



Tonle Sap Lake and Songkhla Lake Basins Communication Outreach Project Summary



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Duration: October 2014 - April 2019

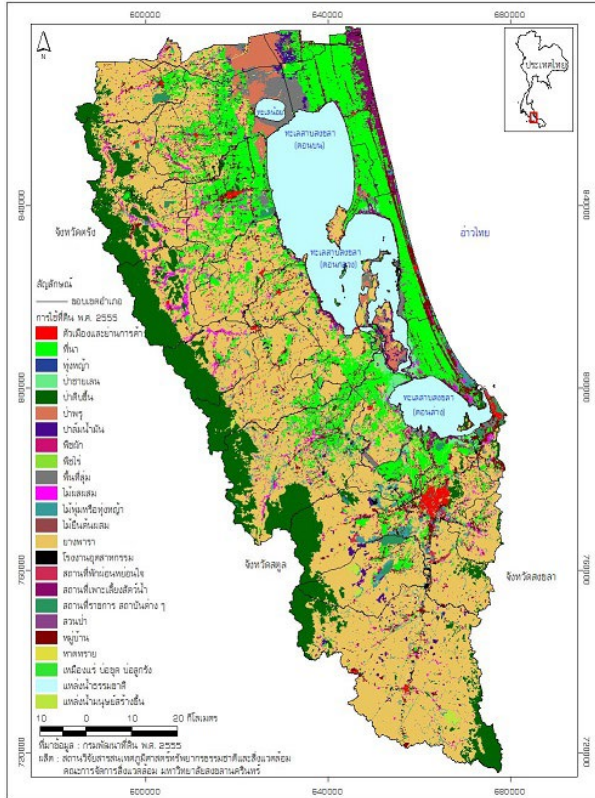
Budget: US\$ 457,000

Description: The project aimed to promote good governance of Cambodia’s Tonle Sap and Thailand’s Songkhla lakes for sustainable communities’ livelihoods, through community outreach activities and knowledge exchange between the two lakes. It bridged the sister-lake communities through a forum where people were able to openly communicate and share best management practices for addressing common challenges facing both lakes, including unsustainable fishing practices, income generation opportunities, and less predictable climate patterns. In addition, the project helped strengthen institutional capacity on Integrated Water Resources Management (IWRM)-based lake management and raises communities’ awareness on the importance of developing a healthy state within these natural lake systems.

Project location:

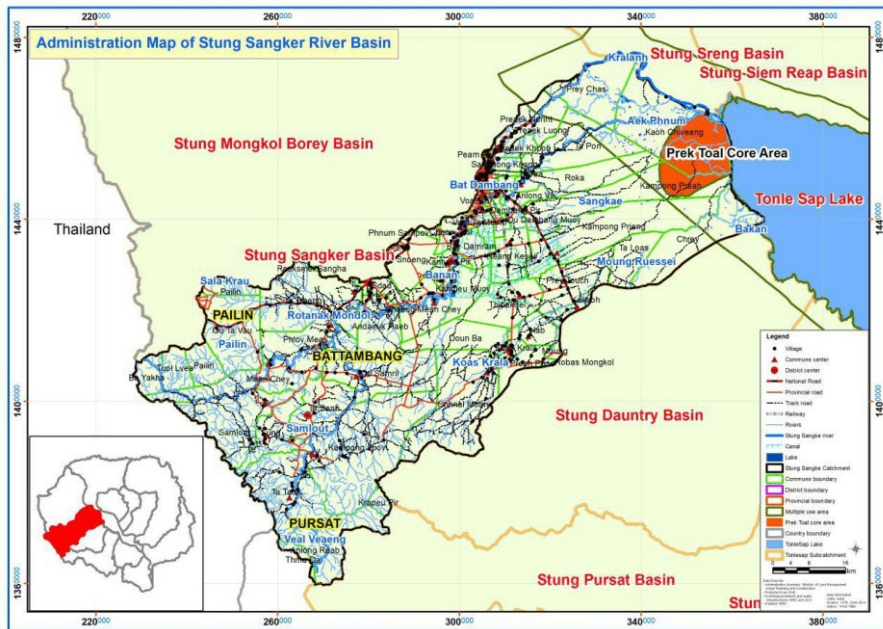
Songkhla Lake (Thailand)

Three sites around the Songkhla lake were selected as pilot implementation sites for three issues: women empowerment at Tha Hin, Songkhla Province, climate change adaptation at Thale Noi, Songkhla Province, and fishery management at Ban Chong Fuen, Ko Mak, Pathalung Province.



Tonle Sap Lake (Cambodia)

The Roha Soud Sdey Kroam Fisheries Community Fisheries (CFI) area was selected for the pilot project to implement the three joint issues. The Roha Soud Sdey Kroam Community Fisheries area is composed of two villages, the Roha Soud and Sdey Kroam commune, and the Prek Hlong commune, located in the Ek Phnom District, of the Battambang Province.



Project outputs:

1. Outputs from the exchange of experiences and learning on the three joint issues of the two lakes;
 - i) *Climate Change*

Both lakes are vulnerable to emerging climate change impacts. The consequences for Tonle Sap Lake are expected to be particularly grave, as climate change may affect its unique flood-pulse system. This could alter the duration and extent of annual floods, which are essential for the lake's high productivity of fish, plants and wildlife – all life-sustaining resources for Cambodian people. In fact, Tonle Sap Lake supports the natural hydrological balance of the entire Lower Mekong Basin.

Through consultations with local stakeholders and government officials, it was discovered that fishing communities in Cambodia have coped with environmental variability for many years. It turns out that understanding and supporting these traditional coping mechanisms can help prepare fishery-dependent communities to respond to climate change. A series of trainings also helped the local community learn how to adapt to a changing climate.

For Songkla Lake in Thailand, it is especially the Tale Noi wetlands that are threatened by climate change impacts. Extreme and unpredictable rainfall, frequent floods, extreme storms, severe droughts and new,

invasive insect species are among the risks. Forest fires around the lake are already a recurring problem, and more frequent droughts are likely to make the fires bigger and more difficult to manage in the future.

To address these risks, a climate change adaptation working group was established, and it carried out activities to raise awareness and prepare local communities. For example, community members shared experiences on coping mechanisms, plans were made for how respond to floods – such as by digging drainage canals, and youth groups were trained on weather forecasting to be able to better predict dangerous conditions. At the government level, a committee responsible for helping local communities prepare to confront climate change was created, and local administrative organisations created climate change adaptation plans.

Both Tonle Sap lake (TSL) and Songkhla lake (SL), particularly Thale Noi wetlands in Thailand, are vulnerable to the impact of climate change. For the former, climate change may affect its unique flood pulse system and water regime by altering the duration and extent of floods, which would affect water quality, and fish species and aquatic biodiversity composition in the lake system. For the latter, the impact of climate change manifests itself in forms of extreme and unpredictable rainfall, floods, storms, and drought which consequently gives rise to forest fires; and in turn significantly affects biodiversity and ecosystem services.

In the Tonle Sap lake, adaptation strategies have been designed from a “top-down” approach, addressing global, regional, national, and local concerns through strategic planning by government agencies, civil society, and development partners. Although fishing communities in Tonle Sap lake have coped with environmental variability for many years, there is a need for the CFI to intervene and provide additional support, such as through the: rescuing of wild animals, mitigating financial and livelihood impacts in advent of disaster, and the prevention and protection of inundated forest.

In the Songkhla lake, traditional methods can be observed to be the most effective adaptive strategies to cope with the impact of climate change, through the engagement of community members at the village level. There are also mechanisms administered by local and provincial government levels, which assist the community with implementing disaster prevention measures and disaster management measures. In addition, civil society organizations, such as temples, charities, and associations, in Thale Noi support intervention measures in the advent of disasters. Most of these measures are post-disaster measures, through the provision of food, water, shelter and clothes for those impacted.

ii) Fisheries

Fisheries are incredibly important to the communities around the two lakes and to the Lower Mekong Basin as a whole. Tonle Sap Lake provides around 60 percent of fisheries production in Cambodia and plays a key role in providing income and food security for about 1.7 million people in the region. Similarly, Songkha Lake provides a home for over 9,000 fishing families.

Local Cambodian communities are engaged in community fisheries organisations, which provide a good starting point for conservation activities. Around Tonle Sap Lake, members of these organisations decided to focus on solving some of the most pressing challenges. As a result, steps were taken to raise awareness of and enforce regulations on fisheries to decrease illegal fishing practices. A conservation zone was created in the lake, and inundated forests were restored to improve conditions for fish and other aquatic animals. Additionally, the boundary of the lake was clearly demarcated to prevent any illegal activities

within the Tonle Sap land and flooded forests. Finally, alternative income sources, such as ecotourism, were promoted to ease up pressure on fisheries resources.

Similarly, for Songkhla Lake, a fish conservation zone was established to conserve habitat as well as to provide and protect nursery grounds for fish and shrimp stock. Local stakeholders set rules and regulations, and illegal and destructive fishing gear was prohibited. Several community groups also emerged to help find ways for the community to thrive, including by monitoring and responding to disasters as well as saving for and investing in value-added fishery products.

In the Tonle Sap lake, fisheries activities have been administered, assisted and facilitated by the CFI including helping the poor to earn more income, educating communities on the value of conservation, encouraging people to act collectively, and sharing responsibility in fisheries resources management and conservation with the government. There are nonetheless challenges and threats which obstruct the CFI from working efficiently and effectively, such as a lack of funding, limited knowledge and leadership capacity for the CFI committee, inadequate support by relevant organizations, and interference from powerful people.

In the Songkhla lake, several community-based management measures have been implemented to support the sustainable management of fisheries. One of the most successful interventions has been the establishment of a fishery resources conservation zone (FRCZ) to conserve habitat for fishery resources and provide and protect nursery grounds for fish and shrimp stock. Rules and regulations were set by local stakeholders. Illegal and destructive fishing gear were prohibited in the conservation zone. Patrols were also conducted by voluntary members of the community.

iii) Women Empowerment

Through exchange visits and joint learning, successful initiatives for empowering women were identified and supported in both locations.

Around Songkhla Lake, the Node-Na-Le Center – a women’s empowerment working group – was formed already in 1998. It continues to help women establish small businesses, such as producing soap and food products from sugar palms. The centre contributes to the local economy and provides significant employment to members of the community, including youth. Employees earn up to US\$440 per month.

Around Tonle Sap Lake, women are increasingly involved in the community-based fisheries, managing resources, budgets and conservation efforts. This despite them being poorly integrated into the sector and therefore having difficulties with contributing to its development. This impacts women’s livelihoods, as they may lack the time, skills and budgets to benefit from fisheries.

To respond to women’s poor standing and enhance gender equity, the Cambodian Fisheries Administration produced a gender mainstreaming policy and strategy to integrate and mainstream gender issues into planning and implementation processes. The administration also produced an action plan to promote gender equality and eliminate child labour. Finally, the women around Tonle Sap Lake are also branching out to other income-generating activities, including through a successful savings group and credit scheme.

In the Tonle Sap lake, women’s involvement in decision-making and management activities had traditionally been limited, due to several reasons including family obligation. Such handicap translated

into unequal societal status between men and women, resulting in women being poorly represented in community decision-making bodies, hence a lack of equal access to and control over livelihood assets. This situation was aggravated by a lack of adequate promotion of gender equity among concerned agencies, including civil society. More recently, there has been an increase in the number of women involved in the CFI, playing an important role for CFI and empowering other through awareness raising. Despite these positive developments, women are still underrepresented in fisheries management and conservation, as well as other fisheries related issues, such as disaster management and preparedness, and managing climate change.

To respond to women's issues and to enhance a better gender role in the fisheries sector, the Fisheries Administration (FiA) developed a Gender Mainstreaming Policy and Strategy in the Fisheries Sector (GMPSFS) in line with the Gender Mainstreaming Policy and Strategy in Agriculture (GMPSA), integrating and mainstreaming gender issues into the planning process and the implementation of the plan for the benefit of Cambodian's from the local to national level. The FiA also institutionalized the GMPSFS into the 10-Year Strategic Planning Framework for Fisheries, the Rolling 3-Year Fisheries Development Action Plan and its associate Annual Fisheries Action Plan, providing strategic directions and actions toward achieving gender equality and equity in the fisheries sector.

In the Songkhla lake, the situation was somewhat different. Towards the turn of the century, at the period when lake fishery resource seriously declined, aggravated by a world economic crisis which impacted on almost every household in the Songkhla lake area. Men were forced to seek employment in the construction sector. It was then that a group of women in Tahin got together, fighting in several ways for their survival. The SLB Women Empowerment Working Group, or Node-Na-Le Center, was formed in 1998. They organized and initiated small household enterprises, in Ban Tahin, Tambon Tahin, Sathingphra District, Songkhla Province. Their first activity was the making of paper flowers for funerals. These activities have gradually expanded to cover several other income earners, including granular sugar, powdered sugar, soap and related products. They also demanded that government agencies establish a conservation zone. Consequently, fish abundance rebounded, bringing fishers back into the lake. Benefits were shared by women who made post-harvest products, such as fermented fish and shrimp, sweetened boiled fish, etc., yielding a substantial income for their families. The formation of this women's group to undertake post-harvest product processing activities of palm sugar in Tha Hin has been nationally recognized. Some internal management problems, however, still prevail. The major problem has been a lack of funding to purchasing palm sugar as the main input of processing.

In addition to the exchanged learning, a series of effective communication tools and mechanisms were developed to enhance communication and exchange modalities, in order to ensure the long-term ideology of sister lakes was maintained. This included exchange visits between the two lakes, videos, a shadow play on environment issues and various forms of social medias.

As a result of the lessons learned from the joint exchanges, several joint recommendations were made to line agencies, provincial governments and communities, regarding improvements required to institutional arrangements and lake governance, focusing on improving the capability for the lakes to: adapt to and cope with the impacts of climate change, support and facilitate sustainable fisheries management, and conservation and women empowerment initiatives.

2. Outputs from strengthening governance, natural resources-based livelihoods and awareness raising of the importance of healthy lakes

i) Strengthening the Sustainable Livelihoods of the Lake People

The Mekong IWRM Communication and Outreach Project, between two sister lake basins, depicts the natural resources-based way of life of the targeted communities which are residing within Tonle Sap lake and Songkhla lake Basins. These communities use the basin resources for their but are also subject to certain negative impacts. Having used and benefited from the lake resources, the targeted communities of both lake basins are conscious of the need for long-term management initiatives that protect the natural resources for their present needs and the needs of future generations. Both face management challenges from impacts and future threats, as they relate to fisheries, gender, climate change, and waste management. To address these issues and challenges, community organizations have been established to ensure sustainable livelihoods, their quality of life and the lake ecosystems are maintained.

Community and Common Interest Groups were established to improve the generation of income and quality of life whilst conserving the natural resources in the lakes system, through an action learning and research approach. These groups were established by starting in small local area, with achievable inputs. Committed actions and collaboration were then undertaken with local producers and external stakeholders, to mainstream initiatives and effort into the routine livelihood process. Thus, it enabled them to learn, experience, improve themselves and ultimately grow and develop over time into a well-known community group, which led to ongoing and continuous engagement. This can be observed within community groups of both lakes: the Sdey Kraum-Rohal Suong Community Fisheries in Tonle Sap Lake; the Ban Tahin Women Empowerment Group, Thale Noi Climate Change Adaptation Group in Songkhla Lake Basin; and the Ban Chong Feun Fisheries Group in Songkhla Lake Basin.

To strengthen the sustainable livelihoods of the lake people, it can be concluded that the lake's natural resources need to be well managed through a participatory community-based approach. Examples include: through the expansion of fisheries resources conservation initiatives and the encouragement of youth to participate in the conservation of resources. The Cambodian and Thai governments should also consider promoting communication, marketing, and networking activities to encourage collaboration on sustainability issues. This could include: establishing a network for natural capital protection; and helping each other to improve human capital to work on sustainability resources management at national, local and community level.

ii) Lake governance

The governance system of the Tonle Sap and Songkhla lakes are based on the national legal framework, policies, strategic plans, the mandate of national institutions, and the cooperation mechanisms and agreements with sub-regional and regional bodies, and international organizations. It was found that the management of both the Tonle Sap and Songkhla lake involve a large number of diverse stakeholders including government agencies, NGOs and civil society, adding to the complexities.

In general, there is no single approach which can successfully safeguard the values of the two lakes. Gaps currently existing within the legal frameworks for both lake, effecting the governance systems. Through the strengthening of legal frameworks and governance systems, to focus on measures which restore and preserve the natural resources and environment two lakes sustainable outcomes which improve people's livelihoods and the lakes ecosystems would be more likely. Furthermore, the roles and responsibilities of concerned institutions need to be defined clearly, and cross-sectoral mechanism put in place.

A key factor is adequate empowerment of local authorities and the community, to deal with front line issues of resource utilisation, management and conservation. Following this, the building of social capital at the ground level will enable accountability and transparency. However, the effectiveness and efficiency can be improved through clear delegation of responsibilities, and technical and financial support for the local authority's development, investment plan and community management plan.

iii) Sustainability of the Lake

Each lake is faced with different challenges for sustainability. In the case of the Songkhla Lake Basin, lake governance would benefit from being administered by a single organization at the national level. The existing arrangements for Songkhla lake are working well in terms of using an integrated and participatory approach based on community needs and community plans, and this should be continued. Additional to this ecotourism and sustainable natural resources management should be further promoted.

Recently the National Water Resources Committee was established in Thailand, and could be the appropriate organisation to manage the lake. This committee, however, covers the whole of Thailand's water resources whereas SLB is a particular 8,730 sq.km lake basin unique for its 3-water system. Efforts by small groups as community prototypes, are detailed below.

1. Chong Feun community: which represents an exemplified fisherfolk community in SL. Its activities demonstrate how the community can restore the lake condition, which was in a state of critical decline to the present state where the fishery resource has once again become plentiful and over a hundred fisherfolk have returned to the lake to resume their practices.
2. Tahin community: which represents an extraordinary women's group in SL. Its activities focus on empowering women, so that they can strongly support their families, or, if widowed or divorced, live independently.
3. Thale Noi Community: which represents a small rural community the has focused on building their resilience to cope with the likely impacts from climate change. Climate change impacts which are relevant to SLB include: fluctuation and unpredictability of rain which may lead to either serious flood or serious drought; effects on agricultural products; effects of fragile ecosystem including insects which may lead to emerging diseases, or arrival of migratory birds which links to local ecotourism.

For the Tonle Sap Lake Basin, it is strongly recommended that existing national and local policies, strategies, action plans, and legal frameworks of responsible authorities be revised, which address identified gaps. It is recommended powers be delegated to the local community to enable implementation of area-based management plans, and to improve ownership and self-sustainability in the management of the lake. Resulting in improved governance and the involvement of relevant actors for its management and administration. Details of some of these recommendations are provided below.

1. Habitat restoration

Flooded forests of the TSL have been destroyed by human-driven disturbances, such as fire, cattle grazing and ploughing. Restoration of these disturbed habitats, back to forests and shrub lands, has not been undertaken in the Tonle Sap at any substantial scale. However, within the CFi Management area there is available land for the restoration of forest habitat, with the challenge being the difficulty in regenerating and revegetating the area due to a lack of knowledge in selecting the right species of plant and limited

plant nursery skills within the community. In dealing with forest restoration of TSL, the CFi/CPA need support to: identify species suitable for its geographical condition and market value; build capacity of officers of in plant nursery skills; the set up resource mobilization plan for the community, as well as involve school students and teachers - using this is an opportunity for them to learn and become aware of the importance of maintaining habitat within TSL for future generations.

2. Women involvement

Greater involvement and participation by women in CFi management, including decision-making and fisheries development activities, should be encouraged CFi management to avoid overrepresentation by better engagement of female fishers and different perspectives.

3. Sediment

Sediment is an important dynamic element in the TSL ecosystem, but it is only partially understood. Further research is therefore needed in areas around the lake and other associated water bodies in order to better understand and quantify possible future threats to the TSL and similar aquatic environments with heavy sediment load issues. The extent and nature of localized problems of erosion and sedimentation, as well as hydrology and ecology of the lake and its surrounding wetlands could potentially impede migration and damage breeding grounds for fish. However, the major losses for fisheries in freshwaters like the TSL are from the deforestation of flooded forests, which provide important habitats for fish reproduction and growth.

4. Population Growth

Support further educational program for youth those who are living in the TSL region, especially child labor elimination for supporting to poor fishing households and bring them to education. This can be called as a pre-paid action to move them from only engaging in TSL's resources to find decent work and would be an opportunity to haul them from chronic debt, and then finally the pressure on TSL becomes less and less. Build vocational skills of youth to increase employment opportunities and widen opportunities for recruitment nationally.

5. Livelihood based aquaculture

Focus efforts to strengthen livelihood based aquaculture to: build technical capacity to TSL's households are involving in aquaculture activity; study the value chain, to find out the good market (end market) for farmer to be able to get more profit rather than selling product to middleman and their group with low price; create farmer association to be able to reduce cost production and officially advocate to some activities may cause any harm to their aquaculture business, this may include the development of Upper Mekong Part; build or strengthening the capacity of local hatchery and nursery farmers living in the floating village of TSL; link local fishermen to good quality inputs suppliers serve in fingerlings as well as other inputs for supporting cage culture in the lake; build information source for farmers to access enabling to link them to the market onetime to generate more profit; and survey on reliable data of TSL's aquacultures useful for management, IUU combating and control the TSL's stock.

However, it is important to minimize the risk of further introductions of imported fingerlings of exotic species, and chemical/drug for treatment, into the TSL's ecosystems. In addition, uncontrolled use of feeds and drugs by the aquaculture sector itself can even exacerbate these risks. In addition, there is an

existing cultural preference for the growth of indigenous fish over exotic fish in natural waters and the potential to develop freshwater fish networks in the wild for native species, it may be relatively easy to implement restrictions on the raising of exotic species and finding local species suitable for aquaculture. Awareness raising on the impact of invasive species is crucial and encourage them to prevent the spread of invasive species through target capture of exotics with new outbreaks. Key actors to do this would be CFis in collaboration with FiA/FiAC/PDAFF, local authority, and competent authorities. The court is also involved in some case(s).

6. Water pollution

Address water pollution issues by: conducting a research on the water quality of TSL's ecosystem, the impact of water pollution on the TSL's ecosystems by chemicals, pesticide and heavy metals use, for agriculture, industry and mining, and the eutrophication of water bodies due to excess nutrients from fertilizers and household and husbandry waste; and building further cooperation "good governance" among key responsible ministries/authorities.

Conclusion:

In conclusion, through the implementation of the Tonle Sap Lake and Songkhla Lake Basins Communication Outreach Project it has become clear that these two sister lakes are very similar. Particularly, the communities living around them share a common goal – to restore and preserve natural resources to ensure environmental sustainability and improve people's livelihoods.

A number of recommendations were made to ensure progress towards these goals. For Tonle Sap Lake, simplifying, consolidating and strengthening governance and management structures emerged as a key priority. Including representatives from local communities, especially women and youth, in governing bodies and other decision-making will help ensure that communities' needs are met. Finally, finding financial support for conservation initiatives will likely continue to be a challenge, and therefore clear business plans, strong relations with donors, and new financing or credit schemes are also recommended.

For Songkhla Lake, the recommendations are focused on reinforcing already successful initiatives. For example, expanding and improving the production of value-added fisheries products can help support livelihoods. In addition, replicating the fish conservation zone elsewhere in the lake and stepping up efforts to end illegal fishing practices can conserve important resources. To support women's empowerment, more initiatives like the Node-Na-Le Center could be launched.



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