



Conservation Design Proposal for Sustainable Tourism: A Case Study of Ao Salat Fisherman Village, Kut Island, Thailand

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Abstract

The study of conservation design of Ao Salat fisherman village in Kut island aims as follows; 1) to understand the physical characteristics and lifestyle of a fisherman village, 2) to develop and establish a preliminary proposal of a community master plan and design, and 3) to promote the village as a sustainable tourism location. One of the main arguments in the region is the Building Code and space restrictions of the laws. Besides the constraints, the absence of knowledge and support makes it harder for the village to develop and maintain its character, identity, and aesthetics. Methodologically, social integration and physical design were adopted and a field survey was carried out to examine the development plan for Kut Island and Ao Salat community. The analysis was performed by using the image of the city along with the idea of sustainable tourism. The results suggested that the preliminary community plan was composed of five main areas as follows; Firstly, expanding and developing in the shipyard area to become a tourist transportation hub. Secondly, developing the religious area to create a historical tourist spot for travelers. Thirdly, the renovation and strengthening of the character and scenery of the community center and residential area. Furthermore, the improvement of the waterfront walkways which connecting to local routes and main activities also increases the ability to dock the ship. Finally, establishing the learning complex in the village that enhances the traveling experience and gives the knowledge to the visitor about ways of living and culture, tradition and restores the characteristics. It also improves the village by starting an economy growing and promoting the village to become a traveling destination. In conclusion, the proposals would potentially help the village to gain attention from tourists, strengthen connections between the places in the village, find a solution for solving the physical and social problems in the area. Hopefully, the proposal could create a sustainable fisherman village that helps to improve local businesses along with the environment.

Keywords: *Conservation, Fisherman Village, Ao Salat, Kut Island, Sustainable Tourism*

1. Introduction

Ao Salat fisherman village is an Eco-tourist destination having a local fisherman's lifestyle. Salat fisherman community is located in Kut island, Trat province, Thailand. The topography of the village has a combination of hills and mountain ranges along the island. The climate in the area is tropical with high humidity by the Influence of monsoon that makes the area storms throughout the years. The Salat village is a floating village in the form of a linear settlement. The length of the village is approximately 500 meters. There are 192 households with a population of 432 peoples in the Salat community which most of the villagers are fishermen (BORA, 2019).

In recent years, the traveling industry has caused negative impacts on the environment and local culture of the village. Sustainable tourism is a new way of traveling by supporting the local economy with friendly social interaction, preserving the environment and natural resources, understanding the value of local culture and tradition, and maintaining the local identity and beauty of the place (DASTA, 2018). Sustainable tourism is an alternative to mass tourism that minimize environmental impacts. Conservation development can produce social economy and quality of place while maintains community diversity at the same time. However, new development projects should be aware of the local culture and natural environment disruptions (Neil & Wearing, 2009).

Ao Salat fisherman village has the potential to develop the built environment. The interview with the headman of the village shows that the village expansion is restricted by the local laws and the shipping route from the mainland is unsettled. In Kut island, there are 2 piers which are Hin Dam pier and Salat pier.



Since the Hin Dam pier is damaged due to the monsoon, the Salat pier is the only seaport that available. The salat pier can handle the ship throughout the year because the location is protected by surrounding mountains. The community is trying to support the idea of turning the temporary Salat pier to become the main pier of Kut Island. And they would like to have a master plan proposal to convince local committees and the provincial government to make the villager's dreams come true.

By surveying and analyzing Salat fisherman village using tools and indicators from the theory of the image of the city (Lynch, 1960), the researcher team founds as follows; 1) the existing public paths from the pier did not connect to the other activity area. The paths were also too narrow and not sturdy. 2) The temple was used to be the public landmark of the area but lately, the surroundings did not serve the full potential of the space and it was difficult to access the temple. 3) The activity nodes in the community were unclear. A few public spaces cause a lack of social interaction in the village. 4) Most houses in the village have gradually added new varieties of modern materials that devalued the identity. As a result, the village was started to lose its unique characteristics. 5) There are two separated Boat piers which create confusion for the visitors and the terminal building was not attractive. 6) Some visitor attractions should be rebuilt to facilitate both visitors and villagers, such as the Learning Center and crab nursery.

Ine village is a precedent that has a similarity to Ao Salat village. Ine is a fisherman village located in Kyoto, which is one of the popular cities for sustainable tourism in Japan. The population in the community approximately are 2500 people. The village is surrounded by the bay. Funaya is one of the special house types that have ship dock on the first floor of the house and living area on the top floor which provides easy access to the boat. The community has so strong character that this became a role model for other conservation developments of sustainable tourism, as shown in Figure 1.

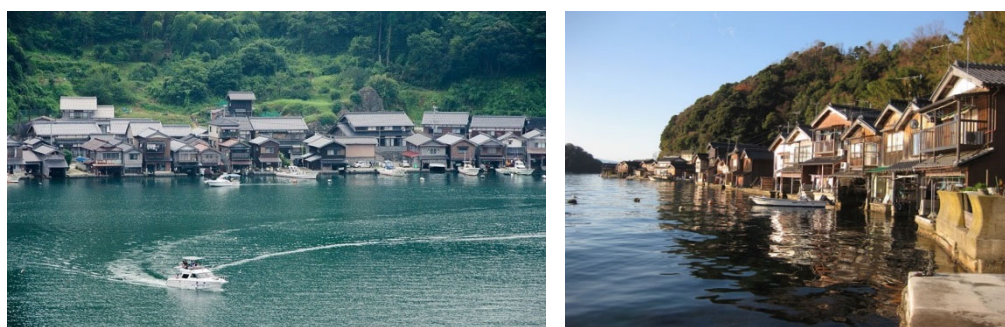


Figure 1 Physical characteristics of Ine fisherman village (JNTO, 2020)

The conservation development of Ine fisherman village currently has solved by using the concept of sustainable tourism. The context of the village was embraced without disturbing the environments and the appearance of the village architecture. The case study of Ine fisherman village would help encourage people to realize that the new development should respect the value of culture and nature.

In summary, conservation development could be the key to success for the design proposal of Ao Salat fisherman village. Hopefully, the conservation design proposal of Ao Salat fisherman village could meet the needs and requirements of villagers, visitors, and government authorities and become a successful development prototype for ecotourism in Thailand.

2. Objectives

The objectives of the research are as follows;

1. To study the physical characteristics and community identity of Ao Salat fisherman village.
2. To propose a conservation design of Ao salat fisherman village for sustainable tourism.
3. To test the new preservation designs with the existing environments by 2D virtual reality.



3. Materials and Methods

3.1 Case Study

The case study that was selected in the research is Ao Salat fisherman village in Kut Island, Trat province, Thailand. Ao Salat fisherman village contains about 50 traditional households along the Ao Salat bay. The original building structures were mostly made of wood along the seaside walkway where is also the place for boat moorings and the fishery working place of the community. This unique village is full of striking characteristics of a marine fisherman community that is worth for preservation, as seen in Figure 2.

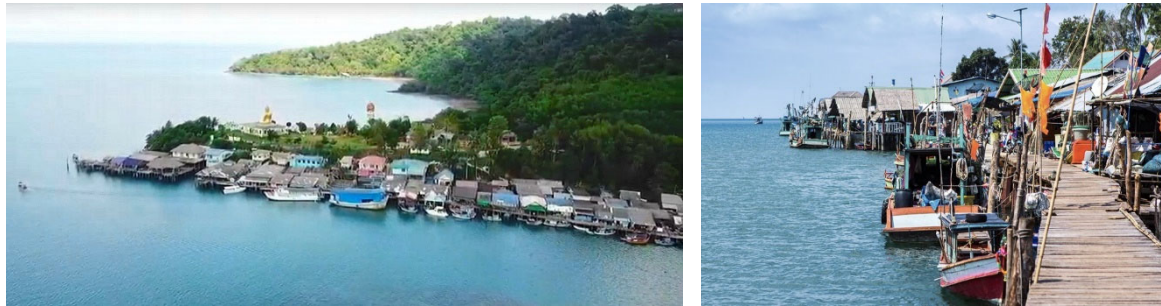


Figure 2 Ao Salat fisherman village: left; view from above (YouTube, 2020) and right; path view (Trip Packer, 2013)

3.2 Design Criteria

The conservation design considerations are to follow the ecotourism concepts of conserving natural and cultural heritages, strengthening local communities by sustainable development, and promoting people's experiences and environmental awareness through interpretation (TIES, 2020). The design criteria are to be evaluated by the principles of ecotourism as follows;

- 1) Minimize physical, social, behavioral, and psychological impacts.
- 2) Build environmental and cultural awareness and respect.
- 3) Provide positive experiences for both visitors and hosts.
- 4) Design, construct, and operate low-impact facilities.
- 5) Fulfill urban identity and maintain architectural unity.

3.3 Tools

The design tools that are used for developing schematic designs are architectural vocabularies, edges, paths, nodes, and landmarks of the community (Lynch, 1960). The tools for creating 2D virtual reality images are 3D computer modeling and Photoshop programs.

3.4 Methodology

The research methodology is a conservation design process. To achieve the goals, the steps for the design process are as follows;

- 1) Collecting general data of the village.
- 2) Field surveying the existing forms of the village and observing the problems of the community.
- 3) Analyzing the characteristics of the fisherman village and the environmental context.
- 4) Designing and proposing the new conservation development of the village.
- 5) Testing the design outcomes by comparing the new development with the old existing village by 2D virtual reality images. And the evaluations of the results are to be discussed.

4. Results and Discussion

4.1 Existing forms of the village

The research has shown that the physical structure of the community tends to live along the seaside parallel to the bay about 500 meters long. At the back is a peninsula that has a local road to connect to the



seaside. The characteristic of the building mostly is the one-story building elevated equally from the sea show the harmony by the linear forms of the first floor. Whereas the cluster forms in the plan of house are a bit variety as well as the different slopes of the gable roofs. These show the identity of each household gives a touch of the local man-made. In front of each house, there is a pole plunge down into the sea for moorage of fishing's boat reflecting what the residents do for a living. Besides the pole, there also a floating basket for keeping the fish alive for commercial use. The building materials of the house are the mixture between old timber and some new materials to make an extension of the house. The community also preserved the seafood to eat and sell throughout the year. This preserving process is done along the seashore which emphasized the aesthetic of visiting the fishing community. The existing layout plan of the village is shown in Figure 3.

There are four zones of land use in the village as follows;

1) The transportation zone

This zone is the main pier for a shipping route to the mainland for both people and merchandise.

2) The cultural zone

This zone is on the hillside peninsula. The temple with the giant buddha sculpture became a landmark of the village. The residences can see from the village and often come to visit and pay respect.

3) The fishing market zone

The market is in the heart of the community. The place is where people trade and transport goods.

4) The residential zone

The housing and fishing area is the most difficult to access because it is a private zone that sometimes full of working spaces and boat parking spaces.

Most of the village zone are connected by the seaside walkway. The analysis of zoning and land use, edge, path, access, node, and landmark is shown in Figure 4.

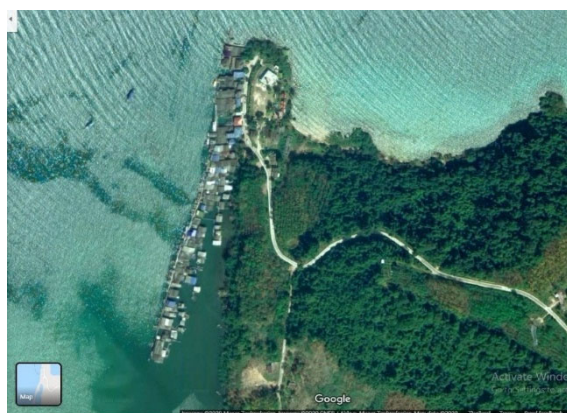


Figure 3 Existing conditions of Ao Salat Village
(Google map, 2020)



Figure 4 Analysis of Ao Salat Village
(Site analysis by the research team)

From Figure 4, the analysis of Ao Salat village tells that the existing forms of the village need to be developed and emphasized by the urban vocabularies of edge, path, node, and landmark.



4.2 Development proposal

By analyzing the overall picture of Ao Salat Fisherman's community, the proposal consisted of 5 main projects with the concepts of preserving the community and being friendly to nature, as follows; 1) Transportation zone, 2) Cultural zone, 3) Commercial zone, 4) Residential zone, and 5) Educational zone.

The development location is shown in Figure 5.



Zone: 1) Boat pier, 2) Cultural center, 3) Fishing market and residential, 4) Walkway 5) Learning center

Figure 5 Development locations of Ao Salat village (Site analysis by the research team)

From Figure 5, The locations of the 5 projects show the relationships among the developments. Boat pier, cultural center, fishing market, walkway, and learning center are the needs of the community to fulfill the completeness of the urban forms of the village.

4.2.1 Transportation Zone

The Location of Ao Salat pier can be used as the main port of Ko Kut because Port Ao Salat can be used all year with a mountain range that can block a monsoon that is better than Klong Hin Dum port that is broken and the ship cannot dock during the monsoon seasons. But Port Ao Salat has the disadvantage of being far away from the village, it takes time for villagers to travel there. Therefore, the Ao Salat pier has a potential to be one of the main ports of Kut island.

The Salat pier has been separated and disconnected from other areas, as shown in Figure 6. The development is concentrating on extending the size of the pier and increase the ability to accommodate tourists also act as a connection that connected to the main sidewalk along the sea. The merchandise port was rearranged as compact as possible, as shown in Figure 7.

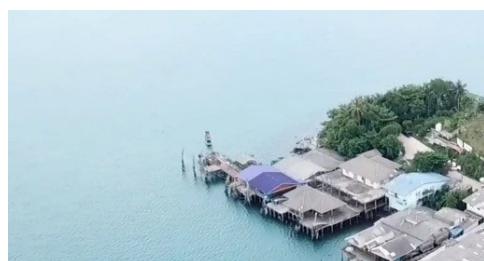


Figure 6 Existing conditions of zone 1: Salat pier



Figure 7 Proposal of zone 1: Project Image of Salat pier



(YouTube, 2020)

(Preliminary design by the research team)

From Figure 7, The virtual reality view of the new Salat pier gave a sense of convenient seaport facility with low impacts on the environment. The pier created a unique reception platform that links directly to the community. Furthermore, the wooden tone of the facility gave a warm welcome experience for the visitors and the past perception of wood for the villagers.

4.2.2 Cultural Zone

The cultural traveling area has been difficult to access and the area has been desolate, as shown in Figure 8. The renovation was focused on improving and redesigning the temple and the landscape and provide better access for villagers and tourists. Furthermore, the statue of Buddha was added more activity areas and viewpoint, as shown in Figure 9.

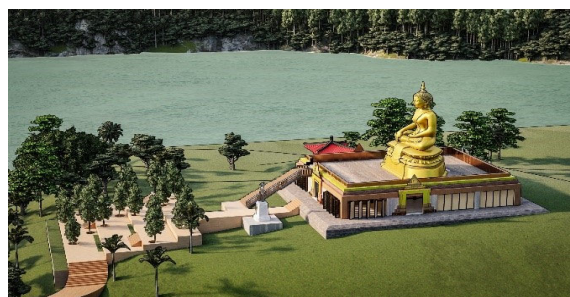


Figure 8 Existing conditions of zone 2: Ao salat temple (YouTube, 2020) **Figure 9** Proposal of zone 2: Viewpoint at Ao salat temple (Preliminary design by the research team)

From Figure 9, The cultural facilities were renovated and emphasized to be the landmark of the village. By giving better access to the statue of Buddha, this place could be a new destination for villagers and sustainable tourists. The landmark not only promoted the social and cultural interaction but also gave the senses of respect to the place and its environment.

4.2.3 Commercial Zone

The existing path (as shown in Figure 8) was improved community spaces and commercial areas (as shown in Figure 9). The design potentially to be the center of the community after improvement. The development of the area is concentrated on improving a shopping area along the seaside and create space for traditional activity and art installation which utilize the unused area in the community. All of this going to boost the market in the village and help strengthen the character of the community.

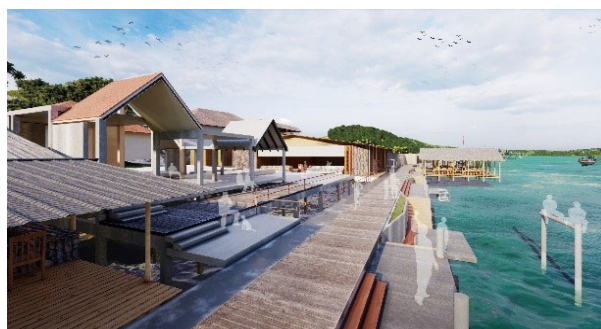


Figure 8 Existing conditions of zone 3: Shopping area (Photo by the research team) **Figure 9** Proposal of zone 3: Shopping area, community center (Preliminary design by the research team)



From Figure 9, The image of the new shopping area and community center showed alternative activities for the community. The multi-purpose spaces could be used as new social, commercial, and recreational places while minimized the physical, social, behavioral, and psychological impacts of the village.

4.2.4 Residential Zone

Seaside walkway (shown in Figure 10) has potential by increasing the size from 2 meters to 3 or 4 meters and strengthened the walkway structure. Also, create aesthetic value by using wood as a finishing for the floor. The path has increased the size and provided different levels of decks that people can interact with the sea. The lower decks could provide easier access to the floating basket and make the village more attractive. The seaside walkway also connected two main activity spaces which are the harbor and the learning complex, as shown in Figure 11.



Figure 10 Existing conditions of zone 4: Seaside walkway (YouTube, 2020)



Figure 11 Proposal of zone 4: Fishmarket, shops, restaurants, seaside walkways
(Preliminary design by the researchers)

Figure 11 shows the harmonious forms of new addition and renovation of facilities. The new fish market, shops, restaurants, and seaside walkways were designed, constructed, and operated in quite the same ways as the existing structures. The image gave the senses of low-impact facilities.

4.2.5 Educational Zone

The fishing cultural center and Salat traditional learning center are going to be built at the end of the village which is close to the existing crab nursery, as shown in Figure 12. By improving the existing idea of crab nursery, it was made for more approachable for visitors to access the culture of the area. The learning center not only helps people to understand more about culture but potentially acts as a node and becomes an activity area for villagers and travelers. This multi-purpose space could promote more traditional activities such as nursing crab nursery, carving artificial coral carving, building boats, and fishing tools, as shown in Figure 13.



Figure 12 Existing conditions of zone 5: Learning center (Photo by the research team)

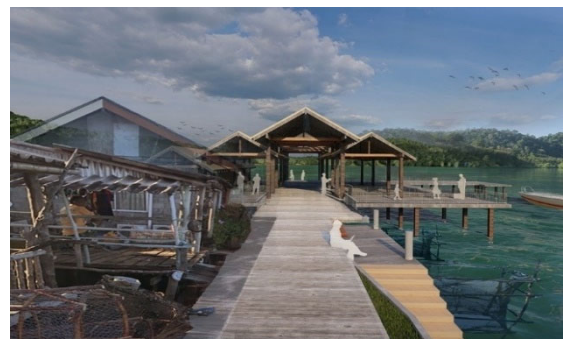


Figure 13 Proposal of zone 5: Learning Center, crab nursery (Preliminary design by the research team)

From Figure 13, the learning center and crab nursery provided an educational place for visitors to understand how the fishery works related to the environment. The virtual reality image showed the harmonious relationships of the new conservation architecture and the existing village and the environment.

5. Conclusion

The proposed projects could elevate the architectural values of the fishery community. Although the local regulations have limited the change of the urban landscape of the village, the approval by governmental sectors could make it possible. Since sustainable designs aim to minimize the disturbance of the ecosystem with a combination of local and modern materials and building forms. Good sustainable designs could blend the new developments with the existing context without losing community identity. Therefore, the sustainable design could lower the impacts and provides new urban development in the same direction as ecotourism recommendations.

The development of Ao Salat village can be a great benefit to both physicals and tourism purposes. The development can also benefit the ecotourists and the villagers would love their village and make it a priority to protect nature, they can use free space in the village to make a playground. The community could make a profit from eco and cultural tourism who participating in the activities and purchasing the fishing products. The overall perspective views of the design proposal are shown in Figures 13 and 14.



Figure 13 Development Proposal: North side of Salat fisherman village (Preliminary design by the research team)
1) Boat pier, 2) Viewpoint and cultural center 3) Common activity area 4) walkway, shops & restaurants



Figure 14 Development Proposal: Southside of Salat fisherman village (Preliminary design by the research team)
1) Boat park, walkway, market, shops & restaurants 2) Homestays & Residences 3) Learning Center & crab nursery

From Figures 13 and 14, The overall outlook of the proposal showed the smooth integration of new development projects and the existing village. The community structures were completed by renovating, emphasizing, and organizing the old facilities and by adding, enhancing and fulfilling the new facilities.

The results of the study about the environment and character of the Salat village in Trat province show that the problems that would potentially solve by all of the five proposals which are the Boat pier, the cultural tourist area, the waterfront walkways, and the cultural learning complex. These developments should help the village improve its quality as a traveling spot that is sustainable and hopefully become a role model for other villages.

In conclusion, the conservation design proposal has followed the ecotourism concepts of conserving natural and cultural heritages, strengthening local communities by sustainable development, and promoting people's experiences and environmental awareness through interpretation (TIES, 2020). The 2D virtual reality images did help to clarify the outcomes of sustainable development. However, the preliminary design by the concept of conservation development has been limited time to improve and develop more in detail. We suggest that researchers should share more opinions with the villagers and more involve in village activities. Hopefully, the government would consider the sustainable design proposal as great benefits for ecotourism, community, and environment.

6. Acknowledgments

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7. References

- Bureau of Registration Administration, BORA. (2019). Report of Population and House Statistics 2019. Retrieved March 10, 2020, from <http://stat.bora.dopa.go.th/stat/statnew/statTDD/views/showVillageData.php?rcode=23060602&statType=1&year=62>
- Designated Areas for Sustainable Tourism Administration, DASTA. (2018). *Sustainable Tourism Management Standard*. Retrieved March 10, 2020, from https://tis.dasta.or.th/dastaknowledge/wp-content/uploads/2018/07/Sustainable-Tourism-Management-Standard_th_100561_2.pdf



- Google Maps. Ao Salat Kut Island. Retrieved 1 February, 2020, from <https://www.google.com/maps/search/ao+salat+kut+island/@11.7055859,102.5694461,1009m/data=!3m1!1e3>
- Japan National Tourism Organization, JNTO. (2020). Retrieved February 1, 2020, from <https://www.jnto.or.th/newsletter/ine-kyoto/>
- Lynch, K. (1960). *The Image of the city*. Harvard-MIT Joint Center for Urban Studies Series. Massachusetts: M.I.T. Press
- Neil, J. & Wearing, S. (2009). *Ecotourism: impacts, Potentials and Possibilities*. 2nd ed. UK: Elsevier
- Trip Packer. (2013). Ao Salad, visit local fishermen. Retrieved February 1, 2020, from <https://www.thetrippacker.com/en/review/%E0%B8%AD%E0%B9%88%E0%B8%B2%E0%B8%A7%E0%B8%AA%E0%B8%A5%E0%B8%B1%E0%B8%94AoSalad/6496>
- The International Ecotourism Society, TIES. (2020). *What is Ecotourism?*. Retrieved February 1, 2020, from <https://ecotourism.org/what-is-ecotourism/#>
- YouTube. (2020). Ao Salat, Kut Island, Trat Province. Retrieved February 1, 2020, from <https://www.youtube.com/watch?v=VwoCHNYBa84>