

**COMMUNITY EMPOWERMENT BASED ON
UNDERWATER EDUCATIONAL TOURISM IN THE LHOK
LAMTEUNG OH CUSTOMARY LAW MANAGEMENT AREA
(WK-HAL) SYNERGY WITH USK IN SUPPORTING PTNBH
CAMPUS**

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ABSTRACT

The Laot Lhok Lamteungoh traditional legal management area has marine natural characteristics consisting of shallow sea areas with coral reef ecosystems in several places, one of which is on Tuan Island, and several other points to the west-south in Peukan Bada District, Aceh Besar Regency. Coral reef areas are resources that must be conserved and provide income for the surrounding communities. PKMBP 2023 seeks an integrated program which will ultimately produce prospective entrepreneurs in the marine or maritime services sector, especially underwater tourism from traditional fishing communities. Service activities have been carried out for approximately 6 months June-November 2023 with socialization activities, FGDs, and a number of trainings and product placements in designated locations. The outputs produced in this activity include IPRs in the form of Copyright certificates, artificial reef prints, artificial reef products, mass media publications, and service journal publications. All targets were achieved as planned.

Keywords : *educational tourism, coral reefs, environmental engineering, fish houses*

ABSTRACT

The Lhok Lamteungoh customary law management area is characterized by its unique marine environment, consisting of shallow waters with coral reef ecosystems in several locations, including Tuan Island and several other locations in the southwest of Peukan Bada District, Aceh Besar Regency. Coral reef areas are a resource that must be preserved and provide income for the surrounding community . The 2023 PKMBP (Community Development Program) is striving for an integrated program.

This ultimately gave birth to prospective entrepreneurs in the marine services or maritime sector, particularly underwater educational tourism, from traditional fishing communities. The community service activities were carried out for approximately six months, from June to November 2023, including outreach activities, focus group discussions (FGDs), training sessions, and product placement at designated locations. Outputs from this activity included intellectual property rights (IPR) in the form of copyright certificates, artificial reef molds, artificial reef products, mass media publications, and community service journal publications. All targets were achieved as planned.

Keywords : educational tourism, coral reefs, environmental engineering, fish houses

A. INTRODUCTION

The Lhok Lamteungoh Customary Land Management Area (WK-HAL), Peukan Bada District, Aceh Besar Regency, Aceh Province, is a customary law community area that has been utilized by the hukom adat laot community (traditional fishermen) from the coastline to a certain extent towards the sea and towards the land from breaking waves until annual plants do not grow. The regulations of the hukom adat laot aim to maintain order in fishing, protect the hukom adat laot management area, the fishing area of traditional fishermen, and maintain the preservation and sustainability of fishery resources as a long-term investment for children and grandchildren. The boundaries set are: North bordering Lhok Pulau Nasi; East bordering Lhok Kuala Cangkoi, Ulee Lhue, Banda Aceh City; South bordering Ujong Raja Lhok Lampuuk; West bordering the Indian Ocean; towards the land from breaking waves until annual plants do not grow (Intellectual Property Database, 2022).

The traditional fishing community within the Lhok Lamteungoh Customary Law Management Area (WK-HAL) consists of traditional fishermen engaged in one-day fishing, line fishing, beach trawl fishing, oyster fishing, micro-scale fish processing communities, and small-scale fishery product traders. In general, the income of the fishing community in this area is highly dependent on fish catches and other marine resources, which are directly or indirectly influenced by changes in seasons and climate as well as changes in the quality of coastal and marine ecosystems. The image below shows one of the activities of the traditional fishing community in WK-HAL Lhok Lamteungoh (Figure 1).

1. Traditional fishing communities have difficulty catching fish in the WK-HAL Lhok Lamteungoh, due to the increasingly limited availability of fish.
2. The creation of temporary unemployment in some traditional fishing communities because fishing activities cannot provide adequate income.
3. Some of the fishing fleet (boats) are not being utilized optimally, so it is necessary to find alternative solutions.
4. Coral reef areas need to be protected and utilized for the benefit of the community in WK-HAL Lhok Lamtengoh.

This Community Service Program (PKMBP) aims to create an integrated program that will ultimately produce prospective entrepreneurs in the marine services sector, particularly underwater ecotourism, from among traditional fishing communities. In addition to utilizing natural resources sustainably through tourism, this community service can also enhance natural resource wealth through environmental engineering, which will be implemented in this community service.

Small-scale fishermen often fail to maximize their fishing fleets due to inaccessible fish catches or unfavorable fishing seasons. The Lhok Lamteungoh WK-HAL (HAL) Marine Park (WK-HAL) boasts a coral reef ecosystem and its biota that can be utilized to generate new income . Traditional fishing communities of productive age who need alternative employment opportunities can be directed to pursue marine services. Therefore, through the PKMBP (Community Based Fisheries Program), a new business sector can be created in the form of underwater educational tourism services.

Based on information received from partners, USK needs to help the community present new business opportunities amidst the challenging economic situation of fishing communities while simultaneously creating synergy with USK through business collaboration. In accordance with the objective of the PKMBP activity, which is to produce a product or service that can help create peace and comfort in community life, this PKMBP activity strives for an integrated program that will ultimately produce prospective entrepreneurs in the marine or maritime services sector, especially underwater ecotourism, from traditional fishing communities. In addition to utilizing natural resources without damaging them through the tourism sector, it can also simultaneously increase the wealth of natural resources through environmental engineering , which will be applied in this service . In accordance with Law

Law of the Republic of Indonesia Number 10 of 2009 concerning Tourism requires tourism activities to maintain environmental sustainability (JDIH BPK RI, 2009).

2022 could be called the year of revival for Indonesia's tourism and creative economy sectors. As COVID-19 cases are increasingly under control, domestic tourism is revitalizing with increasing tourist visits (Tempo, 2022). New jobs are being created as underwater educational tour guides, leveraging the skills of fishermen themselves. Unused boats can be transformed into new business opportunities in the educational tourism sector. Tour guides, often also called tour guides, are essentially people who accompany, provide information, guidance, and advice to tourists on their trips (Suyitno, 2005).

Providing knowledge on underwater environmental engineering and the construction of beehive-style fish houses that serve dual purposes as environmental engineering and underwater educational tourism sites. Fish habitats can be engineered by creating artificial reefs as permanent replacement habitats. Artificial reefs have long been used in environmental rehabilitation efforts to improve fisheries quality and management, research, and recreation (Fabi et al., 2015).

Exploitation pressures that have occurred in recent decades have resulted in environmental degradation and reduced fishermen's catches (Kisworo, 2013). Fish houses will be constructed with concrete as a form of environmental engineering to increase fish resources. The use of concrete for artificial reefs is known for its strength and suitability to underwater environments that require strong and durable materials. Artificial reefs in various models have been tested and can withstand a number of waves and have varying capabilities, but are generally strong enough to be built in areas with waves (Fauzi et al., 2017). According to the Subcommittees (2004), the advantages of concrete for artificial reefs or fish houses include:

- a) Concrete materials are very suitable for marine environments .
- b) Concrete is very durable , stable and readily available.
- c) The flexibility to mold concrete into a variety of shapes makes the material ideal for developing prefabricated units.

Concrete provides an excellent surface and habitat for the settlement and growth of crust or fouling organisms, which in turn provide food and shelter for other invertebrates and fish.

PKMBP supports the implementation of a new paradigm in community service activities that are problem-solving, comprehensive, meaningful, thorough, and sustainable with multiple targets. These are the reasons for the development of Product-Based Community Service (PKMBP) activities and adopted by the Community Service Team in this activity. PKMBP activities focus on product application, in this case marine service products that can be used to empower and improve the economy of coastal communities in particular. This PKMBP activity is expected to provide real solutions to the problems mentioned above.

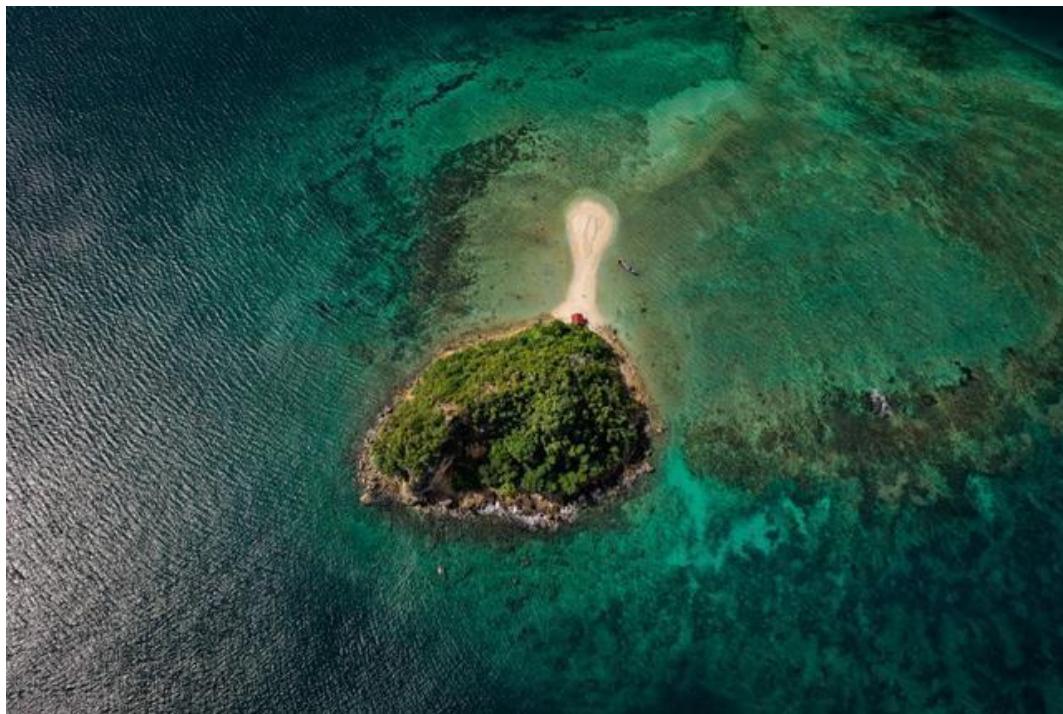


Figure 1. Tuan Island (Source: Google)

B. SERVICE METHOD

The activity implementation method explains the stages or steps in implementing the solution offered to overcome the problem.

3.1 Pre- Activity

The pre-program includes several outreach activities and focused discussions to screen potential community members who will be involved in the overall community service process. The training participants are selected based on the appropriate criteria to prepare them to become entrepreneurs in the marine services sector. The program also establishes a shared vision with the beneficiary community and partners to ensure its success.

Socialize activities and schedules with partners to achieve a shared understanding with the community service team. This pre-activity period is a crucial step in ensuring the success of the community service program.

3.2 Main Activities

The main activity is the main activity which consists of several activities which are made systematically to create strong prospective entrepreneurs in the production, management and marketing aspects.

Strengthening the production aspect, in this case, is focused on service products, so training is provided in educational tourism guide training and coral reef monitoring. These two activities will improve the quality and professionalism of the services offered by aspiring entrepreneurs.

Management strengthening will be implemented through business management training and underwater environmental engineering, as well as the construction and placement of fish houses on Tuan Island. The business management training will also provide training in marketing skills.

3.3 Post- Activity

The program's sustainability will be realized through the signing of a partnership agreement between Syiah Kuala University, the Panglima Laot Traditional Institution, and the Lam Tutui Village Government. The collaboration focuses on supporting the marketing aspects of educational tourism activities for prospective community entrepreneurs being mentored by the partners.

C. RESULTS AND DISCUSSION

The results of the community service activities generally achieved some of the planned activities. The enthusiasm of the beneficiary community was very high.

and several activities were carried out well until the process of making artificial reef molds which will be used as underwater engineering media.

Referring to the program outlined in the community service proposal, the following results and outputs can be obtained during the community service:

1. IPR in the form of a copyright on an artificial reef model as evidenced by a Copyright certificate .
2. Knowledge through underwater educational tourism guidance training for the community, which can provide benefits including:
 - Providing alternative skills to traditional fishermen of productive age at partner locations.
 - Fishermen have reliable and professional guiding skills. This creates basic skills to create new jobs.
 - Provision of good and correct snorkeling skills in coral reef areas .



Figure 2. 2023 PKMB Training (source: personal documentation)

3. Knowledge gained from coral reef ecosystem monitoring training is useful for:
 - Provide basic knowledge about coral reef ecosystems so that people understand the benefits that coral reefs provide to humans.

- Increase community knowledge in maintaining coral reef ecosystems as important ecosystems in coastal areas.
- Equipping the community with marine knowledge in underwater educational tourism activities.

4. Knowledge from business management and marketing training to support:

- The formation of a community business unit that operates in the field of underwater educational tourism professionally.
- Providing community competencies to support running educational tourism businesses up to the marketing aspects.

5. Skills in making reef molds from underwater environmental engineering training and its applications, so that the community can:

- Have knowledge of making fish houses to support the existence of coral reef ecosystems.
- Able to engineer the environment to improve the quality of the ecosystem which can provide benefits, such as increasing the presence of fish in the engineered location.
- Able to apply engineering techniques to support activities .



Figure 3. PKMB 2023 printed product (source: personal documentation)

6. Placement of artificial reefs to be used as diving spots or underwater objects to be visited.



Figure 4. 2023 PKMB Products (source: personal documentation)

D. CONCLUSION

The community service program was successfully implemented thanks to the generous support of the indigenous Laot community involved. The limited number of products produced is limited by limited funding.

E. SUGGESTIONS

The suggestions in the community service results journal are in the form of an appeal to be continued with sustainable empowerment of the educational tourism groups that have been initiated.

F. THANK YOU

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