Participatory coastal fisheries conflict management or co-management or fisheries co-management represents an approach to conflict resolution for consuming shared fishery resources. This approach entails collaborative management of local community sectors, including resource users, fishermen, the government, other stakeholders (ship owners, aquatic animal

traders, shipyard owners, and businessmen), and external agencies (NGOs, academics, and research institutes). Through consultation and joint decision-making, the various parties take responsibility for managing fisheries by accepting rules, responsibility, and management rights underpinned by “the power of collaboration”. Co-management, also referred to as participation or cooperation, represents a collaborative approach that entails the participation of multiple stakeholder groups working together to manage fisheries. (Pomeroy & Guieb, 2005).

### 3. The Fishery Resource Conflict in Songkhla Lake

Significant controversies arose among fishing communities operating in Songkhla Lake, particularly pertaining to the competition for catching aquatic animals among various fishermen groups: one using destructive fishing tools versus the other using traditional tools, one relying on a specific zone of the sea as their private primary source of livelihood versus its rival without specific fishing area and requiring access to any part of the sea for livelihood, and politically powerful locals versus the other locals with inferior or no power. Sirichai and Doungsuwan (2009) discussed the use of illegal fishing tools, specifically trawlers, which not only destroyed aquatic animals but also caused conflicts with a group of fishermen who used traditional tools for fishing. Fishermen in the lower lake area primarily use Pong-Pang and a standing trap (Sai-Nang). The proposal to demolish Sai-Nang or Pong-Pang for the purpose of dredging the watercourse as part of the lake rehabilitation plan by the Marine Department and

Songkhla has consistently been a contentious issue between the fishermen and government officials.

In addition, there are pieces of research related to the conflict management of fishing communities. Timprasert (2011) summarized the conflict management of a fishing community in Tha Sala, Nakhon Si Thammarat, and found that push-net local fishermen and trawlers protested against clam dredge boats by shutting down the bay and the road in 1992. However, despite these efforts, the clam dredge boats returned to the sea in 2007. In response, the villagers established Tha Sala Bay Fisherfolk Network and protested against the state agency by sending a letter. Collaborating with Tha Sala Sub-district Administration Organization and other organizations, they successfully developed local maritime regulations and ultimately solved the problem. Contributing factors of the achievement included: (1) legal action on local ordinance preparation, (2) government support of laws and policies on community rights and participation processes, (3) mutual consciousness and interest, (4) agency support, (5) strong leaders, (6) collaborative learning processes, (7) mass media, and (8) advocacy from NGOs."

With experience in managing conflicts among fishermen in Pattani Bay, Dumalee and Suttijaree (2013) identified the establishment of the Pattani Bay Conservation Network as an effective solution against the use of destructive trawlers. The network employed two approaches. The first one was social movements, such as organizing protest rallies to pressure the government to cancel the destructive trawler in Pattani, unifying to protect Pattani Bay from cockle capitalists,

and submitting letters to halt and review the Pattani waterway and port development project as well as vetoing the Seafood Bank project. The other included direct restoration and rehabilitation, such as creating artificial reefs as habitats for aquatic animals to protect against external resource abuse and trawlers, creating white clam and clam sanctuaries, and organizing physical restoration activities to make resources more abundant.

Drawing on the study of conflict and conflict management, a framework has been developed for organizing and explaining the data in case studies of Natural resource conflict management. (Castro & Nielsen, 2003) This framework has been utilized as a guideline for analyzing qualitative data, particularly in the context of conflicts related to coastal resources and fisheries. The framework includes key considerations such as the relationship between the conflict and the community, the stakeholders involved, the methods and tools employed, specific case studies, and the processes and solutions for conflict management.

## **Research Methodology**

This study adopted the Participatory Action Research (PAR) approach (Kemmis, 2006), to gather information about conflict situations, identify conflict resolutions, and promote community engagement. The selection of study areas was guided by specific criteria, focusing on communities with fishing-related conflicts and active participation in managing coastal resources in the lower Songkhla Lake region. The

Tha Sao Community, having experienced conflicts and continuously engaged in coastal resource management for over three decades, was a pertinent case study. The methodology utilized in this study was based on the Participatory Action Research (PAR) approach, which is elaborated on as follows:

**Planning:** This initial step involved a comprehensive exploration of the target communities, analysis of their problems, and collaborative efforts to identify potential solutions. The study focused on three main stakeholders affected by the coastal resource conflicts in the community: (1) fishermen in Tha Sao Community, Singhanakorn District, Songkhla, (2) government agencies involved in fishery management, including Songkhla Fisheries, Songkhla Lower Marine Fisheries Suppression and Protection Center, and Department of Marine and Coastal Resources, and (3) NGOs and civil society, such as Thai Sea Watch Association, Songkhla Lake Folk Fisherman Confederation, and Songkhla Lake Watershed Council. Soliciting feedback from the communities through a community questionnaire, entitled "Conflict Management of Coastal Resource Use in Lower Songkhla Lake," was conducted with 41 households (27%) out of 150 households in 12 communities of Tha Sao Community. The selection of the survey area and sample groups was based on criteria that represent the main occupation group in the fishing communities on the coastal side. Finally, the questionnaire was reviewed by three experts to ensure its validity and reliability.

**Action:** The subsequent step entailed acquiring data through a structured questionnaire. The data were scrutinized to the critical points. The inferences were subsequently employed as the basis for

group discussions with community stakeholders and pertinent agencies to amass supplementary data for analysis. Following the acquisition and analysis of preliminary data from the questionnaire, additional information was appended to certain issues to elicit further confirmation from pertinent representatives across different sectors, comprising local administrative organizations and relevant government agencies.

**Observation:** This step encompasses conducting observations and gathering information from diverse organizations, including Songkhla Provincial Fisheries Office, Songkhla Marine Department, Songkhla Provincial Land Development Office, Songkhla Provincial Marine and Coastal Resources Office, and professional representatives from aquacultural fishing, tourism entrepreneurs, civil society, and community organizations. These entities participated in a designated discussion forum on August 24, 2019.

**Reflection:** The final step involved assessing the collected data to encourage participation in monitoring the situations, identifying resolutions for the community, and providing recommendations for appropriate resource management. To obtain opinions and suggestions for conflict management in the coastal communities of Lower Songkhla Lake, a workshop in the form of a discussion forum was arranged. The forum was held on August 26, 2019, at the Prem Tinsulanonda Historical Park meeting room and was attended by 68 individuals from the community and relevant stakeholders who engaged in expressing their opinions and providing suggestions to enrich the research.

## **Findings**

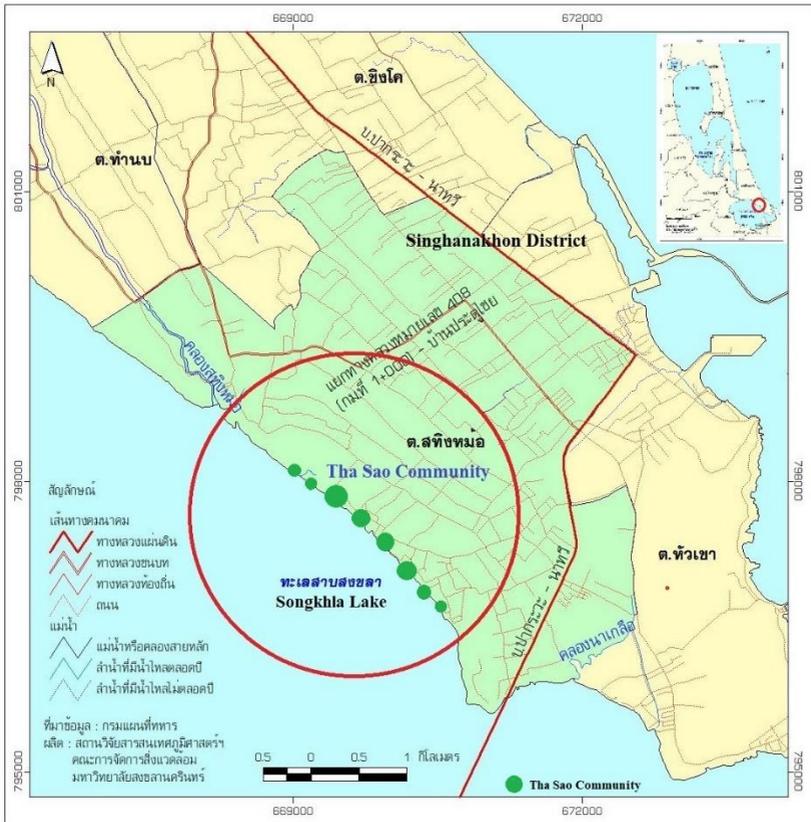
The research findings were structured into the following segments: site context, survey data analysis, identification of conflicts and conflicting parties in the area, assessment of the impact of conflicts, conflict management strategies, and recommendations or directives for conflict management and pertinent conflict resolution agencies.

### **1. Context of Tha Sao Community, Singhanakorn District, Songkhla**

Tha Sao Community is a large community situated along the coast of Songkhla Lake. It consists of 4 villages and 8 communities, namely, Moo 1, Ban Mai, Tha Sao with 4 communities (Ban Mai Community, Khao Kheow Community, Chai Hin Community, and Nong Heep Community), Moo 2 Ban Lang, Tha Sao with 2 communities (Tha Sao Community and Ban Lang Community), Moo 3, Ban Thammakot, and Moo 4, Ban Sting Mo, located in Sting Mo Sub-district, Singhanakorn Municipality, Singhanakorn District, Songkhla. There are a total of 581 households. (Figure 1)

**Figure 1**

A Map of Tha Sao Community, Lower Songkhla Lake Coastal Community



**Source:** GEO-Informatics Center for Natural Resources and Environment. (2020). *Map of Tha Soa Community*. Faculty of Environmental Management, Prince of Songkla University.

Due to its geographical location, Tha Sao Community, located in the lower Songkhla Lake coastal area, is heavily dependent on fishing, farming seabass in cages, selling the caught products in the community, local markets, and fish markets, as well as processing some of them into dried seafood. Most fishermen in the community use long boats with a width of 1.20 meters and a length of 10-12 meters, powered by a 7-13 horsepower Honda engine. There are a total of 513 boats in the four villages. The primary fishing tools used by the fishermen include standing traps (Sai-Nang or Sai-Tu) and various types of gillnets such as Spotted Catfish gillnets, Tourist Fish gillnets, Mullet gillnets, Crab gillnets, and Shrimp Trammel gillnets which have different-sized fishing nets. Fishing activities are carried out in the lower lake area and subject to seasonal changes.

There are four groups of fishing community organizations covering four villages: Ban Mai Community Housewife Group (M.1 and M.3), Ban Mai Community Coastal Conservation and Marine Farm Group (M.1), Cage Seabass Farming Group (M.1 and M.3), and Volunteer Fisherman Group (M.1, M.2 M.3, and M.4). The main objectives of these groups are to provide vocational training to women for engaging in activities such as baking or processing marine animals, to conserve and restore coastal resources, to release aquatic species, to plant mangroves, to consolidate the seabass farming group by distributing shares among members, and to monitor conservation areas within marine farms. These activities are focused on the restoration of both direct and indirect resources

and seek to establish a participatory process for marine restoration, which has a significant impact on livelihoods and professions reliant on natural resources.

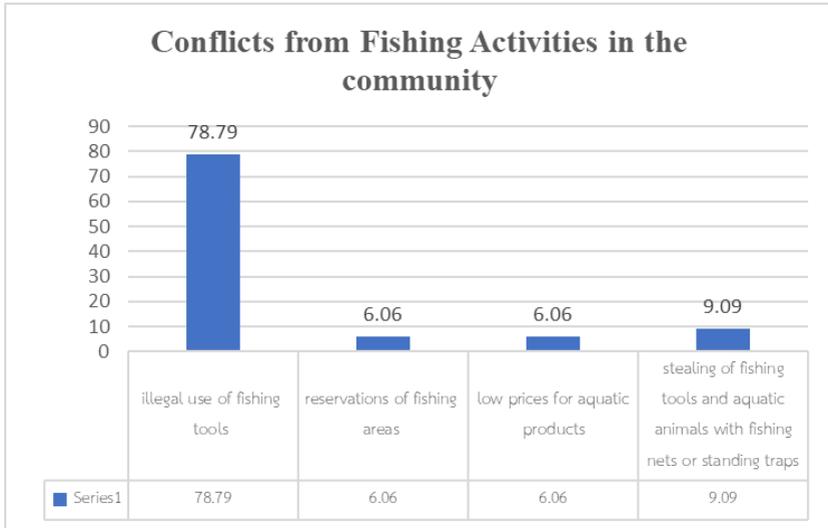
## 2. Conflict Situations over Community Fisheries

Due to its heavy reliance on fishing, Tha Sao Community is facing persistent issues related to overfishing, such as an increase in Pong-Pang, trawl fishing, and standing traps, which have led to a decline in the aquatic animal population and their limited habitats. Concurrently, the community has agreed to designate some areas as fish farms for breeding aquatic animals, which has resulted in a decrease in fishing areas and illegal fishing activities within the conservation areas. Reserving fishing areas for individual use has also caused conflicts within the community. In addition, the use of destructive and illegal fishing tools, such as elongated collapsible traps that destroy aquatic animals, is also evident in these areas.

The research findings on the community fishing conflicts identified four main conflict issues:

2.1) the illegal use of fishing tools (78.79%), 2.2) the stealing of fishing tools and aquatic animals trapped by fishing nets or Sai-Tu (9.09%), 2.3) reservations of fishing areas and 2.4) low prices for aquatic products (6.06%).

**Figure 2**  
Community Fisheries Conflict Issues



**Source:** Doungsuwan, N., Saheem, N., Whangsani, U., Teerakul, B., Pheangnu, B., and Wangmanee, J. (2020). Conflict Management of Coastal Resources in Lower Songkhla Lake [Research report]. Prince of Songkla University.

### 2.1 Fishery Activity Conflicts

Drawing on the research findings concerning conflicts in the targeted areas, specifically fishery management conflict in Tha Sao Community, it is possible to examine and synthesize the issues, including the context, consequences, conflict parties, and the status of the conflict in the following areas.

### 2.1.1 Illegal Use of Fishing Tools

Some fishermen in Tha Sao Community use illegal fishing tools such as poisons, trawlers, and elongated collapsible traps to catch the aquatic animals. The use of trawlers has been banned by the Department of Fisheries since 1972, while the use of poisons has been prohibited by the Department of Fisheries since 1947, and the use of elongated collapsible traps has been banned since 2017. Based on the survey of fishermen's opinions, the most significant conflict in fishing in the lower Songkhla Lake pertains to the employment of illegal fishing tools and the presence of external in the vicinity of Tha Sao Community.

### 2.1.2 The Stealing of Fishing Tools and Aquatic Animals Trapped in Nets, Standing Traps (Sai-Tu), and Cages

The act of stealing fishing equipment and aquatic animals trapped in nets, standing traps (Sai-Tu), or cages is deemed theft. The stolen items are usually sold to buyers both within and outside of the community.

### 2.1.3 Fishing Area Reservation

Standing traps (Sai-Nang) and Pong-Pang are the fishing tools commonly employed by a majority of fishermen in Songkhla Lake. They reserve areas for their own use in order to fish continuously. Despite the ban on Pong-Pang by the Department of Fisheries in 1976, the implementation of the regulations on the use of Sai-Nang, and limiting the number of Sai-Nang placements since 1993, fishermen continue to heavily and extensively fish by the employment of both of those tools,

particularly in the lower Songkhla Lake area and the sea near Tha Sao Community, in contravention of the rule.

#### 2.1.4 Low Prices for Aquatic Products

Fishermen in Tha Sao Community are often forced to accept low prices for their catch since they are unable to negotiate the prices for their products. They are reliant on local traders or fish markets in the community, resulting in reduced profits. Consequently, many fishermen have to adjust themselves to sell their caught products independently in the local market to obtain a higher price. However, in the long term, the establishment of a community fish market group may be necessary to ensure fair prices that will benefit both fishermen and consumers.

#### 2.2 Fishery Consequences

The aforementioned issues, encompassing destructive fishing equipment leading to the deterioration of coastal fishery resources, conflicts among fishermen, damage to fishing equipment, especially trawlers, and the placement of elongated collapsible traps that obstruct their placement, pose significant challenges. Pong-Pang, specified by the Department of Fisheries, is another problematic tool that not only destroys young aquatic animals but also impedes the navigation of aquatic vehicles and hinders the swirling of seawater, causing it to become shallow more rapidly. Furthermore, conflicts may arise between fishermen utilizing other fishing tools and

commercial fishing vessels navigating estuaries in Songkhla Lake.

Theft of fishing equipment has also made it difficult for fishermen to sustain their livelihoods. In response, the community has established a surveillance system and formed a group of volunteer fishermen to monitor and enforce the law against offenders. These have helped reduce the problems.

Conflict management related to the illegal use of fishing tools is handled by relevant government agencies, which are responsible for enforcing the law, arresting offenders, seizing tools, and going through judicial processes. However, the implementation of regulations is not always consistent and comprehensive, and there are instances of evasion, covert illegal fishing, and even alleged bribery to facilitate wrongdoing. Such actions have led to a lack of respect and trust in the enforcement officers. The findings of the study have been summarized in Table 1 to illustrate the conflict management strategies for marine resource utilization in the lower region of Tha Sao Community

**Table 1**  
Problems and Resource Solutions in the Lower Lake, Ta Sao Community.

Conflicts	Conflict Management	Related Agencies/Organizations	Conflict Resolutions	Results
<b>Illegal Use of Fishing Tools</b>	Implementation of legal measures	Fisheries Office, Fisheries Patrol Unit, and police	arrest fines/seize offenders' fishing tools	- There is still the covert use of illegal fishing tools. - The resolution done by related agencies is not continuous, comprehensive, and clear.
<b>The Stealing of Fishing Tools and Aquatic Animals Trapped in Nets, Standing Traps (Sal-Tu)</b>	The use of participatory process Fishermen's monitoring and law enforcement measures	agency representatives/ community representatives policemen, volunteer fishermen, and area leaders	offer options to replace illegal tools publicize, participate in monitoring and apprehend wrongdoers	There are still individuals covertly using illegal tools. There must be continuous monitoring and collaboration with the community.
<b>Fishing Area Reservation</b>	-The use of legal measure -The use of participation	Provincial Marine Department marine police officers fishermen	negotiate between agencies and fishermen	The problems remain unsolvable.
<b>The Purchase of Aquatic Animal Products at Low Prices</b>	Retail at the market and establish community fish market for purchasing	local fishing club and co-operative	establish a fish market for purchasing fishery products	The fishermen sell the products themselves or sell to local vendors, but there is no co-operative established yet.

<b>Conflicts</b>	<b>Conflict Management</b>	<b>Related Agencies/Organizations</b>	<b>Conflict Resolutions</b>	<b>Results</b>
<b>Illegal Use of Fishing Tools</b>	Implementation of legal measures	Fisheries Office, Fisheries Patrol Unit, and police	arrest fines/seize offenders' fishing tools	- There is still the covert use of illegal fishing tools. - The resolution done by related agencies is not continuous, comprehensive, and clear.
<b>The Stealing of Fishing Tools and Aquatic Animals Trapped in Nets, Standing Traps (Sat-Tu)</b>	The use of participatory process  Fishermen's monitoring and law enforcement measures	agency representatives/communitary representatives  policemen, volunteer fishermen, and area leaders	offer options to replace illegal tools  publicize, participate in monitoring and apprehend wrongdoers	There are still individuals covertly using illegal tools.  There must be continuous monitoring and collaboration with the community.

### 3. Coastal Resource Management

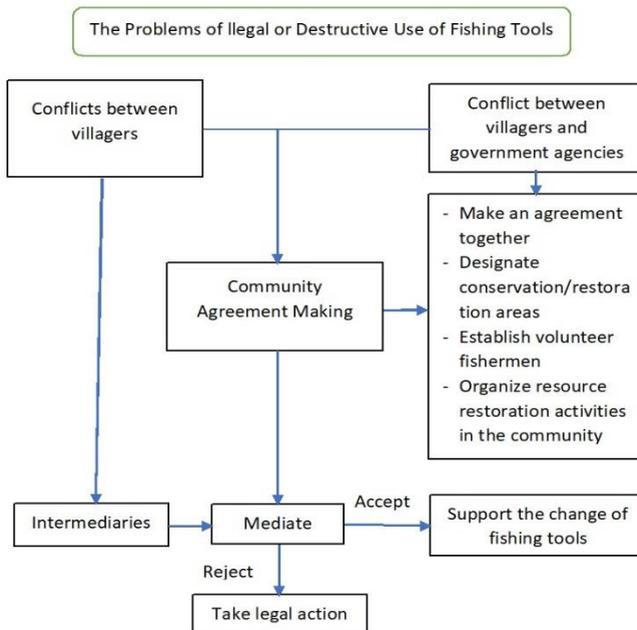
The coastal resource management that can create sustainability and resolve the conflicts in Tha Sao Community is the use of conflict resolutions to destructive or illegal fishing tools.

3.1 Resolving conflicts between villagers over the use of destructive or illegal fishing tools is a major problem in the lower Songkhla Lake area, affecting fishery resources in the lake directly. The main conflict parties are villagers engaged in fishing and employing destructive tools such as trawlers, poisons, and elongated collapsible traps. As a result, fishery resources or aquatic animals have greatly declined, and some species have become extinct. The decline in the catch of aquatic animals by fishers has resulted in decreased household incomes and a lack of investment in the fishing industry. This resource inequality can potentially threaten the sustainability of fishing careers. The level of conflict among community members has escalated significantly, ranging from avoidance of mutual communication, and non-participation in the same charitable activities, resulting in deep-seated mistrust and hostility. In some instances, the intensity of the conflict can lead to physical harm or damage to property. Under such circumstances, it is recommended to employ “an intermediary”, such as a community leader or a mutually respected individual, to facilitate mediation, compensation, or compromise. However, if the conflict is too severe, it may be necessary to report the matter to the authorities for legal intervention.

3.2 Resolving conflicts between villagers and the state  
For the conflicts over the fishing tool employment between the villagers or individuals engaged in illegal fishing activities and the government

agency responsible for overseeing the area, efforts often begin with an understanding of community rules or agreements. When the community cooperates, joint activities such as establishing conservation areas, setting up volunteer fishermen, and cooperating in marine resource restoration can be undertaken. In case of serious wrongdoing, the relevant agency will either apprehend offenders or engage in negotiation. Upon appropriate negotiation, illegal fishing tools will be seized and replaced with legal ones. Alternatively, legal action will be taken on an individual basis if negotiation is not deemed feasible.

**Figure 3**  
Conflict Management over the Use of Illegal or Destructive Fishing Tools



**Source:** Doungsuwan, N., Saheem, N., Whangsani, U., Teerakul, B., Pheangnu, B., and Wangmanee, J. (2020). *Conflict Management of Coastal Resources in Lower Songkhla Lake* [Research report]. Prince of Songkla University.

## **Conclusion and Discussion**

A crucial aspect that can be learned from resolving resource management in the lower Songkhla Lake area is the inadequacy of many relevant agencies in effectively and systematically managing the issue (Pomeroy & Guieb, 2005). The management of such issues lacks continuity. Although government agencies have established laws and regulations, they struggle with their enforcement. These issues have an impact on the way of life of the community. Some people have no other options for their livelihood. Some of the issues are related to overlapping interests with local politics and create opportunities for some groups to seek personal benefit. As Rattana (2010) stated the degradation of resources is a significant factor that puts pressure on the communities to utilize the resources at the local level. Resource competition is a notable indicator that can give rise to conflicts within the community or between the community and the government. This also results in disputes and protests against the government's natural resource and environmental management policies in different cases.

To prevent and resolve the aforementioned conflicts, it is necessary to reduce the conditions of the conflict and severity that exist in the social and political structures as well as to strengthen the process of community participation. At the same

time, cultivate a culture of peaceful conflict resolution through socialization and social learning (Banpasirichot, 2012) with the use of a combination of problem-solving methods based on a culture of peace (Makarapirom, 2007) or the use of community culture, such as appointing the elders within the community to act as intermediaries to mediate in order to prevent conflicts. At the same time, in society, many people are often unaware and indifferent, particularly customers who purchase the animal products obtained through illegal fishing and the destruction of young aquatic animals. Thus, the solution to the problem of resource use in the lower Songkhla Lake coastal area should be involved in all relevant parties in a systematic and continuous manner to make it acceptable (Doungsuwan, Whangsani & Teerakul, 2022). There are two levels of approaches for solving the problems:

1. Conflict between villagers and villagers should be resolved by mediating disputes with the involvement of community leaders or seniors in the community. This represents a cultural cost that is valuable in fostering harmony within the community.

2. Conflict between villagers and the state should be resolved through strict adherence to the law, mediation before litigation, the creation of joint agreements, and the determination of the fishery's co-management areas such as the conservation areas, voluntary fishermen, and restoration activities. Information and knowledge management should be supported. Additionally, the community should be involved in consultation, planning, and the establishment of joint regulations.

## **Recommendations**

Recommendations from this research study are as follows:

1. There should be prevention and mitigation of conflicts that may result in violence by reducing the conditions of conflict and violence within the fishing communities. The community members have to be involved in all processes and be able to find joint agreements.

2. There should be a blend of cultural peacebuilding solutions for customers by campaigning against the consumption of aquatic animals caught using illegal fishing tools or methods that endanger the survival of young aquatic animals.

3. The management of coastal resources should involve all relevant sectors in a systematic and continuous manner to ensure widespread acceptance.

## **Research Implications**

1. Support should be provided to research studies on the coastal resource management in Songkhla Lake, in the upper, central, and lower lakes as well as the coastal communities throughout Thailand so that conflicts related to coastal fishing management will be addressed.

2. Knowledge integration and the development of fishing communities should involve collaboration among government agencies, local government organizations, civil society, service users, consumers, community members, entrepreneurs, private sectors, and academic institutions. This also includes participation in the

management process, making agreements, establishing regulations, publicizing as well as monitoring and evaluating the results.

## **References**

- Banpasirichot, W., C. (2012). *Basic Understanding about Peace and Nature of Conflicts in Thai Society*. King Prajadhipok's Institute. [in Thai]
- Castro, P. A., & Nielsen, E. (2003). *Natural Resource Conflict Management Case Studies: An Analysis of Power, Participation and Protected Areas*. Food and Agriculture Organization of The United Nations.
- Dumalee, H., & Suttijaree, J. (2013). New Social Movement in Managing Coastal Wetland Resources: A Case Study of Pattani Bay Conservation Network. *Journal of Politics and Governance*. 3(1), 59-78. [in Thai]
- Doungsuwan, N., Whangsani, U., & Teerakul, B. (2022). Sustainable Conflict Management Strategies for Fishery Resources in Songkhla Lake, Southern Thailand. *The International Journal of Social Sustainability in Economic, Social, and Cultural Context*. 18(2), 15-29.
- Doungsuwan, N., Saheem, N., Whangsani, U., Teerakul, B., Pheangnu, B., & Wangmanee, J. (2020). *Conflict Management of Coastal Resources in Lower Songkhla Lake* [Research report]. Prince of Songkla University.
- GEO-Informatics Center for Natural Resources and Environment. (2020). *Map of Tha Soa Community*. Faculty of Environmental Management, Prince of Songkla University.

- Hart, N., & Castro, P. (2000). *Natural Resource Conflict Management and Resolution*. Food and Agriculture Organization of The United Nations.
- Kemmis, S. (2006) Participatory Action Research and Public Sphere. *Educational Action Research Journal*, 14, 459-476.
- Makarapirom, P. (2007). *Environmental Conflict Resolution*. (Research Report). Social Research Institute, Chiang Mai University. [in Thai]
- Marine and Coastal Resources Research Center. (2009). *Fish in the Songkhla Lake Basin. Book Series, A Study Project to Collect Information and Maps of Biodiversity and Marine Resources. Songkhla Lake Basin*. Department of Marine and Coastal Resources. Ministry of Natural Resources and Environment. [in Thai]
- Office of Natural Resources and Environmental Policy & Planning Prince of Songkhla University Thaksin University and Songkhla Rajabhat University. (2005). *Songkhla Lake Basin Development Master Plan Project* [Report]. Songkhla lake. <http://www.songkhllalake.psu.ac.th/research/detail/27>.
- Pomeroy, R S. , & Rivera- Guieb, R. (2005) . *Fishery Co-Management: A Practical Handbook*. CAB International Development Research Centre Canada.
- Rattana. K. (2010). *Developing the Potential of Network Partners in Planning Natural Resources and Environment Management Strategies at the Local Level*. Department of Environmental Quality Promotion. [in Thai]

- Sirichai, L., & Doungsuwan, N. (2009). *The Development in the Usage of Resources in Songkhla Lake: A Study of Fisherfolk Community*. The Thailand Research Fund. [in Thai]
- Timprasert, N. (2011). People's Participation Process Based on Community Rights to Preparation the Local Ordinances Sea: A Case Study of Tha Sala Sub District Administration Organization, Nakhon Si Thammarat. *Area Based Development Research Journal*. 4(2) 62-73. [in Thai]
- Tissamana, A. (2015). Guidelines for Environmental Conflicts Resolution: A Case Study of Suan Phueng, Ratchaburi. *Journal of Environmental Management*. 11(2), 60-75. [in Thai]
- Vatthanasapt, V. (2004). *Conflict Management: Principle and Tools of Conflict Resolution*. King Prajadhipok's Institute. [in Thai]
- Whangsani, U., Doungsuwan, N., Isarata, E., & Onrak, S. (2022). Community Conflict Management Guidelines: Lessons Learn from a Case of Khao Khuha Stone Quarry, Rattaphum District, Songkhla Province. *Journal of Community Development and Life Quality*. 10(1), 83-93. [in Thai]