

# Restoring and Resuscitating the Cultural Landscape of Kg Pulau Ketam, Perlis

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## ABSTRACT

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This paper discusses the final comprehensive design restoring and resuscitating the cultural landscape of Kampung “Pulau Ketam”. The village faced annual flood events leading to degradation of existing significant properties as well as developments that demolished the *genus loci* of the site as a cultural fisherman village. As to encounter these issues, this article aims to discuss the proposal to restore and resuscitate the cultural landscape of Kampung “Pulau Ketam” with enhancement on the traditional fisherman Malay village livelihood by using an eco-efficient and ecological treatment. The project is covering an area of 821 km<sup>2</sup> in Perlis, Malaysia. It is located at the northern part of the west coast of Peninsular Malaysia (6030’N and 100o15’E). In 2010, the total population was recorded at 245,636 persons with a density of 276.5/km<sup>2</sup>. The state economy is dominated by agriculture accounting for 80.5% of land use in the state with the dominant crops being rice, sugar, herbs, rubber and fruits. Forestry and fishery are also important economic sectors. The capital city of Perlis is Kangar which all case studies are in this district. The research highlighted the significance of the study area which consists of three phases of sustainable interventions; 1) conservation of natural landscape, 2) ecological conservation and preservation, 3) resilience through the protection of natural landscape, adaptive design on flooding, cultural landscape design interpretation and multiple land uses in fisherman village design programme as to sustain the cultural landscape by integrating it with sustainable practice.

**Keywords:** Resuscitating the cultural landscape; ecological sustainability approaches; design treatment.

## INTRODUCTION

Kampung “Pulau Ketam” has the significant elements of cultural landscapes which need to be analysed, documented and protected to preserve these elements. In this study stage, it involved a literature review, inventory, analysis, synthesis and proposing design treatments for the final stage. The proposed final master plan in shaping Kampung “Pulau Ketam” is based on the guidelines for implementing the treatment solutions. It includes sustaining the ecological practices, preserving the architectural and identity of the village and enhancing the human relationship in the village. The village has been selected because it has some of the cultural and natural characteristics that still can be identified such as the layout of the settlement, rivers, and economic. Some of the distinctive characteristics of the areas are diminished slowly according to time.

## Problem Statement

Cultural and heritage are crucial to peoples in identifying self-respect, and dignity which apply to both affluent and poor societies. The differences of ethics present in Malaysia brought different local knowledge discipline ranging from its architecture, handicrafts, traditional attire, music and dance, which reflects a colourful heritage and an amalgamated culture. There are arising of conflicts within the cultures of Malaysia faced by the local community itself. To maintain, conserve and preserve the resources and assets of cultural heritage in Malaysia, a system or management need to be developed that take into consideration on every issues and challenge, so that the decision-making process is reliable to optimize the value of cultural heritage in Malaysia. Among the few general problems and issues faced by Malaysian cultural landscape are as follows, i. Lack sense of place, personalization; ii. Damage or loss of buildings of historical importance; iii. Loss of traditional knowledge and scientific information; iv. Alienation of people from their culture; v. Incredible pace of development, rural areas, rapidly shifting; vi. deterioration by man-made elements; vii. Tourism industry influenced the transformation of traditional residential landscape settings; viii. Less funding as cultural heritage assets are considered as expansive.

The main objective of this study is to design a cultural landscape Master Plan and propose treatment strategies for the restoring and resuscitating the cultural landscape of Kampung “Pulau Ketam”, Perlis that enhance the traditional Malay village livelihood. The specific objectives of the study are to identify the inventories and document the distinctiveness character and component features of the landscape of the village and to propose a cultural landscape master plan using treatment strategies and ecological sustainability approaches.

## Methodology

This study was conducted at Kampung Pulau Ketam, Perlis. The projects covering an area of 821 km<sup>2</sup> in Perlis. It is located at the northern part of the west coast of Peninsular Malaysia (6030’N and 100o15’E). The state economy is dominated by agriculture accounting for 80.5% of land use in the state with the dominant crops being rice, sugar, herbs, rubber and fruits. Forestry and fishery are also important economic sectors (MPK, 2010). This study used both primary as well as secondary data. Secondary data are such as records, documents, statistics compiled by the various departments or agencies such as the Majlis Perbandaran Kangar, Perlis. Basic data derived from the Department of Statistics Malaysia was also being used. Information on National Landscape Policy which involves the village development and planning, population density, social economy, local planning and structure were also collected for this research. The data were also obtained through the websites of government agencies and other secondary sources include books, journals, technical reports, thesis and dissertation. Besides, researchers have conducted certain reference procedures which include research by experts in the field of landscape, landscape architects at the National Landscape Department, and other individuals (landscape consultants) with extensive experience in the related field. This study also explores the cultural landscape of Honghe Hani rice terrace in China to understand the process and components that shape the cultural landscape.

## Definition of Terminologies

The village includes riverine settlements, coastal villages and traditional villages with orchards facing degradation of natural resources. At the proposal stage, the design was constructed based on the prospect and to restore and resuscitate "Pulau Ketam" village.

Restore based on Australian Centre for Geomechanics (2013), means to encompass a diverse range of ambitions, activities, scales, environments and end-uses.

Resuscitation based on Australian Centre for Geomechanics (2013), means to bring back the new breath, hopes and life to things either living or non-living things.

Cultural Landscape according to National Park Service (1999) is including both cultural and natural resources, associated with historic events, activity or person ethylating other cultural or aesthetic value.

## CULTURAL LANDSCAPE OF HONGHE HANI RICE TERRACES, CHINA

In this case study, researchers aimed to look into context to understand and learning of approaches, solutions, or programme used by the country that make they could longer sustain their cultural landscape. These all maybe can be applied according to the suitability of the study area at the treatment phase of the final project. The objective of this case study was to understand the process and components that shape the cultural landscape.

The Cultural Landscape of Honghe Hani Rice Terraces, China covers 16,603 hectares in Southern Yunnan (Jiao, 2012). It is marked by spectacular terraces that cascade down the slopes of the towering Ailao Mountains to the banks of the Hong River. Over the past 1,300 years, the Hani people had developed a complex system of channels to bring water from the forested mountaintops to the terraces. They had also created an integrated farming system that involves buffalos, cattle, ducks, fish and eel and supports the production of red rice, the area's primary crop. The inhabitants worship the sun, moon, mountains, rivers, forests and other natural phenomena including fire. They live in 82 villages situated between the mountaintop forests and the terraces. The villages feature traditional thatched "mushroom" houses (Cao et al. 2013).

The Hani terraces have a history of over 1,200 years and spread over the entire southern bank of Red River through the counties of Honghe, Yuanyang, Lüchun and Jinping. In Yuanyang alone there are over 170,000 mu of terraces (one mu = one-sixth of an acre) zigzagging over range upon range of slopes up to a height of 3,000 meters, said Shi Junchao, an expert on Hani culture. The Hani terraces and their irrigation system constitute an ingenious agricultural system and the ancient Hani farmers created a perfect rice farming ecosystem, said Shi. In 1995, five terrace clusters in Ifugao province in the Philippines were declared UNESCO World Heritage Site (Jiao, 2012). But compared with them, the Hani Terrace clusters are much more developed in terms of numbers of layers, area and history. "If the heritage bid succeeds, local economic development will be promoted and the Hani farming civilisation will be protected," Shi said. However, attracted by modern city life, many young Hanis has moved away to earn money and have left their terraces to lie waste. "We should use the terrace culture to shake off poverty," Shi said, adding that action is urgently needed to protect and develop the area (Wang 2014).

## DATA INVENTORY AND ANALYSIS

### Location of Study Area

Perlis may be the smallest state in Malaysia, but it boasts a wealth of natural, cultural and historical splendours that rival the bigger states. You may be mesmerized by the many quaint villages, picturesque scenery and centuries-old traditions wherever you go. In short, Perlis is the perfect destination to head for if you prefer old-world charm instead of the hustle and bustle of the city, where life is unhurried and the environment naturally fresh and crisp. Kuala Perlis is the second largest town and the main port of Perlis in Malaysia. It is in extreme northwest Peninsular Malaysia, near the border with Thailand. The older part of town has houses and mosques built on stilts over mangrove swamps. Kampung "Pulau Ketam" is an island village located in Kuala Perlis, within the state of Perlis Indera Kayangan, the northernmost state of Malaysia and bordering Thailand. Its geographical coordinates are 6°23'53" North, 100°8'27" East. Kampung "Pulau Ketam" is administratively adjacent to Kampung Hujong Tanjung in the west, southeast of Kampung Seberang Alor and northwest of Kuala Perlis. The area of Kampung "Pulau Ketam" populated with 327 people, consisting of approximately 165 males and 162 females. Mainland the soil types consisting of sand and clay (a Kampung Perlis series). The estimate terrain elevation of the village is 7 meters above sea level with average rain per year 1,300-2,100mm.

### Site Morphology

During early 1750, the community from Kampung Seberang Alor travel through the Sungai Perlis and create the residential area along the river. Sungai Perlis became the main element for earlier settlement and also as the main transportation for the villagers. The parallel traditional settlement was developed along with the Sungai Perlis in this area. For the current functional at kampung "Pulau Ketam", there is well organized of the spatial organisation compared to the early settlement. Sungai Perlis act as the main source of income for the resident until today. Well-developed facilities in this area that provided almost fully comfort to the residential and community of Kampung "Pulau Ketam". The river that surrounded the "Pulau Ketam" started to be dumped to make an easier way for the residents. The residential area was developed during this era that is Kampung "Pulau Ketam" which is an early idea for the settlement.

The study for this subject is divided into two stages which are the site inventory stages and design proposal stages through guidelines and sustainable design approach. In the first stage, it involved the documentation of inventory and analysis in Kampung "Pulau Ketam" which was being analysed based on the 12 elements in Guidelines of National Register Bulletin by National Park Service, USA. From the all of the characters, ten (10) characters out of twelve (12) can be applied for this study which is Land Uses and Activities, Patterns and Spatial Organisation, Response to Natural Environment, Cultural Traditions, Circulation Networks, Vegetation Related to Land Use, Buildings and Structures, Small Scale Elements, Boundaries Demarcation and lastly the View and Vista to collect the visual of human level and related data.

a. Land use and Activities Land: The major human forces that shape and organise rural communities. Human activities, such as farming, mining, ranching, recreational, social events, commerce, or industry, have left an imprint on the landscape. Topography variations, availability of transportation, the abundance or scarcity of natural resources (especially water), cultural traditions, and economic factors influenced the way people use the land (National Park Service, 1999).

b. **Patterns and Spatial Organisation:** Is the organisation of land as a whole on a large scale that related to activities relationship of physical components, natural features, predominant landform and also historic spatial area. While technology and economic as well as natural resources are influenced by the organization of the local communities as it defines settlement patterns (National Park Service, 1999).

According to the study on the pattern of spatial organisation in Kampung "Pulau Ketam", the organization settlement can have looked to two-scale which is a macro scale. By the pattern of settlement development and nature, boundary demarcation include mangrove and mudflat and also the water body of Sungai Perlis. While the microscale is by position between house to another.

c. **Response to The Natural Environments:** This is a feature that has resulted from adapt on to climates and natural features that have been in some element. In this analysis study, the natural element feature will be the main influencer in determined the character of the environment itself. Kampung "Pulau Ketam" is a traditional fisherman village located in the coastal area of Kangar. Major features are significantly have been influenced and responded by adaption toward this natural feature. This is due to the shaping of the pattern of the village and community that trying to adapt themselves toward surrounding.

d. **Cultural Traditions:** cover the whole act or movement in which it symbolises a culture such as land-use practices, construction patterns, community organisation skills, traditional plant utilisation inherited and maintained in everyday life (National Park Service, 1999). Cultural Tradition can be classified into two categories that are a tangible and intangible element. The tangible element is something that can be touched or viewed directly and is assessed directly through observation such as traditional economic, community organization, trade and skill, craftsmanship and use of plants. Intangible element is something that cannot be touched or evaluated by observation because it is something that cannot be seen with the naked eye because it is a practice deed or belief such as ethnic or religious activity.

e. **Circulation Networks Circulation:** system for transporting people, goods, and raw materials from one point to another. They range in scale from livestock trails and footpaths to roads, canals, major highways and even airstrips. In the site study, we had identified that there are two types of circulation mode at Kampung "Pulau Ketam" which is vehicular circulation and river waterway. Vehicular circulation within Kampung "Pulau Ketam" consists of path road and pathway where are used in transportation route for local.

f. **Vegetation and Wildlife:** related to land use compress functional and ornamental trees and shrubs, fields for cropping, treelines along walls and roads, native vegetation, orchards, groves, woodlots, pastures, gardens alleys, shelter, belts, forest and grasslands (National Park Service, 1999). From the inventory conducted in the area, it showed that vegetation contributes to the visually attractive at the same time. It also provides benefits to the residents. There are many wildlife habitats and plant species that can be found in Kampung "Pulau Ketam". The dominant vegetation at Kampung "Pulau Ketam" is mangrove and mudflat. Categories of vegetation present in Kampung "Pulau Ketam" are mangrove and swamp forest, ornamental plants, herbal/ethnobotanical plants and orchard. These categories of plants give a significant impact on the environment and ecosystem.

g. **Buildings, Structures:** is various types of buildings, structures and objects serve human needs related to the occupation and use of the land. Their function, materials, date, condition, construction method and location reflect the historic activities, customs, tastes and skills of the people who built and use the (National Park Service,1999).

h. **Small-Scale Elements:** can be defined as elements that become a characteristic of landscape and occur repeatedly throughout the area, thus contributing to the historic setting of the rural landscape. It can be functional, decorative, or both. The small-scale elements can be either long-lasting (permanent) or temporary (seasonal). Collectively, they can form larger components, such as circulation networks or boundary demarcations. Generally, small scale elements can add

to the landscape's setting by the type, function, general location, and approximate location (National Park Service, 1999). The small-scale elements in Kampung "Pulau Ketam" mainly emphasize on its functional use the residents of Kampung "Pulau Ketam" utilize their available resources and transform it into useful and functional small-scale elements. The small-scale elements in Kampung "Pulau Ketam" can be divided into 5 categories; Hygiene, Planting elements, Resting elements, Organisation element, and directionality element.

## **DESIGN CONCEPT**

A conceptual development design proposal had been drawn based on the current condition and potentials of the area. The native metaphor of the recent condition of Kampung "Pulau Ketam" cultural landscape was considered as the development theme of this cultural village. Based on the synthesis derived, the aim and objectives were set up to cater to the site issues as determining the suitable interventions of the site. Then the conceptual development stage should be able to determine the suitable approaches of design that combined the zoning and recommendation to Kampung "Pulau Ketam" Malay fisherman village. The concept statement revealed as the result of integrating the design solution and schematic plan.

"Locus Solus" is the concept that suitable for the current condition of the village. It is due to the distinctiveness of the fishermen village identity itself. Currently, expose to flooding because of its location and stormwater management system. By patching up the ecological and issue with native vegetation as to conserve the remnants on site, restoring the cultural spaces through cultural landscape interpretation and connectivity as well as design programme for Kampung "Pulau Ketam" agricultural activities that allocate cultural practices which bring income for the villagers to occupy the village. It reflects the development strategies and approaches in Kampung "Pulau Ketam" as it is so precious to be appreciated by the generations such as i. Environment – Protect and preserve the natural element. ii. Significant Area – Retain the layout pattern of the organizes arrangement of fisherman village. iii. Experience – Adapted the Malay cultural village lifestyle. iv. Community Enhancement – Create the community space for celebrate the traditional Malay village livelihood. At the same time, researchers had observed and analysed that human behaviour was the major factor that leads to flood issues.

## **Master Plan Development**

The master plan was developed which consists of the major components such as Village gateway, Mangrove and Mud Flat zone, Settlement area, Riverside area and Socio-Cultural aspect. The village includes riverine settlements, coastal villages and traditional villages with orchards were facing degradation of natural features and resources. The design proposal suggests for restoring and resuscitation on Kampung Pulau Ketam village as a valuable cultural landscape.



Figure 1: Space-A to restore and rehabilitate with replanting mangrove trees; Space-B proposed with green area, bio Pori system, rain-barrel, and porous roadway

## Design Treatment and Strategies

The design treatment phase in this study has been divided into three areas and enlargement. There are 1) Village's Gateway, Mangrove and Mud Flat Area, 2) Settlement Area, and 3) Riverside Area and Socio-Cultural Aspects. All the design approaches and treatment system are detailed up by focusing on each area (Norhayati 2007);

1. Village's Gateway Mangrove and Mud Flat Area Design:
  - i. Redesign the entrance that shows the culture of the village.
  - ii. Restore and rehabilitate with replanting mangrove plants.
  - ii. Promote eco-tourism activities at mangrove and mudflat area.
2. Settlement Area Design:
  - i. Preserve the layout of the area.
  - ii. Propose green areas, bio Pori system, rain-barrel, and porous roadways.
  - iii. Propose vertical gardens and hanging gardens using recycle and nature material
3. Riverside Area and Socio-Cultural Aspect Design:
  - i. Rejuvenation of the river.
  - ii. Replanting aquatic and riparian plants.
  - iii. Enhance existing jetty to fisheries character and provide space for fisheries trade products.



Figure 2: Proposed Master Plan for Kampung Pulau Ketam, Perlis

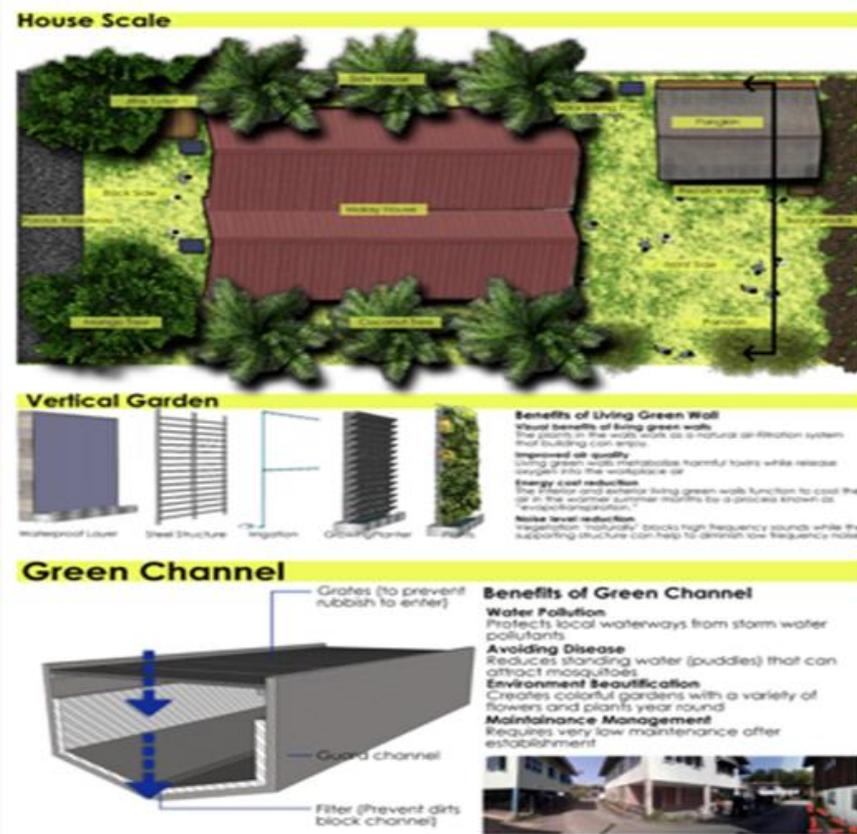


Figure 3: Proposed vertical garden and hanging garden using recycle and nature materials



## CONCLUSION

The richness of natural biodiversity and the culture of Kampung "Pulau Ketam" has much potential as eco-tourism and economic source to promote the culture of the village. Therefore, landscape enhancing and conservation need to consider the cultural and heritage interpretation of the site concurrently to the recent development direction of the village as an authenticity cultural activity as well as incorporating it with sustainable practices. There are a lot of sensitivities to be concern about as to evoke the image and genius loci of the site. Through this approach, it not only benefits the local villagers but also the whole environment of Malay Fisherman Village and Perlis River. Therefore, by reviving the river and settlement area, the livelihood of the village can be maintained as both of the features are depending on each other.

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