

Langkawi's Sustainable Regeneration Strategy and Natural Heritage Preservation

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Abstract

In the face of climate change and increased development, environmental acclimatization includes looking for alternatives for socio-economic improvement. For the island resort of Langkawi, Malaysia, agriculture is no longer a sustainable income generating venture. Eco-tourism has taken over paddy planting and artisanal fishing. The state government and local authorities are aware of the need to realign their development strategies to suit the environment. By engaging in sustainable regeneration and leveraging eco-tourism demands, a win-win situation can occur for the locals and the local authorities. However, the continued success of eco-tourism is dependent on the stakeholder's ability to ensure the non-exploitation of the geological parks. This paper provides insights through the qualitative analysis of interviews with the personnel from the Langkawi Development Authority, the District Officer and the Langkawi Municipal Council. The findings indicated that the government's intervention have resulted in better socio-economic well-being through eco-tourism. The praxis of the resort island's adaptation to the changing environment includes good socio-economic policies that are applicable and suitable to the island's core attractions. Lastly, the preservation of the natural assets will promote the green economy, which is in line with the government's Economic Transformation Program (ETP).

Keywords: environment; island resort; sustainability; natural heritage

1. Introduction

In the face of climate change and increased development, environmental acclimatization includes looking for alternatives for socio-economic improvement. For the island resort of Langkawi, Malaysia, agriculture is no longer a sustainable income generating venture as eco-tourism has taken over paddy planting and artisanal fishing. Though the latter livelihoods are still actively practiced, the younger generation has moved on to embrace easier job scopes in the tourism industry. Hence, the dual objectives of the original study were to describe the income generating endeavors among the indigenous people of Langkawi, which subsequently, will be correlated to the influence level of geo-park tourism in socio-economic development among the same communities.

Nevertheless, in assisting the stakeholders to improve their livelihood and quality of life, the change to a modern occupation to suit the current times are not without challenges. As the cultural background, values and mores of the Malays, which formed 90% of the population, are still internalized in that society, adapting to change are not without challenges (Erdeli and Dinca, 2011). Although some parts of Langkawi have been developed and modernized in tandem with the tourism demands, small, quaint fishing villages

where the lifestyles have been the same for centuries populate most parts of the island. These villages are, for the most part, protected locations which have not succumbed to the impact of tourism (Fisher *et al.*, 2008). As noted by Erdeli and Dinca (2011), most of the communities are located in the rural areas but are surrounded by modern infrastructure to cater to the tourism development, yet they have to cope with the rising costs within their very own habitat of natural resources.

Consequently, the Langkawi local authorities and relevant government agencies such as the Langkawi Municipal Council, the Langkawi Development Authority (LADA), the Langkawi Land and Mineral Office and the Tourism Malaysia have all combined their efforts in ensuring similar developmental targets are attained. Whilst doing so, the ecological and geological aspects of the island are preserved.

1.1. Sustainable regeneration and the transformation theory

Modern times do not necessarily mean socio-economic comfort for disadvantaged communities. In the case of Langkawi, agro and aquaculture has been the mainstay for generations of Langkawians. With environmentalism, the time has come for the

islanders to re-examine the wide ranging ecological impacts from the climate change to global warming, and to do something about them (Bhatti, 2001). The depletion of consumable resources in particular, agriculture will result in loss of food and economic sustenance for people whose livelihood has been dependent on such sources. For the islanders, rice has traditionally been and will continue to be their staple diet. Therefore, sustainable regeneration is the alternative for a better livelihood.

In understanding the term, Percy (2003) described sustainable regeneration as involving environmental sustainability, economic efficiency and meeting social needs. Applying this to the scope of the study, rapid developments in some parts of that island have resulted in land depletion for example, paddy fields. Families in Langkawi have relied on rice for food and paddy fields have made up the major landscape of island. Besides paddy, many villagers are reliant on fishing and aquaculture. As is the norm, fishing villages have dotted the Langkawi coastal landscape for centuries. Now that Langkawi has become a popular island destination for beach holidays and geo-park activities, the value of the real estate has increased tremendously. Hence, the indigenous people have sold much of their land to make way for new, tourism developments. With no land and for daily subsistence, it is normal for the community to resort to the exploitation of other natural resources such as mangrove felling for charcoal production. Similar activities were done by the communities living near the River Nile and this practice is not sustainable and is environmentally destructive (Nyeko, 2009). Realizing the extent of this exploitation, the local authorities provided the communities with other options for livelihood, namely, geo-park and eco-tourism entrepreneurial activities.

In relating sustainable regeneration to the theory of transformation, the comprehension of the said theory and the research gap are important matters to consider. As noted by McLennan *et al.* (2014), the “transformation theory attempts to understand the long-run process of structural shifts that occur in an industry and economy as a result of institutional change”. Moreover, while the transformation theory has been taken a step further, and certain tools have emerged to measure institutions, these innovations have yet to be applied to consider institutional change across the development spectrum. Taking this as a cue, extending the transformation theory to circumvent the sustainable regeneration concept within a different scope will result in a new theory which is critical for developing a model to underpin the tourism transformation process (McLennan *et al.*, 2014).

Additionally, in recognizing the consequence of islanders’ feedbacks toward the drafting of a public policy to enhance the people’s well-being and income level, Marzuki *et al.*, (2012) posited that public participation in decision-making processes is regarded as essential for successful reciprocity in tourism planning and social capital development towards ameliorating poverty (Hashim *et al.*, 2013)

1.2. Sustainable tourism theory

Another theory that fits the current research project is that of the sustainable tourism theory. As described in detail by Zainuddin *et al.* (2012), augmenting the competitiveness of Langkawi as the ultimate geological and ecological destination should lead directly to a sustainable improvement in the quality of life of the indigenous islanders. The original communities of Langkawi should also have the desire to improve the quality of their existence whilst giving back to the land and other individuals wanting to share nature’s wonders. Although the policy makers and the local authorities toil to develop the island resort, the residents too must contribute significantly. The outcome from this cooperation has yet to be research as noted by Zainuddin *et al.* (2012) because documenting Langkawi’s geo-heritage and competitiveness to sustain the tourism industry will provide credible information for strategic planning.

Such a move is supported by Ghazi *et al.* (2013) whereby, “for geo-tourism to be successful and sustainable, the planning and management must be based on up-to-date knowledge and understanding of the tourism resources, as well as on a holistic overview of the many facets of the geological and cultural heritage”. Coincidentally, the term “geopark”, which is short for geological park, is rather new on the international agenda (Eder, 2008). When environmentalists and tourism operators meet, the need to coin a catchy word, assumingly, resulted in the term. Anyhow, environmentalists and local authorities or planners noticed that conserving the geological places, protecting heritage sites from further damage, and protecting endangered species provided a “fundamental tool for geo-scientific research, education, training and socio-economic development” (Eder, 2008). Deploying these epistemological foundations, the study will revolve around the perceptions of the islanders on safekeeping nature. In comparing this project with other studies on the lack of support to safeguard the country’s geo-heritage places, Kiernan (2013) provided evidences for another similar, protected natural heritage, the Nam Ou Valley in Laos. For the outcome of his study, Kiernan

(2013) noted that there has been scarce progress in the long-term protection and conservation of the Nam Ou Valley reserves despite high geo-diversity and biodiversity conservation values. Unlike Langkawi, the Nam Ou Valley has been given higher priority for economic development to address prevalent poverty because of the remoteness location. With financial support for the people who live there, nature conservation is probably with the integration of both the economic and social development. As such, the Langkawi local authorities should imitate similar programs carried out by Laos.

Nonetheless, in regenerating sustainability, it is a worthwhile endeavor to leverage geo-heritage through the recognition and significance of geo-diversity for eco-tourism. In extending the sustainable tourism theory, improved understanding of epistemology together with informed strategic planning by the local authorities, the two-prong approach will result in combined efforts towards further socio-economic development of Langkawi, leading to a win-win situation for all stakeholders

1.3. The resort island of Langkawi

Compared to other resort islands such as Pulau Pangkor and Pulau Tioman, Langkawi Island is the most visited one in Malaysia (Mohamed, 2012). Strategically located in the northwest part of Malaysia (Fig. 1), Langkawi has always been associated with the mythical history of love, power and greed. Nonetheless, Langkawi of today is a popular island destination among

foreign tourists seeking rest, peace and embracing the natural, tropical landscapes (Hashim *et al.*, 2013). More ecology-based tourism projects are planned for Langkawi as evidence in the four billion ringgit project which was recently launched by the Prime Minister on March 31, 2014 (Chow, 2014).

In describing the resort island, Langkawi is actually an archipelago of 99 islands in the Andaman Sea, where the biggest one is fittingly eponymous. Within these islands, there exist six districts and five populated islands as shown in Fig. 2. The districts are, Kuah, Air Hangat, Bohor, Kedawang, Padang Matsirat and Ulu Melaka, while the islands are Pulau Dayang Bunting, Pulau Tuba, Pulau Bidan, Pulau Song-song and Pulau Bidang. Translated to English, the word “pulau” means island.

Looking at the smaller map in Fig. 1, the strategic places for the developments of hotels and beach resorts are endless. With an international airport, the arrival of tourists in large planes will certainly be a boost for the island’s economy, especially since 2014 is the Tourism Ministry’s “Visit Malaysia Year”. Continuous promotion on the core tourist attractions such as the cultural, ecological and geological natural landscapes should remain. The popular tourist destinations for Langkawi include the Kilim Karst Geo-forest Park (Fig. 2), Pulau Payar Marine Park and the Dayang Bunting Marble Geo-forest Park (Langkawi, 2014). The Kilim Karst Geo-forest Park has been consistently ranked the most popular tourist attraction compared to the other two parks because of the pristine and untouched natural assets of Langkawi (Langkawi-Insight.com, 2015).

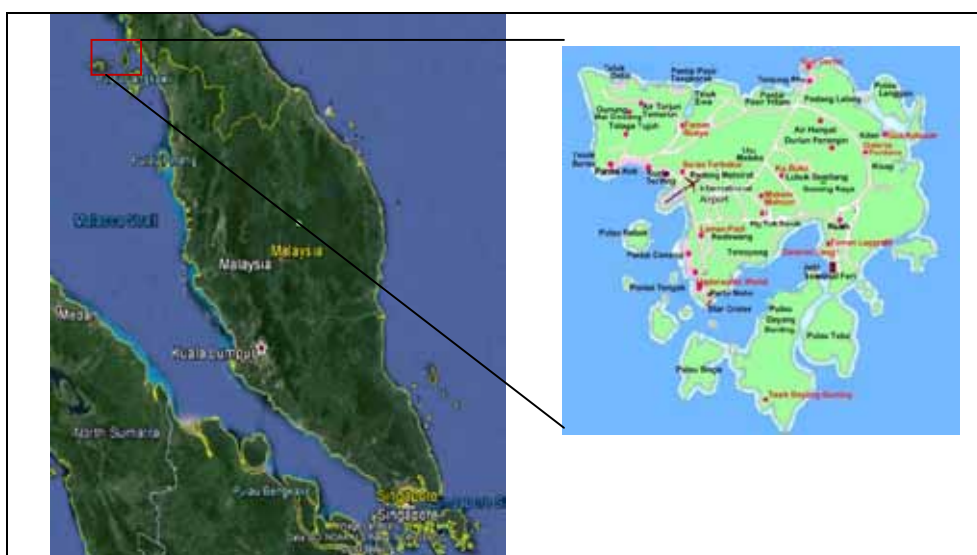


Figure 1. Study area in Langkawi island, Kedah (Map source: Google Earth, 2014)



Figure 2. Kilim Karst geoforest park (Source: http://naturallylangkawi.my/EN/Kilim_Karst_Geoforest_Park_Mangrove, 2015)

1.4. The local authorities and managing Langkawi's natural heritage, the Geopark

Langkawi is considered a federal territory, therefore, the island resort is being managed by two local authorities, namely, the Langkawi Development Authority (LADA) and the Langkawi Municipal Council. Another local government entity on the island is the Land District Office. In describing the background of the original local authority, the Langkawi District Council is responsible on matters pertaining to planning, licensing, cleanliness, buildings and landscape in lines with acts and Council by-laws ("Langkawi Municipal Council," 2015). Furthermore, the council is responsible for the gazetted area of administration totalling 47,848 hectares (478.48 sq.km) covering 104 islands. At the turn of the century, Langkawi's economy relies much on tourism rather than agriculture, hence, the council was proclaimed the City of Tourism in March 2001 by His Royal Highness the Sultan of Kedah. The council's management and functional matters is run according to the Local Authority Act 1976 (Act 171) enabling the enforcement of its policies and by-laws relating to local authority matters. As it is the scope of work of the Council includes physical, economic and social planning of the city's development by providing efficient services and being responsible for the city's planning and upkeep.

By and large, another local authority appointed by the federal government assists the Langkawi Municipal Council with almost similar endeavors, the Langkawi Development Authority (LADA) that directly manages Langkawi Geopark. At the state level, there is a Langkawi Geopark Advisory Council, established and chaired by the Chief Minister of Kedah (Authority, 2015) consisting of members from various ministries and government agencies in Malaysia. There are four committees (Technical, Development, Promotion and Marketing, and Conservation) to help implement the

guidelines laid down by the Council. LADA itself implements specific projects identified for development of Langkawi Geopark. For 2007, LADA received a special fund from the Ministry of Finance for this purpose (Authority, 2015). Because of the honor and prestige bestowed by Unesco, the Langkawi local authorities must ensure compliance every audit year.

Nevertheless, Malaysia's widely promoted tourist island, Langkawi, was one time in danger of losing its Unesco Geopark status following the world body's move to issue a "Yellow Card" warning because of the local authorities' failure to abide by conservation and sustainable practice requirements (Bhatt, 2014). According to Unesco's review, there were 27 areas not maintained in accordance with Unesco's guidelines, which are, failure to implement conservation measures for local geology and the environment, to educate and preserve local communities and indigenous people, and to have proper tourism practices that promote nature and local culture (Aitchison and Evans, 2003; Bhatt, 2014; Gullino, 2009). But the most important criterion relevant to this paper was failure to have appropriate development and planning that do not damage the local nature and community. It is understood that the main agency responsible for Langkawi is the Langkawi Development Authority (LADA) which comes under the Finance Ministry (Bhatt, 2014).

On the subject of geoparks, it is reported by UNESCO that there are now 100 Global Geoparks in 30 countries (Lombardi *et al.*, 2011). It is not easy to be conferred the geopark status as it is only given to a place where there are special geological and environmental characteristics. In addition, each Geopark designation must be revalidated every four years. As such, Langkawi is the first Unesco Geopark in Southeast Asia (Authority, 2015). According to the Langkawi Development Authority or LADA, UNESCO expanded the definition of Geopark to the communities and economic activities, especially those related to tourism.

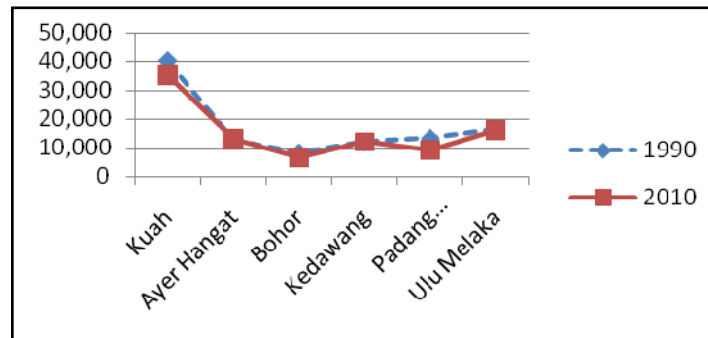


Figure 2. Population trend of Langkawi by district from 1990-2010 (Source: Langkawi Land Office, 2011)

As defined by UNESCO, three components have to be complied in order to be listed as a geopark. They are (Authority, 2015):

- i) Environmental conservation
- ii) Development of tourism to stimulate economic activity
- iii) Socio-economic development, especially to promote community participation in the Geopark

2. Materials and Methods

The research design and approach for this project is qualitative-based where the primary data were gathered through repeated interviews with the pre-identified respondents. Furthermore, as the focus of the study is only Langkawi, it is natural that the focus be on the major local authorities on the island, namely the Langkawi Development Authority (LADA), the Langkawi Municipal Council (MPL), the Langkawi Land and District Office (LLDO) and the Tourism Malaysia office. Besides the interviews, secondary data collection proved to be vital for the triangulation of the findings. Such data and statistics are not readily available on the internet but will require the physical presence of the researchers at these government offices. As for the list of interviewees, aside from the high-ranking officials, other key individuals include the middle-management and clerical staff in charge of tourism. All in all, 20 individuals provided rich and in-depth information pertaining to the sustainable development plans implemented and the strategic blueprint for the next five years. Anyhow, with regards to the conduct of the research project, delicate and tactful approaches need to be considered as the Malay culture requires certain protocol is heeded to. For example, appointments have to be made in advance and courtesy has to be employed when communicating with the village chiefs and department heads.

3. Results and Discussion

From the analysis of interview transcripts and the secondary data gathered, the findings from the research objectives are hereby showcased where the first objective was to describe the income generating endeavors among the indigenous people of Langkawi, and the second objective is to correlate the influence level of geo-park tourism in socio-economic development among the same communities.

For starters, let us look at the demographic profiles of the island resort. The total combined population of the six Langkawi districts as at 2010 has declined to 92,784 from 103,075 (Table 1). The reduced population could be the migration of youths to the mainland's cities to look for jobs and better life's prospects. Also, the decrease in the island resort's population is significantly seen for the districts of Kuah and Padang Matsirat. The decline in population for the district of Padang Matsirat is particularly considerable at 31%, though the percentage could be accounted for in terms of the span of 20 years.

Table 1. Population of Langkawi by district, 1990-2010 (Source: Langkawi Land Office, 2011)

No.	District	Years	
		1990	2010
1	Kuah	40,163	35,435
2	Ayer Hangat	12,654	13,232
3	Bohor	8,300	6,566
4	Kedawang	12,022	12,156
5	Padang Matsirat	13,329	9,170
6	Ulu Melaka	16,607	16,134
Total		103,075	92,784

Table 2. Breeders of aquaculture system (Source: Office of Fisheries, Langkawi, 2013)

Type of aquaculture	Number
Total in-land or Pond Farmers	20
Total Fish Farmers (Floating farms)	32
Total Number of Water Ponds	163
Total Number of Floating Cages	1,838

Table 3. Commercial entrepreneurs and self-employment by district in Langkawi (Source: Langkawi Development Authority, 2013)

District	Commercial entrepreneurs	Self-employed
Kuah	5	4
Air Hangat	4	2
Bohor	4	2
Kedawang	8	5
Padang Matsirat	2	0
Ulu Melaka	2	11
Total	25	24

In relation to the income generating activities of the indigenous residents of Langkawi, fishing and aquaculture farming has shown marked improvements as showcased in Table 2. The land and the coastal areas have been properly used in synchrony to the environment, that is, the leveraging of the rich fishing areas and pristine sea water through fish farming, where the number of floating cages is evidence at 1,838 cages with 32 owners of the floating fish farms. On the other hand, the inland farmers too have 163 fish ponds to 20 pond owners.

Besides fish farming, the Langkawians are into businesses through commercial entrepreneurship or self-employment. For the former, the scale of the business is bigger such as importing dried seafood and other marine products to neighboring countries for example, Thailand. In describing the latter, operating a sundry shop in the village, undertaking odd-jobs, fishing and farming are the mainstay for most villagers. From Table 3, the district of Kedawang has the highest number of commercial entrepreneurs at eight individuals. For the self-employed ones, the district of Melaka has 11 self-employed individuals. The small numbers indicate that the locals are not interested or are not confident in operating a large scale business. They would rather set the pace for income seeking as and when they see fit through self-employment. However, it is important to note that homestay businesses in Langkawi has mushroomed over the years to accommodate the

increase in the number of tourists whether local or international (Abdul *et al.*, 2013; Hazmi *et al.*, 2012). Such endeavor starts as a small scale business managed from home.

Tables 4 and 5 showcase the fishing activities among the residents of Langkawi. From Table 4, the fishermen are being given subsidies by the government and the fishing outcome totals 121 ton per month. The landing of the catch requires jetties, which totals 28 jetties built around the island’s circumference. With the availability and accessibility to jetties, the deep fishing will continue to thrive and contribute to the socio-economic sustenance of the islanders. The difference in the number of fishermen is also reflected in tables 4, where Langkawi has 4,218 fishermen compared to 1,425 at Pulau Tuba. The breakdown in ethnicity among the fishermen highlights the high number of foreign fishermen from Bukit Malut with amounts to 45%. The foreign fishermen’s domination of the fishing industry is evidence which makes it imperative for the local authorities to monitor the situation.

In retrospection, the objectives of the research were to describe the income generating endeavors among the indigenous people of Langkawi, and correlating the findings towards the influence level of geo-park tourism in socio-economic development among the indigenous people of Langkawi. However, local communities are still reliant on the environment for income generating activities such as artisanal fishing. Although entrepreneurship is encouraged, the capability needed to start and maintain a business is much more

Table 4. Number of fishermen, licenses and fishing-related factors (Source: Office of Fisheries, Langkawi, 2013)

Description	Number
Total number of fishermen	4,218
Registered fishermen	1,700
Unregistered fishermen	2,518
Total number of boat licenses	3,050
Subsidy given per fisherman	1%/person=RM910
Estimated catch	121 ton /month
Number of jetties	28

Table 5. Breakdown of fishermen by ethnicity (Source: Office of Fisheries, Langkawi, 2013)

Fishermen by ethnicity	Percentage
Local fishermen	53
Chinese fishermen	2
Foreign fishermen (Bukit Malut fishermen)	45

challenging than fishing. The art and ability for artisanal fishing have been practiced by the communities, particularly the Malays for centuries, which evidences a traditional internalization of culture and ethnic mores. These findings are supported by the responses from the interviewees. Furthermore, it can be deduced that the combined efforts between the state government, the local authorities, and the communities are encouraged and the alignment of the threesome will certainly strengthen the sustainable regeneration strategies in tandem with the booming eco-tourism industry. By leveraging eco-tourism demands, the supply aspects will need to come from the Langkawians, resulting in a win-win situation. In addition, the state government and local authorities are aware of the need to realign their development strategies to suit the environment. By engaging in sustainable regeneration and leveraging eco-tourism demands, a win-win situation can occur for the locals and the local authorities. However, the continued success of eco-tourism is dependent on the stakeholder's ability to ensure the non-exploitation of the geological parks. Similar to Sazali *et al.* (2012) study, if the island resort's development is not properly planned and monitored regularly by the local authorities, the damage to the natural heritage will no longer be a draw to foreign tourists. Such practices should be lessons learned from other tropical, island resorts of the world and Langkawi should be the benchmark practice being the first island conferred the geopark status in Southeast Asia (Authority, 2015).

In managing sustainable regeneration using eco-tourism as the platform, the local administrators should emulate countries that have been successful in doing so, for example, Malaysia's closest neighbor, Thailand. As evidence by Luekveerawattana (2012), public participation and eco-tourism management could fulfill satisfactions of everyone and every organization whilst paying heed to preserving nature and the cultural resources. This style of management offsets many uniqueness of Langkawi, in particular the geological and cultural heritage which are part of the mythical history of the island resort. Any development or promotion of a product, be it in cultural tourism development or heritage, needs to be well planned and executed on the basis of existing policies, so as to effectively benefit the broader local community (Mohamed, 2012; Ximba, 2009)

4. Conclusion

This paper provides insights through secondary data and the qualitative analysis of interviews with the personnel from the Langkawi Development Authority, the District Officer, staff from the Land and District

Office, the staff from Tourism Malaysia, Langkawi and the Langkawi Municipal Council staff. The findings showed that political aspects through the government's intervention have resulted in the islanders' socio-economic well-being through eco-tourism. By intelligently manipulating the situation, adapting to change and leveraging the island's landscapes, the locals can continually ensure socio-economic sustenance through a smart partnership with the pristine environment and pristine geo-parks that nature has bestowed on Langkawi. Hand-in-hand, the locals and the local authorities can reap further benefits through eco-tourism without sacrificing the island's unique, cultural background. The praxis of the resort island's adaptation to the changing environment includes good socio-economic policies that are applicable and suitable to the island's core attractions. So far, the island's local authorities were able to create a sustainable and resilient tourist spots through good leadership and commitment to innovative, sustainable geo-tourism principles, without over-developing the island resort's natural splendors. In continuously doing so, the community's wellness, culture and the mythical history attached to Langkawi will sustain the eco-economy of the island resort. Lastly, the preservation of the natural assets will promote the green economy, which is in line with the government's Economic Transformation Program (ETP).

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