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Potential of community capacity building for ecotourism purposes in Tg.Piai, Johore

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Abstract. This paper seeks to examine Tg. Piai as a potential site for community capacity building for ecotourism development. The research is done by reviewing and comparing literatures on the ecological and sociological aspect of tourism in the area. Also through on-ground observations and experience from a past research done for “ Final Report on Habitat and Ecological Research After Wavebreaker Project at Tg. Piai ”. Referring to the existing natural tourism, cultural tourism attractions, and an encouraging number of local participations in the tourism industry, there are already positive signs of potential for ecotourism development. Assessment of data gathered, further strengthens the viability, with results of positive attitudes projected by the locals toward tourism development in the area. However, upon further review, the research found that there has been problem with past top-down governance style of the tourism development in the area and it shows on the ground as well. There is a need for a more sustainable development for ecotourism that focuses on the participation of the local community. As a conclusion however, it is proven in many ecotourism development with local community, the involvement of the locals is a crucial part of creating a working ecotourism destination. Fortunately, there are indicators that show willingness of the locals to support a community capacity building project to develop ecotourism in the area. Thus, the research suggests that the stakeholder take this opportunity to create a new cooperation with the local, through community capacity building, using the bottom-up approach to develop ecotourism products that can sustainably benefit both the stakeholder and the local community. This review paper is a continuation from the “ Final Report on Habitat and Ecological Research After Wavebreaker Project at Tg. Piai ”. Authored by the Centre of Research-Sustainable Uses of Natural Resources (COR-SUNR), UTHM.

1. Introduction

Tg. Piai is a coastal mangrove area in the Pontian district of Johor state. It is generally known for its geographical feature, being the southern most tip of mainland Asia. Ever since it was recognized as a Johore National Park in 1997, *Perbadanan Taman Negara Johor* (PTNJ) has been the biggest stakeholder that runs and maintains the park area. Also according to [1], Wetland International researched the area in 2001, and then in 2003 it was internationally recognized as one of three Ramsar protected sites in the state of Johore.

However, the coastal area and its biodiversity are under threat, mainly due to the fact that the Malacca strait is one of the busiest international shipping lanes in the world. High volume of passing vessels on



its coastal area causes oil spill, sedimentation, and erosion [1]. [2] reported that in 2006 alone, more than 65,000 vessels pass through the Strait of Malacca. With such high traffic of ships, major accidents have happened several times in the last decade, polluting the sea with hazardous and noxious substance (HNS) and oil. This pollution problem affects the whole coastal states in Malaysia, including Johore. More specifically, it threatens the biodiversity in the sea and the coastal mangroves, thus affecting the income and livelihood of the local community that relies heavily on it.

[3] reported, 70% of the local respondent agrees, to the fact that the degradation of the mangrove is affecting their livelihood. It reflects that the pollution that has been happening in the Strait of Malacca does have a notable impact on the local community. On 26th of June 2012, an oil pollution incident occurred, where oil spills from the sea drifted to the shore and over 1.2KM of coastline in Tg. Piai was affected. It was reported that 5 ha of area was badly degraded and in the end of the clean up process, the 300 volunteers collected 1.8 tons of oil [4].

There has been effort by the stakeholder in the form of wave breaker bunds to reduce the effect of wake that causes land erosion from ships passing through the strait [1]. However, the wave breaker bunds are not able to stop oil or other HNS from reaching Tg. Piai coast, thus the impact towards the community will still exist. The local community now must find other means of maintaining their livelihood.

2. Tourism in Tg. Piai

Tourism was their answer. [5] suggests that tourism can be seen as a key community tool that helps with bolstering the economy and has the ability to unite the local community. Ever since Tg. Piai was declared as Johor National Park and a Ramsar site, there has been some push towards tourism in the area by the government [6]. In 2001, the Rural Development Ministry initiated the Homestay Program in Tg. Piai. 40 families were selected to pilot the Homestay Program with other tourism activities attached. Some activities include visit the local apiary to witness honey harvesting, boat rides to visit 'kelong' or aquaculture farms and savor seasonal fruits, fresh off the trees, as reported by [7]. Taman Negara Tg. Piai also runs ecotourism and educational tours on and about the mangroves area.

Fast forward to 2017, the tourism industry here has not grown much. Through observations on the surrounding areas, it looks like the tourism industry here is barely managing. The homestay program, now rebranded to Desa Stay, Johor, and other privately-owned homestays are numerous, with over 20 homestays in total. However, almost all are vacant, except during peak seasons. Off-season occupants are usually outside contractors working for the nearby Tg. Bin power plant [6]. Noted from the report is that the seasonal tourism also affects the Tg. Piai Resort. A resort on concrete stilts along Tg. Piai coast, it has been the biggest and oldest tourist lodging in the area since the past 30 years. Known for its open view of the sunset and fresh seafood, it is one of the icons in the area. There are still some cultural tourism activities, with the Bugis Museum being the most famous attraction in the area. Other tourism attractions are still visible, such as the Medan Gasing, and the Bugis Heritage House, but they seem to be currently inactive or empty of visitors. School and public holidays seem to be the trigger for tourism activities here.

Taman Negara Tg. Piai might be the only tourism stakeholder that is still going strong. By running comprehensive educational tours in the area and using the facilities available, they still take groups of students or interested tourists on an educational guided tour of the mangroves in the area. Or visitors can opt for the normal entry tickets to self explore on the boardwalks within the mangrove forests and enjoy the view along the coast. There is also the famous 'Globe' monument to mark the southern most tip of mainland Asia [6].

Nevertheless other tourism site and attractions here seems to be faltering. It was not enough to create a tourism atmosphere in Tg. Piai, and the area as a whole, is still depending a lot on seasonal tourism that peaks during public and school holidays. This however, does not correlate with fact stated by [8] that Taman Negara Tg. Piai recorded a steady gain of visitor from 55,812 in 2010 to 72,932 in 2012. Further review reveals that the relation between the stakeholders and the local community was not in good conditions [7]. Lack of cooperation between the two sides has caused a one sided gain, and an unsustainable tourism industry in the area. Other research by [9] also noted that the past top-down

approach towards tourism development and management is not working well. These internal problems festered the industry and now create an overall less desirable tourism atmosphere in Tg. Piai.

3. Local's perception on tourism

However, the locals' perception on tourism here is currently high on the positive note. A social study was done by [3] on residents around Tg.Piai area, collecting their perception on mangrove, Ramsar, tourism potential and fishery. The data gathered incidentally gave a glance of locals' perception on tourism in the area. Below are some indicating data on the locals' perception on tourism;

- 70% of the 34 respondents mentioned about tourism, mainly related to Taman Negara, Tg. Piai. This shows that the locals acknowledge Tg.Piai as a tourism area, and they are well aware of the main attraction in Tg. Piai, which is the National Park itself.
- Almost all of the respondents were happy and proud of the National Park, and 47% of the respondent has taken their, friends, relatives or tourist to visit the National Park because of this.
- Moreover, 3 individual specifically mentioned that they were more than glad to have had become a local guide for their friends and relatives that visited there.
- Finally, 76% of the respondent agrees that tourism in Tg.Piai has a positive impact on the local economy. Largely by creating new work opportunities for the local community. Work an opportunity that is different from the fishing.

The data illustrates that the locals are happy and are already familiar with the tourism activity here, showing that the community would welcome any sustainable development of tourism in the area. This also imply the willingness of locals to participate and be part of a tourism development that involves conserving their environment and benefitting them economically.

4. Potential of ecotourism

[5] defined ecotourism as a natural resource-based tourism that is sustainable and ethically operated locally. He added that, it should also contain the element of community empowerment through control, benefits and scale. At the same time it is contributing to the conservation and preserving the area and its local community. [10] managed to refine the definition as a tourism operation that occurs in natural settings, while trying to increase benefits to the economy, society, and environment, through sustainable educational practices. The environmentally threatened mangroves in Tg. Piai area is a suitable place for ecotourism.

A mangrove forest is dominated by mangrove trees which has an incredible tolerance to water salinity. Their protruding roots thrive on muddy beaches and are partially merge above the water to prevent it from drowning. Because of this special adaptation, mangroves are the habitat for distinct species of fauna, such as the Mudskipper fish. Mangroves roots are also the best form of natural defence against land erosion and typhoon. Moreover, it supports to maintain a healthy population of fish in the sea, by becoming a safe haven for nursing fish [11]. With such unique biodiversity and great importance, mangrove has always been a magnet for ecotourism and conservation activity. Mangrove natural reserves are everywhere in South East Asia such as the Sungei Buloh Wetland Reserve in Singapore, Mai Po Nature Reserve in Hong Kong, and Likas Wetland Centre in Sabah [12]. Country like Indonesia with its mass amount of wetlands and mangrove has been utilizing it as an ecotourism attraction with activities ranging from snorkelling to mangrove trekking [13].

On a similar note what should be done in Tg.Piai should also be applied to its neighbour, Pulau Kukup which is also an established mangrove ecotourism site [6]. In Tg. Piai, only the main stakeholder,

PTNJ, who runs Taman Negara Tg. Piai, is running and promoting ecotourism in the mangrove area. A proper and sustainable ecotourism product that has a high level of community involvement must be developed in order to promote and sustain ecotourism in Tg. Piai.

Based on suggestions of past research and reviewed literature, here are some suggestions of potential ecotourism products to be developed in Tg. Piai:

- In order to stand out, the National Park could invent a theme that is unique to the area and relates to the natural mangrove setting. The researchers would highly recommend the theme to be based on the Mudskipper fish. It is globally known to be a unique species of fish and it is relatively abundant on the mudflats of Tg. Piai. A research by [14] found there are 8 species of Mudskipper in the area with 7 being classed as “Near Endangered” by IUCN conservation status. Giant Teeth Mudskipper (*Periophthalmus schlosseri*) was also suggested in the research, to be the main ecotourism product because they are easily recognizable. Otherwise, Mudskipper species with attractive morphology, like the neon blue dots on the Goggle-Eyed Goby (*Baleophthalmus boddarti*) could also be an easily memorable character and it is relatively visible in the mud flat area. Related ecotourism products such as, Mudskipper spotting in the mangroves, Mudskipper educational tours, are showcases that focuses on its unique morphology, and mangrove based souvenirs, can also be included to maximise profit. Local community could be involved by becoming the local guides or boatman for the tours, or they can create a co-op to manufacture and supply the unique mangrove souvenirs. The goal is to create a unique product, and create its own demand to promote a new kind of ecotourism product in Malaysia. Plus, there is no dedicated Mudskipper fish center anywhere in world. By offering a different and unique natural tourism product, Tg. Piai National Park has the potential to be known for more than just its geographical feature and its’ Ramsar status.
- The environmental international shipping lane issue and its destructive effects can be actually benefit the tourism industry here. Tg. Piai pollution issue is already internationally recognized as it involves one of the busiest international shipping lanes in the world, having over 65,000 vessels passing through the Strait of Malacca in 2006 alone [2]. Locals can provide a hands-on tour on how they use and rely on the resources of the mangrove. The local guides can then share stories on how the pollution is affecting them, in order to immerse the tourists on the impact of the shipping lane towards the locals. With this educational tour, locals can earn income through becoming the local guide and selling souvenirs or products made from the mangroves. But more importantly, this strengthens a sense of ownership of the land within the local community.
- The same issue, when coupled with Tg.Piai’s internationally recognized Ramsar status and the efforts of conservation in the area, with wave breakers and bunds project still on going, Tg. Piai mangrove is a good example of real time, large-scale mangrove conservation project. Research by [15] shows that there have been improvements on the mangroves’ health, with over 90% rate of regeneration after the first four wave breakers bunds was in place by 2017. This can be packaged as another ecotourism product where tourist can be guided to see the phases of mangrove conservations and replantation in the designated park area. The aim of the tour is to sell the end product, which is the ‘adopt a tree’ program. This is where the tourist would buy a mangrove seedling, plant it themselves, and pay up front for the up keep of the tree. A local team can then be assembled and paid to be the work force for the upkeep and update of the tree.

Between the importance of conservation and uniqueness of its mangrove, the international pollution issues of its coastal area and the Ramsar international acknowledgement, plus positive perception towards tourism by the local community, Tg. Piai has plenty of potential as an ecotourism site. But overall, there is a need of change in governance style of tourism development in the area; perhaps something that is developed involving the community. However, according to a case study by [16] to involve local community to take part in ecotourism is no easy task. Even when both sides, the

stakeholder, and the local community see eye to eye on the benefit of tourism in their area, it is proven that other factor such as communication effectiveness, perceptions, and attitude can affect the outcome of the investment towards ecotourism in the area. There is a need for a systematic way to develop a working and sustainable tourism industry in Tg.Piai. One way to start is through Community Capacity Building (CCB).

5. Potential of community capacity building (CCB)

In a review of concept thesis, [17] defined community capacity as the ability for a group of people who shares the same interest or a geographically defined area, to work collectively towards maintaining and adapting in changes. [18] added that development of community capacity is vital to improve the process of sustainable development and long-term growth. In a simpler term, community capacity can be defined as the “essence of development” as coined by [19]. The higher the level of community capacity, the easier it would be for a community to move forward or survive changes in social or natural environment. CCB is engaged at 3 different levels. Community capacity has to be developed first at the individual level before proceeding to the organizational level then next, onto the network level. [20] explained the reason, that every level has different attributes and aspects that must be developed thoroughly before moving up to the next level in order for the community capacity to be built correctly.

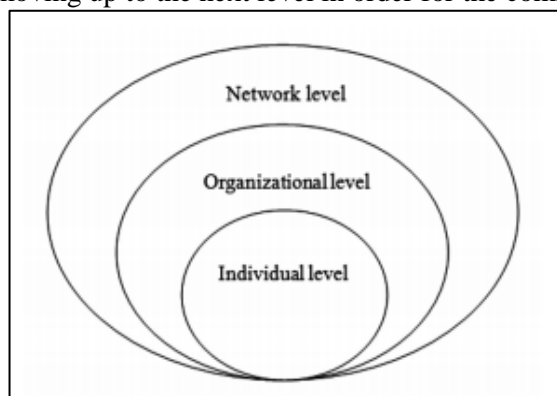


Figure 1. Community Capacity Levels [25]

In a successful case of community capacity building for tourism, the internationally recognised Miso Walai Homestay project, in Sabah, started their community capacity building at individual level by creating awareness and building knowledge and skills relating to the tourism product [21]. Local leadership and sense of community are other vital components to be developed at the individual level. In a study done on the locals of Tg. Piai by [22] on the subject of perception on the mangrove, Ramsar, tourism potential and fishery, it is found that there is already some degree of awareness and knowledge towards the importance of mangrove and its tourism activities in Tg. Piai. Furthermore, almost half of the respondent admit to have had taken their relatives or friends around the National Park, a sign of volunteer participation which reflects a high potential for CCB at the individual level.

[23] in a case study of CCB in Iran, found impacts on the community's economy and environment have the most significant relationship to the level of participation in CCB projects towards tourism in the area. When compared to findings by [22] when 76% of Tg.Piai's local respondents agree that tourism has a positive impacts on their local economy, it potentially shows a high level of participation for CCB for ecotourism development here. Furthermore, the local community shows some degree of knowledge on the importance of the environment, and this adds up to the potential of a CCB in the area. Here are some suggested potential CCB efforts that could currently be developed in the Tg. Piai;

- According to the research done by [22] locals are charged an entry fee to go into Tg. Piai National Park. This fee is used for conservation and up keeping purposes, which are justifiable. However, as a constructive alternative, locals can be given free entry pass for every time they bring along outside visitors, e.g friends, relatives, tourists. This is based on the research, showing that 47% of the local

respondent has been promoting and bringing their guest into Tg. Piai National Park. By giving special pass for locals, they are likely to promote and bring more guests to Tg. Piai National Park, as the given privilege will give the local a sense of ownership of the area. A research on community based tourism by [21] points out that a sense of ownership is not something easily evoked within a community, however it is a crucial psychological element to create a sustainable community based tourism program.

- Locals should be equipped with practical knowledge of mangroves in general and Tg.Piai's natural ecosystem, that is uniform and backed by research. This will give them a sense of heroism and heightens the urge to conserve their environment. There has been some efforts from PTNJ to create awareness on mangroves' value amongst the locals. 80% of the respondent who were school students has gotten involved with beach clean up and mangrove-replanting events organized by PTNJ. Some older respondents, including the *ketua kampung* , also noted that they have been involve with mangrove clean up and replanting programs held by PTNJ [22]. However, in order to make sure the support of the local community is going the same direction as the stakeholder's, a more focused and in depth education program needs to be undertaken. All with the point to highlight distinctiveness that is in Tg. Piai, and something the local community can personally relate to and be proud of.
- Currently, most local community involvement in tourism in the area is under the homestay or cultural tourism section. Combined, local homestay is the biggest tourism facility in the area. According to research interview by [22], there has been unofficial cooperation between the local homestay and PTNJ, in forms of oral recommendations and suggestions. This relationship has a very high potential on profiting both sides if it was a properly structured deal. One suggestion to develop this collaboration is by PTNJ placing their brochures and other visual aids in every homestay available in the area. In return, for every guest that visits Tg. Piai National Park, under the recommendation of a homestay, the homestay owner will receive a commission as an introducer. A commission-based cooperation gives no burden to the homestay owner and costs little to the stakeholder. Making it a viable option to promote natural tourism. The economical gain will translate to the higher level of participation towards CCB [23].

6. Conclusion

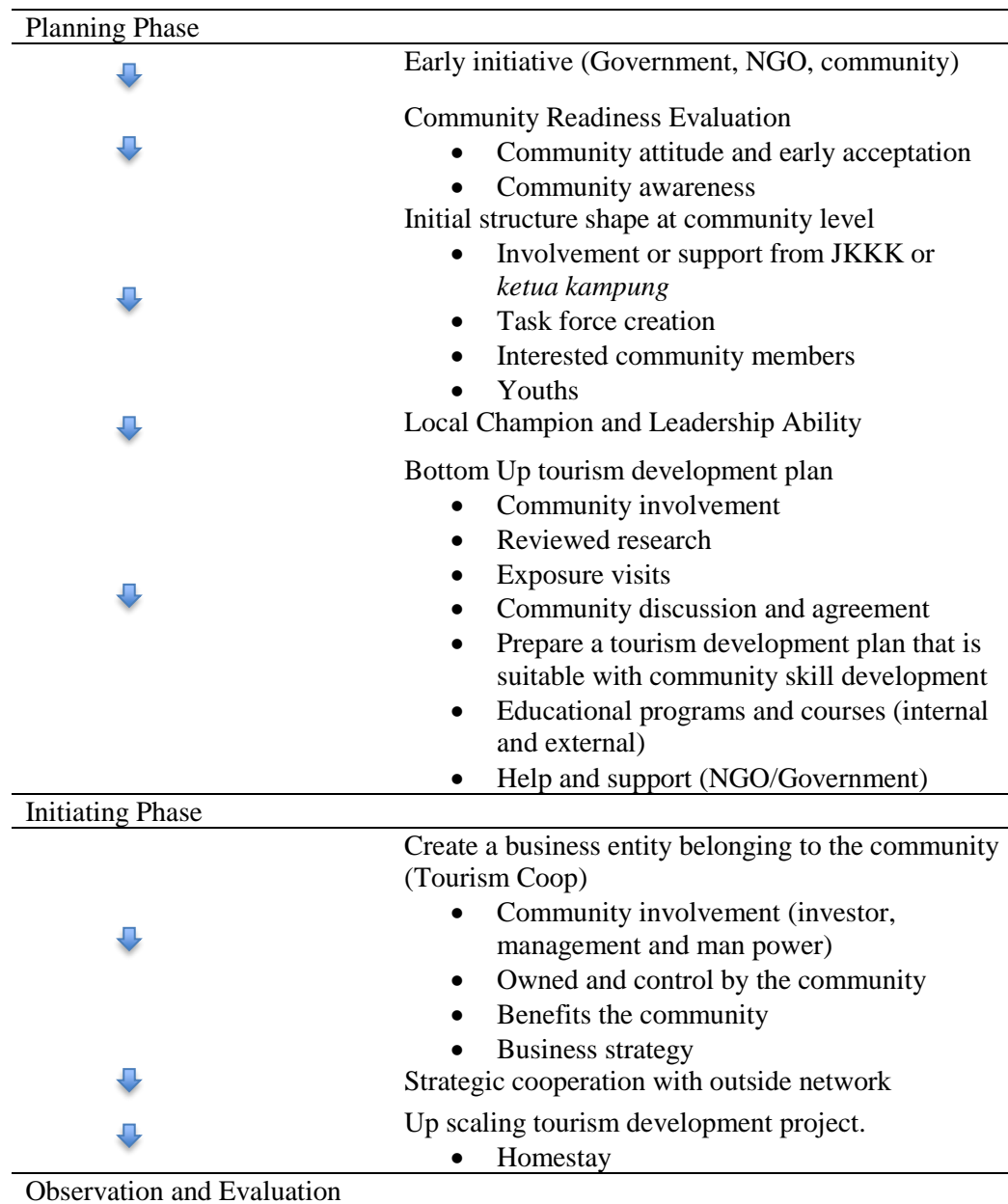
Through comparing current data and literature with past researches, it is easy to see that Tg.Piai has a high potential for ecotourism development. Studies also reflect that the locals are positive and ready for further tourism developments in the area. Adding on to the fact that there are indicators that shows local community here is prime for CCB, it can be concluded that there is nothing but support from the local community towards any local tourism development.

However, according to [9], development on tourism in the area shows that the past top-down planning efforts of the federal and the state government are undervaluing the extent to which mangroves can provide for the local community and ecotourism in the area.

Thus the research would suggest the use of the bottom-up model in developing the CCB in Tg. Piai. This model, which was used for the Miso Walai Homestay project in Sabah, and is a community based tourism development model that is suggested based on local (Malaysia) environments and context by [24]. The bottom-up model for developing CCB also supports the recommendation of past research, which calls for greater public participation at local level and an improved coordination and partnership between the locals and the stakeholder in order to develop and improve tourism in the area. Thus making it suitable to improve the situation and condition of tourism in Tg. Piai

Table 1. Bottom-up community based tourism development model [24]

Process	Action
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