An Evaluation of the Implementation of *World Heritage Convention* in Malaysia:
A Case Study of the Mining Landscape of Kinta Valley

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ABSTRACT

After George Town, Melaka and Lenggong Valley's ascension to UNESCO cultural heritage properties, the general public in Malaysia has turned their attention to Ipoh, another significant heritage city memorably dubbed 'the town that tin built'. From the authority's preparation for Ipoh's UNESCO listing in 2010 to giving up the effort of gaining the international recognition in 2012, the journey to search what went wrong is imminent. As a party of the World Heritage Convention, the relevant legislations and gazetted documents or plans are researched at three levels, national, state and municipal/district. In addition, newspaper, relevant reports and journal articles have been sampled to provide a deep analysis of the pressures facing Kinta Valley. A problem-state-response framework is deemed suitable for the research approach of this case study as a way to pinpoint whether the implementation of World Heritage Convention in Malaysia is effective, as portrayed in the conservation and protection efforts of the post-industrial (tin-mining) landscape of Kinta Valley.

Current shortcomings in the implementation of World Heritage Convention in the mining landscape of Kinta Valley should be taken seriously as development pressures gather pace. Recommendations to nullify the inadequacies of plans and policies have been carefully strategized for relevant departments, agencies and government bodies of Malaysia. 46 figures including maps and 4 tables were inserted to aid understanding of the research. Suffice to say, this case study has taken proactive measures in providing constructive suggestions to ensure Malaysia, as a party of World Heritage Convention, continues to implement heritage conservation and preservation policies in an equitable and efficient manner.

**The top left image of the cover page depicts Ipoh Railway Station and Ipoh Tree, where Ipoh got its name. The top right image portrays Lake Pucung of Kinta Nature Park, a disused tin-mining lake, now a wildlife refuge for many migratory avian species. The bottom image reveals the spectacular karst landscape adjacent to a former tin-mining lake in Tambun, where the fabled Tambun Cave full of prehistoric rock paintings is found.* (Wong 2012a; Rozali 2012; The Perak State Government 2014)

ACKNOWLEDGEMENT

I would like to thank Dr. Chris McGrath for his expert advice on the direction of this case study and his support throughout the semester. I am also indebted to KHOO Salma Nasution, a heritage advocate, an author of numerous Malaysiana books and also a publisher. Her timely and insightful advice on the significance of the cultural landscape of Kinta Valley has been proven invaluable. Thanks are also due to my father, who is a big fan of history, geography palaeontology and society in general. Without his guidance, I would not have made it this far. My gratitude also goes to my girlfriend, Yuyu, for the numerous travels we have made in Southeast Asia, broadening my horizon further in this region. And lastly, I would like to express my deepest gratitude to my grandmother, who used to tell me stories of Ipoh, of World War II, of our family and of our forefathers from the distant lands, China and Indonesia. Though she is long gone, her words are still with me.

DEDICATIONS

TO

Yèyé
Maàmaà
Dedị
Maamị
Yùyú

FOR

Yesterday
Today
&
Tomorrow

CONTENTS

1. INTRODUCTION

1.1. Cultural and Natural Heritage in Malaysia

Gurstein (1984) states that Malaysia lacks a long history of urban settlements as it was originally a rural and kampong-based society. The large urban settlements such as Melaka and George Town were established as strategic trading posts, or as Kuala Lumpur, Taiping and Ipoh, as centres of tin-mining activity. (Ismail & Shamsuddin 2005) Melaka and George Town have been incorporated in the World Heritage List in 2008. Being one of the two capital cities of Malaysia, Kuala Lumpur functions as an economic centre of Malaysia. Over the years, much of its history as a mining settlement has been bulldozed. When compared to Ipoh, the urban fabrics of Taiping lacks the scale and capacity in explaining Malaysia's once important role in fuelling the industrial revolution in Europe, and the political and socio-economic developments of colonial Malaya (1896 – 1957) as well as post-independence Malaya (1957 – 1963). Other historical towns in Malaysia such as Kuching, Kota Bharu and Kota Kinabalu do not have a cultural landscape as rich and well preserved as Ipoh. (Rahman 1998; Cheah 2007) Notably, the heritage value of Ipoh does not exist in isolation, its cultural landscape should be considered in tandem with that of the valley it resides as Ipoh's political and socio-economic ascension from a Malay village is inextricably tied to the former tin-mining sector in Kinta Valley, when it was the most important tin-producing region internationally for much of the 20th century.

Apart from the rich cultural heritage scenes, due to a number of endemic and rare species found in the forests and seas of Malaysia, Malaysia is recognised as one of the twelve mega biodiversity countries worldwide. Some of the oldest rainforests in the world can be found in Malaysia. Taman Negara and the rainforests in Sabah and Sarawak have flourished since 130 million years ago, with ages second only to the tropical rainforest in Queensland. Terrestrial species here are as diverse as the forest types and climatic zones of the country. The marine life in Malaysia is renowned for being one of the richest in the world as some of its waters are in the Coral Triangle. The island of Borneo was formed towards the end of last ice age, approximately 12,000 years ago. Many of the species left in the island continue to thrive and evolve into distinctly new species. Many of these regions are left undisturbed. This is especially true in Mount Mulu, Mount Kinabalu, Maliau Basin, Imbak Canyon, Danum Valley and the Titiwangsa Range as unique geological features limit human encroachment and encourage speciation. A number of endemic species can also be found in the limestone hills which scatter throughout the country. Kinta Valley, where Ipoh situates, is celebrated for its karst landscape and increasingly, the rich flora and fauna thrive on its limestone hills. (Soepadmo 1998; Sani 1998)

1.2 World Heritage Convention

Since the end of World War II, economic and social developments around the world have hastened, often at the expense of the collective cultural and natural heritage of humanity. In 1972, during the sixteenth session of the General Conference of the UNESCO meeting in Paris, a decision was made to adopt the World Heritage Convention to safeguard the cultural and natural heritage of outstanding universal value. Subsequently, the World Heritage Committee was established to protect the cultural and natural heritage in accordance with modern scientific methods. This enables UNESCO to maintain, increase, and diffuse knowledge of places/buildings/sites/monuments of outstanding universal value. (UNESCO 1972)

Outstanding universal value means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for current and future generations of all humanity. State parties are invited to submit nominations of properties of cultural and/or natural value considered to be of "Outstanding Universal Value" for inscription on the World Heritage List. The committee considers a property as having Outstanding Universal Value if the property meets one or more of the following criteria. Nominated property shall therefore:

(i) Represent a masterpiece of human creative genius;
(ii) Exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

(iii) Bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared;

(iv) Be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

(v) Be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

(vi) Be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);

(vii) Contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

(viii) Be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

(ix) Be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

(x) Contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of Outstanding Universal Value from the point of view of science or conservation. (UNESCO 2013)

1.3 UNESCO World Heritage Sites in Malaysia

In 1988, Malaysia ratified the World Heritage Convention. Since then, four Malaysian properties have been inscribed on the World Heritage List, of which, two are cultural while the others are natural sites. Currently, Malaysia has a property submitted to the Tentative List. (See Table 1 and figure 1)

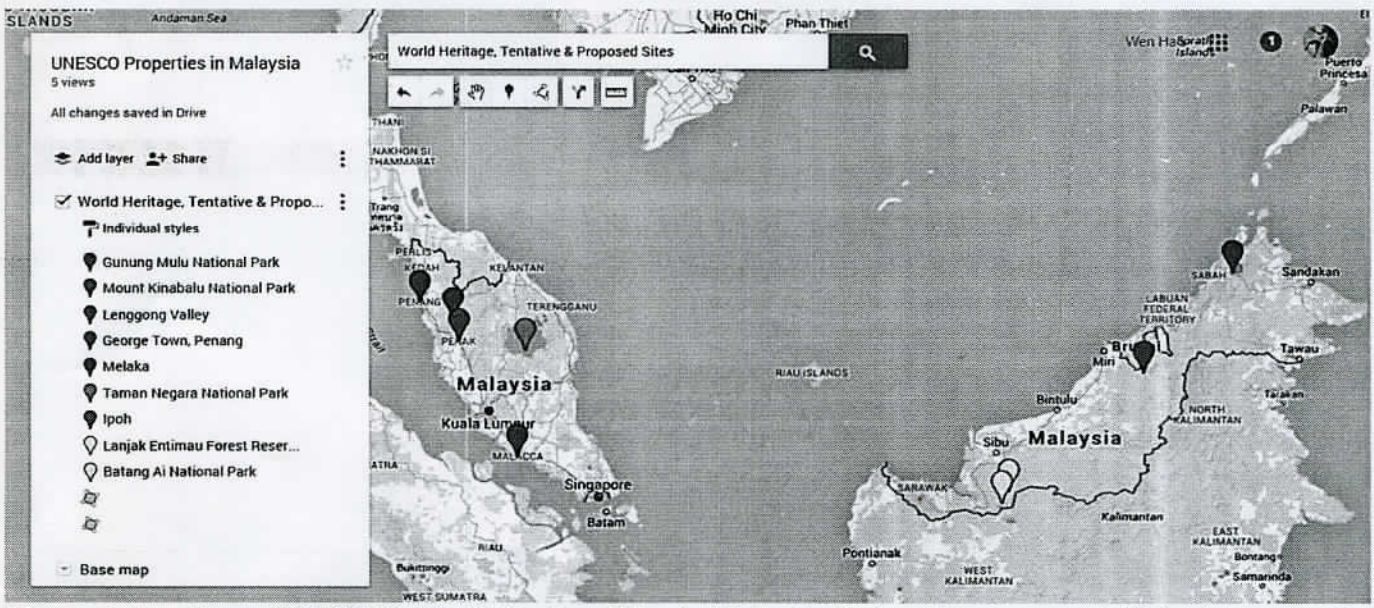


Figure 1. *Locations of UNESCO World Heritage Sites in Malaysia. Red markers represent Malaysian properties inscribed on World Heritage List, green marker represents property submitted to Tentative List, yellow markers indicate the former properties submitted to Tentative List while blue marker indicates Ipoh/Kinta Valley.*

Table 1. *UNESCO World Heritage Sites in Malaysia* (UNESCO 2015a, 2015b)

World Heritage List	State(s)	Surface Area (km^2)	Categories	Year Inscribed
Gunung Mulu National Park	Sarawak	528.64 km^2	Natural	2000
Kinabalu Park	Sabah	753.70 km^2	Natural	2000
Melaka and George Town, Historic Cities of the Straits of Malacca	Melaka, Penang.	5.4752 km^2	Cultural	2008
Archaeological Heritage of the Lenggong Valley	Perak	21.8541 km^2	Cultural	2012

Tentative List	States	Surface Area (km^2)	Categories	Year Submitted
National Park (Taman Negara) of Peninsula Malaysia	Pahang, Kelantan, Terengganu.	4,343.51 km^2	Natural	2014

Of the four properties listed, two are situated in Peninsula Malaysia while the other two are located in the states of Sabah and Sarawak. Preservation and conservations mechanisms have been specifically designed by the federal and state governments to safeguard the cultural and national heritage of the following sites. Regarding the properties submitted to the Tentative List, Lanjak Entimau Wildlife Sanctuary (LEWS) and Batang Ai National Park (BANP) was once nominated in the past for inclusion in the World Heritage List but has since been retracted from the list. Currently, the only property on that list is Taman Negara of Peninsula Malaysia.

2 RESEARCH DESIGN

2.1 Research Objective

The objective of this research is to evaluate the effectiveness of the implementation of World Heritage Convention in Malaysia. The following are the questions that this research will attempt to answer:

1) As a party of the World Heritage Convention, with regard to MILOKVA, how effective is the protection and conservation of cultural heritage in Malaysia?
2) How can the implementation of World Heritage Convention be improved in Malaysia with regard to MILOKVA?

Given the time constraint in conducting this research, evaluation will be narrowed down to a specific site rich in cultural heritage, known as — the mining landscape of Kinta Valley ("MILOKVA"). This site covers a large extent of land, including Ipoh and the various surrounding towns, limestone hills and the abandoned tin-mines. Another reason Kinta was chosen as the case study site is due to its unsurpassed role in narrating the cultural heritage of colonial Malaya and Malaya when tin-mining and rubber industries dominate the socio-economic landscape (1896 – 1963).

While the governmental buildings, churches, squares and fortifications of Melaka demonstrates the early stages of trading and cultural exchanges between East and West in the Straits of Malacca originating in the 15th century Malay sultanate and the Portuguese and Dutch periods beginning in the early 16th century, the residential and commercial buildings of George Town represents the British era from the end of 18th century. (UNESCO 2008) Towards the end of 19th century, the establishment of mining settlements in Malaya was fuelled by the industrial revolution in Europe as demand for production inputs increased. Hence, from the perspective of safeguarding the cultural heritage and socio-economics of MILOKVA, it is hugely beneficial for the Malaysian government to consider listing Kinta Valley as a UNESCO heritage site.

In doing so, the evidence of the colonial Malayan history that is inextricably tied to the political, economic and security chains of the Western world as narrated in the national curriculum, in particular the British Empire is accounted for. Figure 2 outlines the crucial events of Malaysia throughout the ages which are of utmost importance when considering World Heritage Convention. As Ipoh, the centre of Kinta was once the "hub of Malaya" which was influenced by the vicissitudes of tin and rubber booms and busts. The making of Kinta and Perak, once the wealthiest district and state in British Malaya, epitomises the bitter-sweet story of the country's birth into the modern era. (Khoo & Lubis 2005) This is still evident in much of its built heritage across the valley. Not short of natural wonders, in 1991 four limestone hills in Kinta were identified for legal protection as they are aesthetically, biologically and ecologically significant due to their complex cave system, prehistoric paintings, fossils and endangered species. (Kiew et al. 2014) Many of Kinta's historic cave temples which early miners helped built also nestle in these hills. Being part of the cultural landscape of Kinta Valley, the limestone hills must be included. As a former industrial centre of Malaya, MILOKVA outshines other mining settlements in Malaysia with regard to the authenticity, integrity and the scale of the living and erected heritage bequeathed as well as the ingenuity of the mining technology developed subsequently.

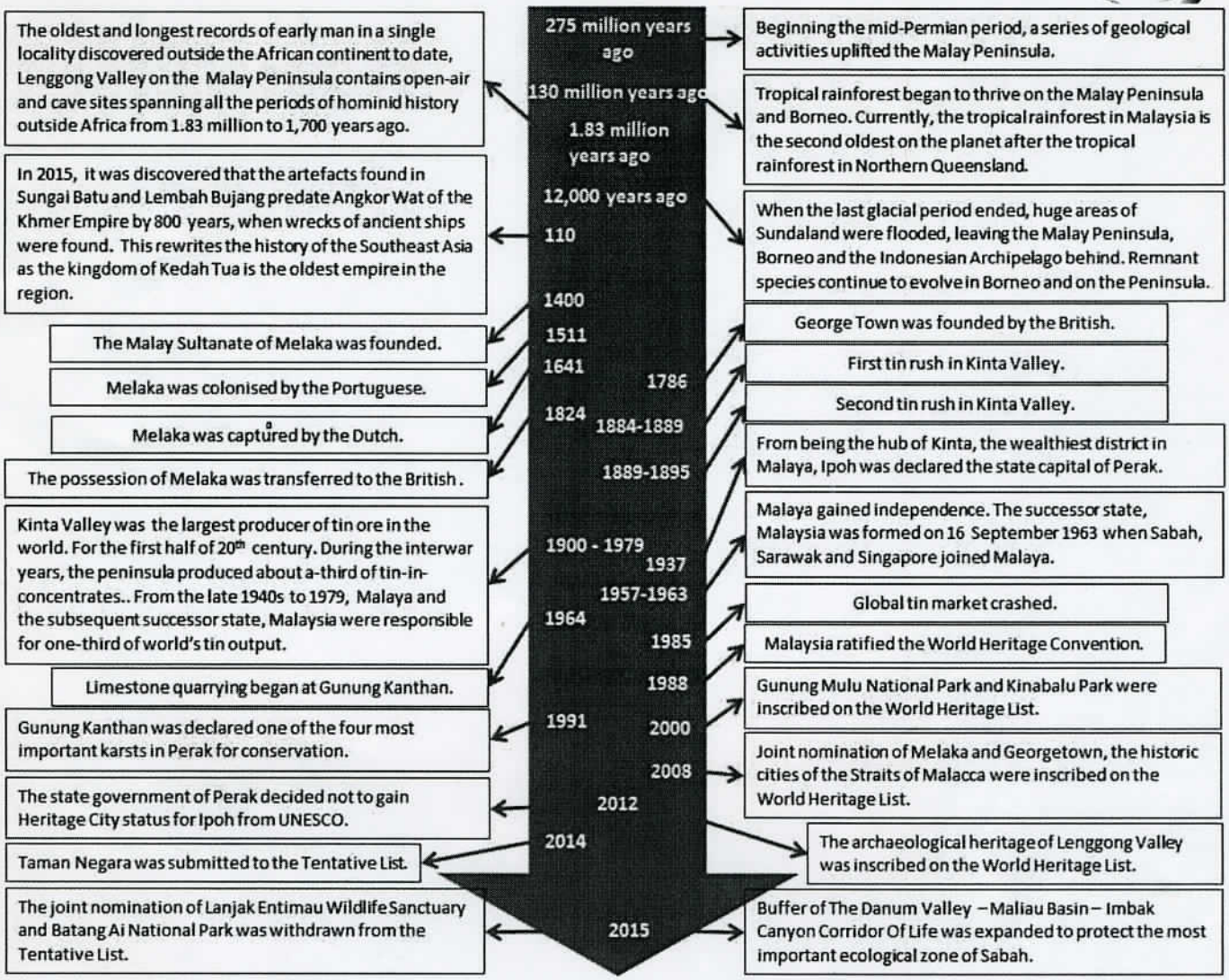


Figure 2. *Important events of Malaysia throughout the history.* (Khoo & Tan 1983; Loh 2012; Kiew et al. 2014; Middleton 2015; Lafarge 2016; UNESCO 2016a)

2.2 Research Methodology

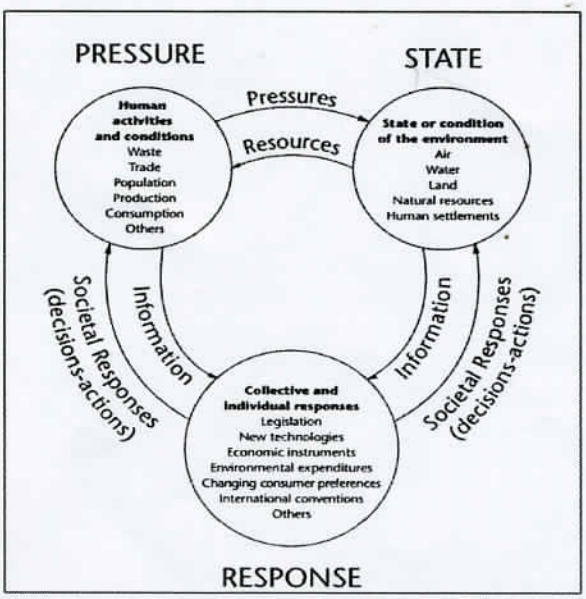


Figure 3. *One example of pressure-state-response framework.* (Pintér, Zahedi & Cressman 2000)

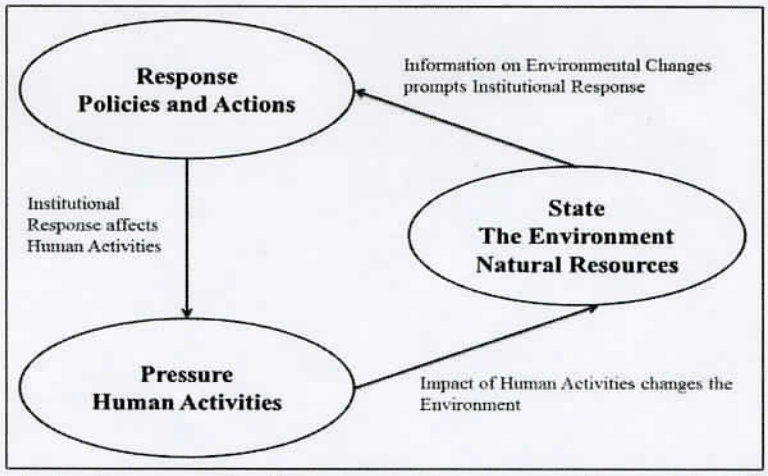


Figure 4. *Another example of pressure-state-response framework.* (FAO n.d.)

The method of evaluation employed in this research stem from the framework of *Pressure-State-Response* (PSR), which is a useful method in evaluating the effectiveness of environmental regulations due to its simplicity and comprehensiveness. (See Fig. 3 & 4) Important aspects of environmental problems and solutions will be covered and predicted. (McGrath 2010). According to the Merriam-Webster Dictionary, the word 'environment' can be defined in a number of ways. Firstly, it is the complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival. Secondly, environment is the aggregate of social and cultural conditions that influence the life of an individual or community. With the urban environment being this aggregate, it can be deduced that the connotations of 'environment' span the natural world humans inherited and the urban world humans has painstakingly constructed. Therefore, using the *PSR framework* in evaluating the effectiveness in implementing World Heritage Convention is convincing in context of a cultural landscape.

Regarding the method of research used, peer-reviewed literature, government publications, and other local and international publications relevant to the World Heritage Convention, the cultural heritage of Malaysia, and the selected case study site, MILOKVA, will be reviewed. Articles from reputable websites are also included to aid understanding of the socio-economic and political context of MILOKVA. There were no field works, interviews, surveys or primary data collection undertaken due to the limitations of time and financial resources available for this research.

2.3 Case Study Site

The state capital of Perak, Ipoh began as a town on both sides of Kinta River. It is located in the heart of Kinta where rich alluvial tin ores were discovered and is situated 205 km north of Kuala Lumpur and 157 km southeast of Penang/George Town, the two most socio-economically important cities of Malaysia (Figures 5 and 6). Like its predecessors who have been nominated on the World Heritage List, MILOKVA has outstanding universal value as it bears witness to the erected heritage, town-planning ideas and living heritage of British Malaya and Malaya from the formations of Federated Malay States in 1896 to Malaysia in 1963 when Sarawak, Sabah and Singapore joined Malaya.

▲Figure 5a Figure 5b►

Figure 5. *5a shows the location of Ipoh in West Malaysia while 5b depicts the 10 districts of Perak with Ipoh as the district and state capitals of Kinta and Perak.* (Ipoh.com.my 2008)

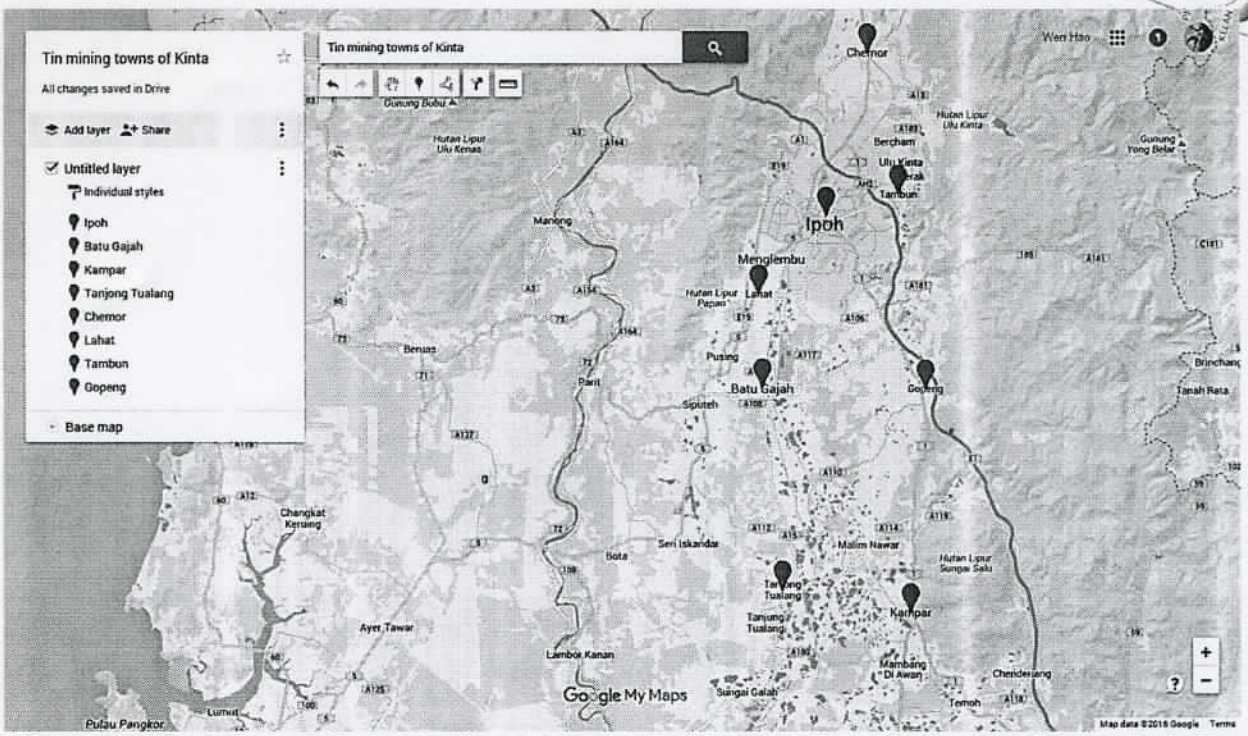


Figure 6. *The eight most important tin-mining towns of Kinta Valley, Chemor, Tambun, Ipoh, Lahat, Batu Gajah, Gopeng, Tanjung Tualang and Kampar still play a major role the political and socio-economic developments of Kinta and Perak although tin industry has declined considerably since the mid-80's. Notice the abandoned tin-mining lakes dot the landscape of Kinta except the area surrounding Ipoh as many have been reclaimed for urban expansions.* (Google Maps 2016a)

Kinta district is well known for its cultural landscape in Malaysia. The historical buildings of Ipoh, Batu Gajah, Chemor and Kampar, and the settings of Kinta River, limestone hills, tin-mines and open spaces in between all illustrate its Outstanding Universal Value. (Khoo & Lubis 1999; Lubis & Khoo 2003; Khoo & Lubis 2005; Choo 2007; Lubis, Wade & Khoo 2010) Figures 7 to 25 capture the essence of the cultural landscape of Kinta, which is expressed in the various cities' built forms, living heritage, unique lifestyles, cave temples and the tin-mining landscapes that are left behind.

Figure 7. *Garden villa, the Malay-Anglo bungalow in Ipoh built by Eu Tong Sen, who was a leading Malayan businessman in the early 1900s.* (Felicia 2010)

Figure 8. *Yick Woh Ltd and the Oversea–Chinese Banking Corporation Building, built in Art Deco and neo-classical styles in Ipoh.* (Mok 2015)

Figure 9. *The tropical sensitive Anglo-Indian residence of the Anglican vicar, adjacent the Church of St John the Divine, built in 1921 in Ipoh.* (DBHKer 2005)

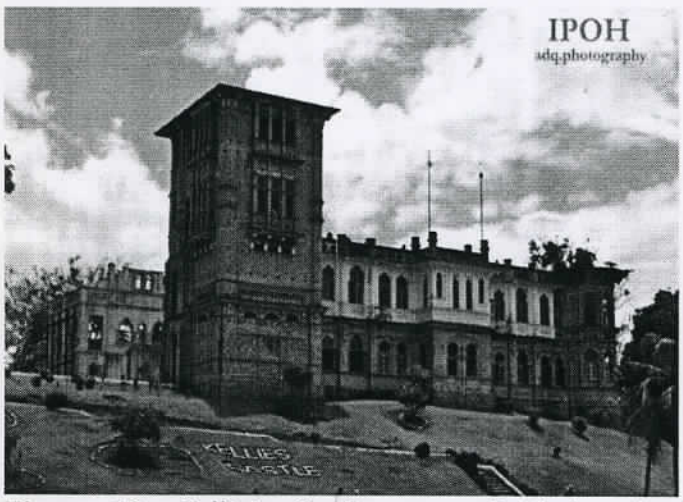


Figure 10. *Kellie's Castle, an unfinished, ruined mansion built by William Kellie Smith, a Scottish planter. Construction started in 1909 beside the Raya River, a tributary to the Kinta River.* (Photo Malaysia, 2009)

Figure 11. *Kallumalai Arulmigu Subramaniar Temple, located at the foothill of Gunung Cheroh, is the largest Hindu Temple in Ipoh. Before the advent of railway, Gunung Cheroh was used by early travellers and navigators as the landmark of Ipoh for disembarkation.* (Kelly 2014)

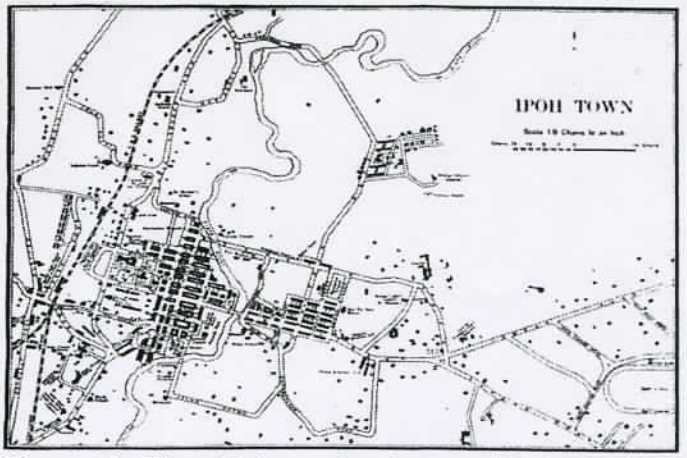


Figure 12. *The grid-iron urban layout of Ipoh is a direct result of British town-planning in Malaya.* (Great Malaysian Railway Journeys, n.d.)

Figure 13. *An abandoned tin-mining lake found its renewed purpose as a lake garden of Kek Lok Tong Cave Temple.* (Ann 2012)

Figure 14. *Perak Tong Cave Temple, nestled within the limestone caves of Gunung Tasik, was built in 1926 by Buddhist priests from China.* (Molon 2010)

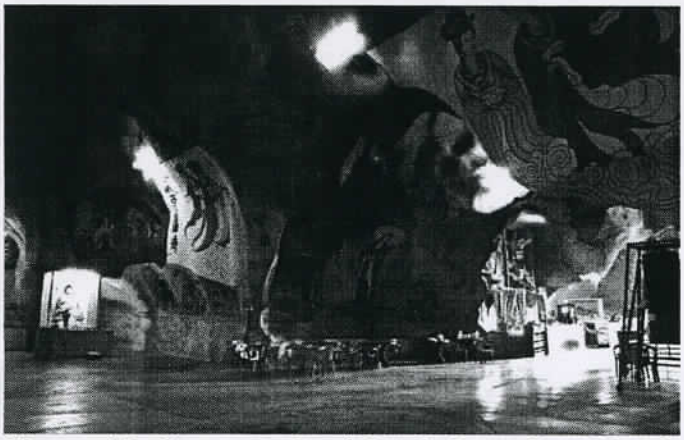


Figure 15. *Cave murals of Perak Tong Cave Temple.* (Molon 2010)

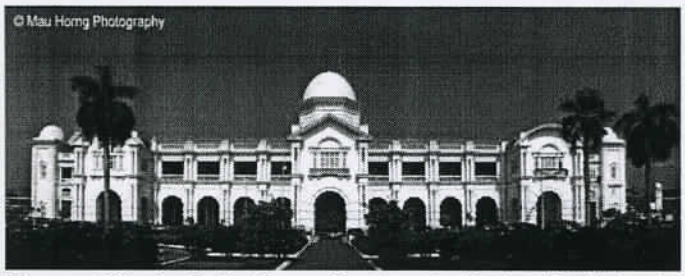


Figure 16. *Ipoh Railway Station, built in 1917 in the British Raj style.* (Mau 2007)

Figure 17. *The only traditional wooden signboard business left in Ipoh.* (Lee 2013)

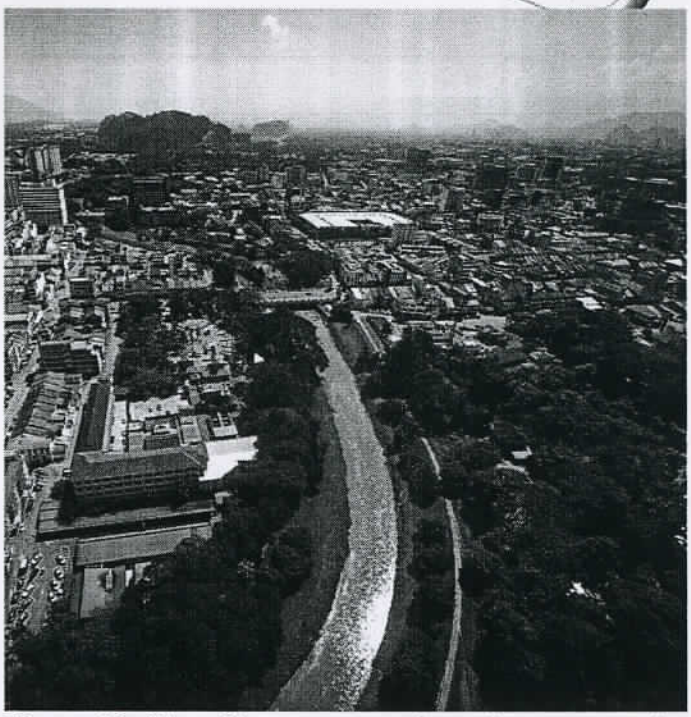


Figure 18. *Kinta River was once the main transportation route of Ipoh and other mining towns along the river before railway connects Kinta district to coastal ports. The area around the bridge is the oldest part of the city, with Gunung Chemor in the background.* (Rs25 2015)

Figure 19. *A typical Chinese Malaysian café, known locally as 'kopitiam' or 'char chan sat'.* (Ow 2014)

Figure 20. *SPH De Silva Building, a straits eclectic building in Ipoh old town.* (Lee 2015)

Figure 21. *Historic street food stalls underneath huge trees in Ipoh.* (Lee 2013)

Figure 23. *Abandoned tin-mining lakes, vast open space and limestone hills are three dominant features of Kinta Valley, apart from towns like Ipoh, Batu Gajah, Chemor and Kampar.* (Low 2009)

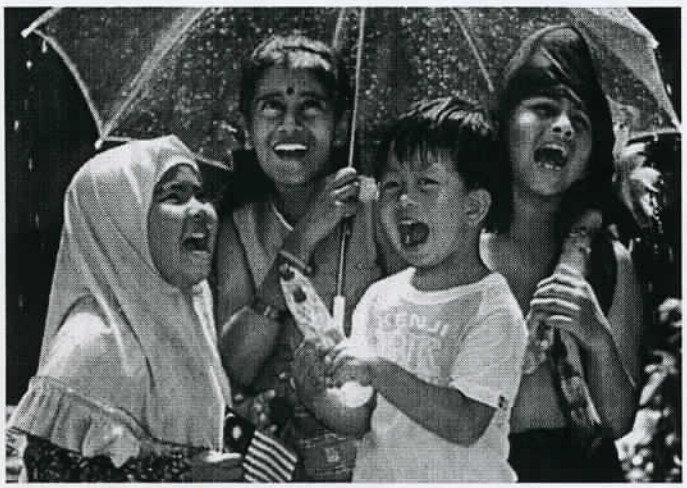


Figure 22. *Early mining industry has left a multicultural legacy in Malaysia when Chinese were encouraged by the British to settle in the mining towns of Malaya. When rubber estates were set up near those towns, South Indians were brought in by the British to work as rubber tappers. Together with the Malays, they are the three largest ethnicities of Malaysia today.* (Vong 2012)

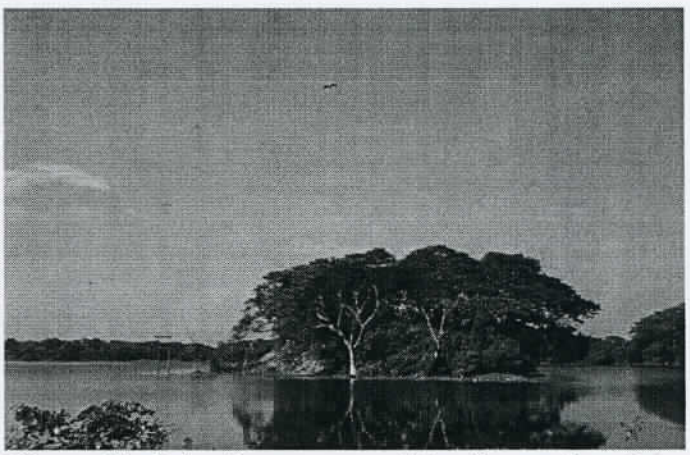


Figure 24. *Lake Pucung, one of the former tin mining lakes in Kinta Nature Park is home to many migratory bird species.* (Wong 2012a; Honey4Boyz 2012)

Figure 25. *A tin dredge in Tanjung Tualang.* (Tye 2011)

3 OUTSTANDING UNIVERSAL VALUE of KINTA VALLEY

3.1 The Mining Landscape of Kinta Valley

When it comes to the cultural heritage of Ipoh, its cultural significance must be explained in tandem with the wider region where its history stretched back further, the Kinta Valley. The outstanding universal values embedded within the mining landscape of Kinta Valley are paramount to the Malaysian history (See figure 2) as a multicultural society. Landscape is interpreted as the creation of a cultural expression through human ideology and representing a living heritage. Since landscapes constantly evolve, it stimulates challenges for sustainability in preserving significant cultural landscape which rested in the ever-evolving and transitional world. Kinta Valley's former mining landscape can be described as a 'relic landscape'. This landscape type is one of the sub-categories

under the organically evolved cultural landscape as incorporated in UNESCO Operational Guidelines. Palang & Fry (2003) state that an understanding in the interface between culture and landscape is vital as it will lead to better interpretations of future and current issues of former landscape developments and interventions. United Nations has emphasised that sustainable cultural landscape is 'socially, economically and environmentally durable'; therefore preserving the historic MILOKVA will ensure the valley's sustainability. Additionally, qualifying its cultural significance will result in the establishment of heritage values of state and national importance. (Ahmad & Jones 2015)

3.2 The Concept of Cultural Landscape

Sauer remarks that "the cultural landscape is fashioned out of the natural landscape by a culture group. Culture is the agent, the natural area is the medium, and the cultural landscape is the result". Humans and nature holds a long history of interrelationship and dependencies. This connection has generated mosaic in the landscape and therefore landscape memory, symbolism and manifestation including remnants of the past which lie within the landscape layers. (Lennon 1997) The term 'cultural landscape' was first proposed in the early 20th century in the academia and adopted by Professor Carl O. Sauer, an American geologist of the Berkeley School in the 1920's in his work 'Morphology of Landscape'. This concept has been internationally embraced in conservation practice in the 80's and 90's before the concept of 'cultural landscape' was incorporated in the World Heritage Convention in 1992. Consequently, World Heritage Convention became the first international legal instrument to recognise and protect cultural landscape. (Fowler 2003) Following that recognition, the Tongariro National Park in New Zealand became the first site to be inscribed in the World Heritage List under the 'cultural landscape category' in December 1993 and followed by Uluru-Kata Tjuta National Park in Australia in December 1994. Blair and Truscott (1989) argue that landscape is perceived as a cultural artefact which comprises tangible remains that have been left by present and earlier cultures; hence it offers various layers in the landscape. Furthermore, Antrop (2000) observes that landscape is appreciated for its natural, cultural inheritance and aesthetic attributes and Antrop describes landscape as a reflection of our changing society and their attitude towards the environment thus "filled with past memories". (Ahmad & Jones 2015)

3.3 The Evolving Mining Landscape

In particular, Australia ICOMOS described evolving landscape as 'system' that extends either in 'relic' or 'continuing' that portrays through its features, land use and patterns. Prior to this connotation, former mining landscapes were classified as evolving landscapes hence embrace the transformation of lands as consequences of extraction-mining industry and possess the tangible and intangible values which Jones described them as "social treasures" translating into the "expressions of change in our human ideals, philosophies and human and natural actions". Remarkably, this landscape category is able to exhibit the influence of mining activities on transforming the landscape physically, depicting humans and nature dependencies. Further, to support the mining operations, infrastructure and facilities were constructed to accommodate this activity and thereupon impacted the overall land-use and spatial patterns of these places. Other than that, UNESCO has acknowledged that historic mining landscapes form part of the cultural landscape definition due to its ability in demonstrating the evidence of past interactions between humans and their environments. Similarly, with embedded outstanding universal values, recognition of this landscape type was granted to the Blaenavon Industrial Landscape, UK (2000); the Cornwall and West Devon Mining Landscape, UK (2006); the Iwami Ginzan Silver Mine and its Cultural Landscape, Japan (2007); and the Nord-Pas de Calais Mining Basin, France (2012). (Ahmad & Jones 2015)

3.4 Justifying Cultural Landscape's Significance

The significance of mining cultural landscape portrayed by Kinta Valley, Malaysia is indisputable. Tangible evidence that scatters throughout the valley is highly extant and visible. This is especially true within the Ipoh urban periphery. (See Figure 35) Historically, Ipoh emerged from a small Malay village known as Kampong Paloh and later transformed into an important hub for the Kinta District in 1890's. In 1937 the capital city of Perak State was moved from Taiping to Ipoh. According to Osman and Ishak (2012), Kinta Valley has the highest concentration of ex-mining lands in Perak, standing at 476.14 km^2 (58.2 % of total state land). Much of these lands were established within the southern and

south-western part of the valley where rich alluvial tin ores were once found. As opposed to Cornwall and West Devon mining landscape, the existence of tin deposits within Kinta Valley was geologically identified as stanniferous alluvium hence it portrays a different mining technique used for tin extraction. Succeeding the Taiping tin boom in 1889, from 1890 onwards Kinta Valley held the long record of being the main producer of tin for Malaysia, resulting in Malaysia producing one-third of global tin output until the collapsed of global tin market in 1980's, causing in the often immediate abandonment of mining sites in Malaysia.

Despite the tin industry has lost its economic importance in the valley, the extensive and expansive tin mining sector in MIKLOVA that spans a century has evidently transformed the valley's land-use thus shaped a significant spatial pattern that is extant until the present days. These activities included a transportation network characterised by the road and railway systems established in 1880's so as to enable the transportation of tin ore from the important mining sites to tin smelter factories in Penang. As a result, the transportation clusters and networks that were established in Kinta Valley illustrate the outcome of immense tin mining exploration within the valley. Besides, important mining elements that are existing today include the hydro-electric power plants (Malim Nawar power station and Chenderoh power station), mining dams and pipelines that were built and installed within the foothills of the Main Range (Mt. Bujang Melaka, Mt. Chante, Mt. Chabang and Mt. Juang). These prove that in-situ hydraulic mining activities that were once introduced by the European mining companies concentrated largely within the Gopeng area. In order to improve and upgrade the irrigation system due to the sedimentation of extensive mining exploration, Kinta River was canalised in 1950's, a huge project involving the straightening of the river between Lahat and Kuala Chenderiang and subsequently extending to Ipoh, covering a total length of 61 km. Thus, with all this extant evidence and patterns in the landscape, can one conclude that Kinta Valley is one of the best examples of a mining cultural landscape in Malaysia. (Ahmad & Jones 2015)

3.5 Statement of Culture Heritage Significance

As provided in the Burra Charter, the significant values which contribute to the cultural significance of a place are comprised of aesthetic, historic, scientific, social and spiritual values. From the historical perspective, the development of an industrialised mining sector in Kinta Valley has witnessed and paralleled the migration of Chinese miners and settlers to colonial Malaya in addition to the interference of British colonists in the state affairs of Perak, especially in Kinta Valley. The Chinese migrants have brought with them their culture from Southern China (predominantly Hakka, Cantonese and Hokkien) as well as a regime of economic expertise for mining production which was markedly different from the local Malays who were more involved in the paddy plantation sector. (Ahmad & Jones 2015) Tin mining in Kinta Valley therefore fuelled the formation of a distinct society in this area by binding communities with various cultural and religious backgrounds together. Until today, the multicultural legacy Kinta Valley and Malaysia inherited is pronounced. Further, the astonishing physical transformation of Kinta Valley portrays strong connections and interdependencies of human and nature variables whereby the current landscape is a cultural construct that hosts abundant heritage values. Through comprehending the existence of tangible physical remains (landscape fabric), Kinta Valley's post-industrial landscape holds a tangible and intangible record of history, scientific, social, aesthetic and spirituality, hence demarcating its strong identity as the major tin-producing region in Malaysia.

3.6 Integrity and Authenticity

With regard to the Kinta Valley, although most of the mines had been closed since 1980's and much of the mining infrastructure has now disappeared, former mining towns such as Batu Gajah, Kampar and Gopeng still express a reasonable level of integrity that evokes memories of the economic and social conditions of the era of colonial mining and industrialisation, dating back to the end of the nineteenth century. (Ahmad 2013) Across the valley and within Ipoh, much of the traditional businesses still operate the way they once were in the past decades. Rapid commercialisation and demolition of heritage buildings that took place the way and scale in Kuala Lumpur has not happened in MILOKVA, hence the mining landscape of the valley still contains an appropriate level of authenticity which exudes the flair of the tin-mining era.

3.7 Selection Criteria Fulfilled

Table 2. *The selection criteria fulfilled by MILOKVA.*
(Ahmad 2013; Rollitt 2015; UNESCO 2008)

Selection Criteria	Details
Criterion II	Interchange of human values ▪ Practice of British town planning in an Asian city ▪ The convergence of Scandinavian/Western modernist styles and Asian architectural elements in a tropical setting, giving rise to Malaya's first recognisable modern architectural style.
Criterion III	Historical importance ▪ Establishment of mining towns & its settlements ▪ Inseparable link to the industrial revolution in Europe
Criterion IV	Environmental settlings & land uses ▪ Express human-nature relations / spatial planning ▪ Sustainable land & waterway managements
Criterion V	Vernacular knowledge / technical advancement ▪ Mining techniques
Criterion VI	Surviving tangible heritage ▪ Multicultural society of Malaysia ▪ Cave temples functions as holy grounds of tutelary deities

4 PRESSURE-STATE-RESPONSE

4.1 Pressure

There are five major pressures exerting on MILOKVA, all of which threaten the outstanding universal values of the cultural landscape. The threats have to be understood with the current states and responses made so far in order to form valued judgements and subsequently recommendations to mend the shortcomings.

(i) Urban expansion

The outstanding universal value of MILOKVA is increasingly being threatened as urban expansion gathers pace. Already, a large number of ex-mining lands within Ipoh had been reclaimed in the years since 2000 for the construction of residential houses and factories in spite of the numerous problems associated with ex-mining lands. (Rashid et al. 2015) The threats of sinkholes, ground subsidence and landslides do not decrease the pace of land reclamation as ex-mining lands were identified as suitable sites for brown-field developments. The loss of the historical mining landscape in Ipoh is pronounced. Beyond the urban limit of Ipoh, however (See Figure 6), there still exist large bodies of ex-mining lakes in Kinta Valley, spanning the area from Lahat to Kampar and beyond.

(ii) Weak enforcement of heritage conservation legal framework and laws

The legal framework to protect the natural and cultural heritage in Malaysia is sufficient but lacks capacity in the enforcement of law. Since the repeal of Control of Rent Act 1966 in 1997, several properties of historical and cultural significance have been demolished or altered irreversibly. In 2009, Fair Park Houses characterised by Scandinavian modernist style designed by Berthel Iversen in 1937, who also designed a number of Scandinavian modernist mansions with tropical features in Ipoh, were demolished for redevelopment purposes. (Rollitt 2015) In 2012, Majestic theatre, one of the seven historic Art Deco cinemas built before WWII was illegally demolished by the developer without Ipoh City Council's consent, despite the fact that it had been identified as one of the 140 heritage buildings by the local council. (Heritage building demolished without council's consent 2012)

(iii) Lack of business successors

In recent decades, certain traditional businesses such as chick blind weaving, ancestral tablet carving, signboard engraving and plum blossom coffin manufacturing have seen a drop in market demand. However, the real problem of these businesses is a lack of business successors. The younger members

of the families are generally reluctant to succeed these family businesses due to difficult work and poor wages. In fact, there has been no new apprentice in these fields for 20 years. If this trend persists, the traditional skills will be lost, eroding the living heritage of MILOKVA. (Lín 2013; Cowling 2013)

(iv) Gaps in knowledge and practice of cultural landscape conservation in Malaysia

A lack of public awareness of the cultural landscape concept represents an intellectual gap that hinders the understanding of heritage values embedded within Kinta Valley's former tin-mining landscape especially in its potential which fulfils ICOMOS' cultural landscape criterion. Globally, industrial landscapes are increasingly being recognised for their heritage significance. The Blaenavon Industrial Landscape and the Cornwall and West Devon mining landscape in the United Kingdom have both been inscribed on the World Heritage List in 2000 and 2006. Both properties evidenced a shift in paradigm within the international heritage community towards acknowledging the values embedded within this landscape type and their overall outstanding universal values.

Notably, a gap exists within the federal legislation whereby the cultural landscape category was not mentioned in the Malaysian National Heritage Act 2005 although the contribution of cultural landscape towards Malaysia's heritage was acknowledged in the Malaysian National Landscape Policy. (Department of National Heritage 2005) Additionally, much of the strategy for the protection of cultural landscape outlined in the policy is focused upon the agricultural landscape category (Strategy 4.2: Identify and Develop Landscape of High Value in Visual and Cultural) without recognising the mining cultural landscape type as being one of a wider spectrum of the cultural landscape types that need to be acknowledged and conserved. (See Figure 39)

Similarly, a gap exists between federal and state documents on the concept of 'cultural landscape'. This is demonstrated in differences between the Malaysian National Landscape Policy at the federal level and the Perak Structure Plan 2020 at the state level. Authored by the Malaysian National Landscape Department, the Malaysian National Landscape Policy provides a national-level view of cultural landscapes whereas Perak state's (see Figure 26) gazetted documents have a different interpretation and policy agenda. Due to the lack of understanding of this concept within the Perak state planning and management documents, a coherent understanding of the heritage values embedded within the Kinta Valley former mining landscape was negated. Consequently, on land use planning, much of the former tin mining sites has been strategized to be converted and developed into housing, commercial and industrial development with the intention of supporting population growth in Kinta Valley allied to the urban expansion of Ipoh, the capital city of Perak. (Ahmad & Jones 2015)

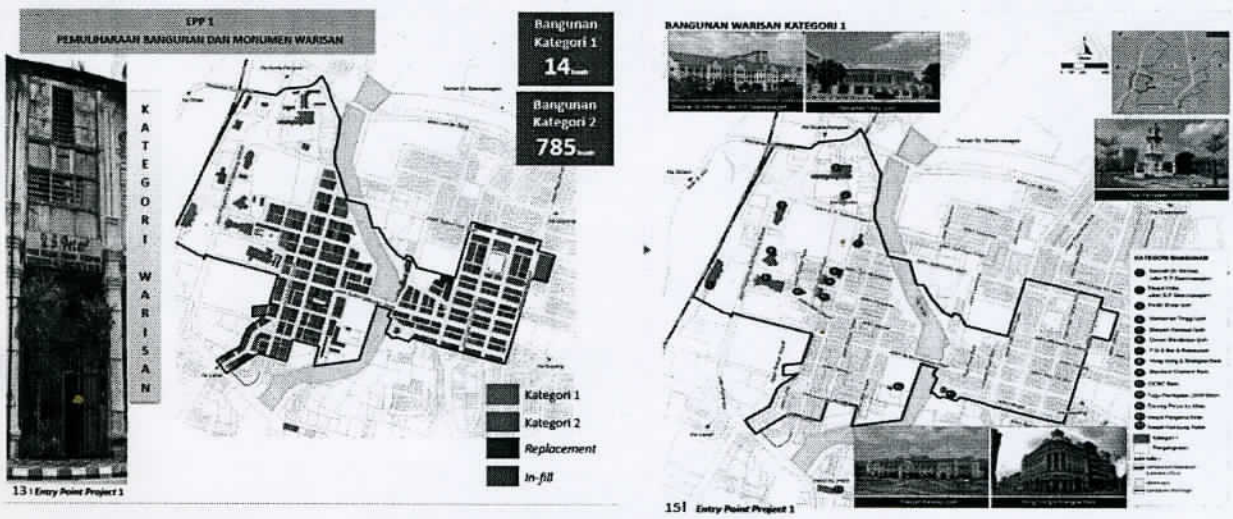


Figure 26. *Conservation of heritage buildings and monuments within the Ipoh old town centre as outlined in the 'Draft Special Area Plan for Ipoh Town 2020' [Draf Rancangan Kawasan Khas Pekan Ipoh 2020] p. 13 and p. 15.* (Ipoh City Council 2013)

(v) Limestone quarrying

In Perak, quarrying is the main threat to limestone hills. Any visitors to Ipoh will notice that almost every hill is scarred by this activity, both active and abandoned. (Kiew et al. 2014) Limestone hills

which have Buddhist or Hindu temples residing in their vicinities are never exploited. In Kinta district, Gunung Kanthan was identified in 1991 as one of the four most important karsts for conservation. However, mining operations had begun at the northern portion of Gunung Kanthan since 1964 before environmental awareness gained grounds in Malaysia. Despite ongoing quarrying operations, it is a geo-biologically significant site due to the fossils found, unique cave system and its rare and endangered species. Currently, 68 endemic species have been discovered. The southern portion was left untouched but it had been scheduled by Lafarge for quarrying in 2013. The five temples at its foothill, local scientists and Malaysian Nature Society ("MNS") had raised concern on religious and scientific grounds following Lafarge's action. (Marzuki & Vermeulen 2014; Grismer et al. 2014; Tan, Kiew, Saw & Ummul-Nazrah 2014)

Figure 27. *A limestone hill being quarried in Ipoh.* (Striking a happy balance 2013)

Figure 28. *Former abandoned tin-mining lakes are being reclaimed for housing projects.* (Chen 2014; Rashid et al. 2015)

Figure 29. *Lack of successors in certain traditional businesses may result in the disappearance of them in Kinta Valley forever.* (Lín 2013)

Figure 30. *Majestic Theatre, identified as a heritage building in 2012, was illegally demolished by the developer.* (JAG 2012)

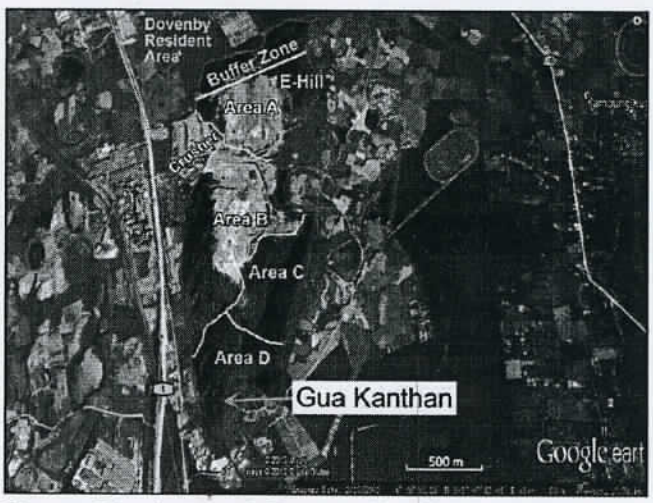


Figure 31. *Areas of Gunung Kanthan as named by Lafarge Malaysia Berhad. The active limestone quarry occupies areas 'A' and 'B'. The proposed quarry extension is shown as Area 'C'.* (Kiew et al. 2014)

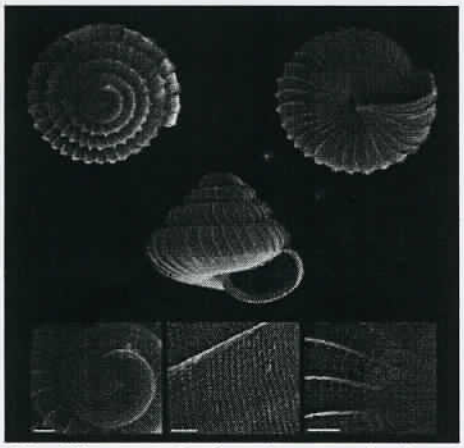


Figure 32. *Charopa Lafargei, named after Lafarge, the mining company who also determines the future existence of this snail.* (Vermeulen & Marzuki 2014)

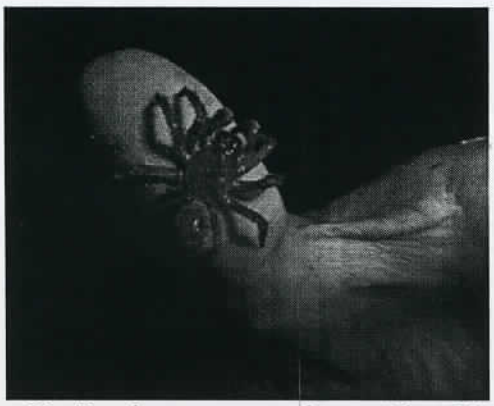


Figure 33. *Kanthan cave trapdoor spider, Lisphitius kanthan is one of the 68 endemic species discovered in Gunung Kanthan that is classified as 'critically endangered' by the IUCN Red List of Threatened Species.* (Price 2013; Kiew et al. 2014)

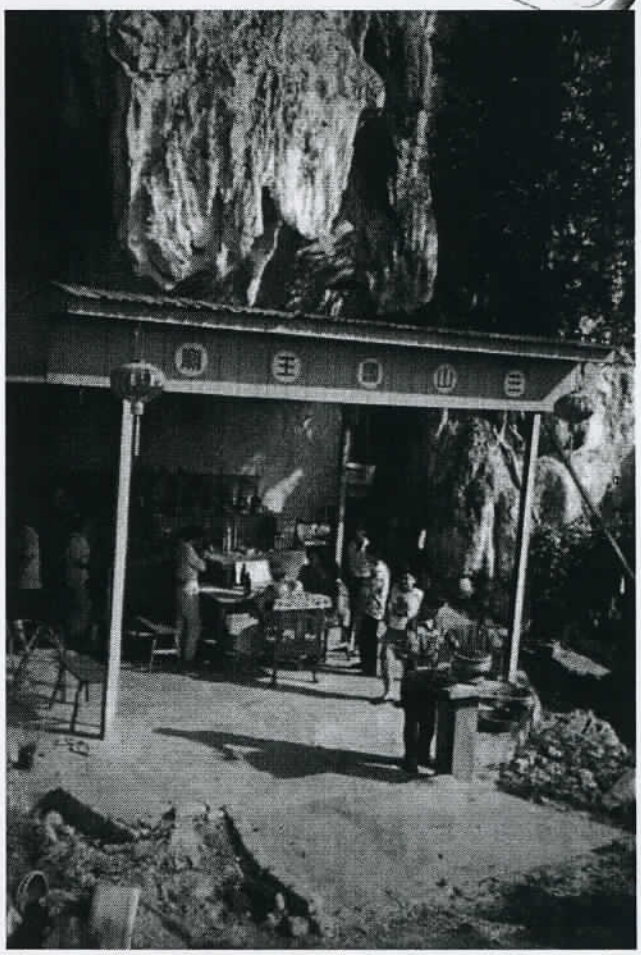


Figure 34. *A Taoist temple back in 1997 but has since been abandoned. Currently, there are one Buddhist monasteries, two Taoist temples and two Hindu temples in Gunung Kanthan.* (Price 2011; Kiew et al. 2014)

4.2 States

From the discussion on the outstanding universal values of MILOKVA and the environmental and urban pressures accompanying those embedded heritage implications, the state of Kinta Valley which functions as a cultural landscape can be, in general, described as intact. Although some of the alterations fabricated have been irreversible on some of the built heritage in Ipoh while others have degraded the meanings of cultural landscape in the valley when land reclamation happens, the current state of MILOKVA still fulfils the criteria of integrity and authenticity as a cultural heritage whereby the general infrastructures and living heritage which the meaning of cultural landscape hinges upon have not been damaged. Most of the literature on the cultural heritage in Kinta focuses on either cultural heritage of Ipoh or the natural heritage of the karst system of Kinta Valley. Rarely, the cultural landscape of MIKLOVA was discussed with regard to the effectiveness of implementing World Heritage Convention in Malaysia. This section aims to give more focus on this aspect by discussing the effectiveness of Malaysia's protection and conservation of cultural heritage with respect to MIKLOVA.

(i) Heritage buildings

The importance of the heritage buildings of MIKLOVA in contributing to the urban form, townscape and aesthetic aspects of the mining landscape has long been recognised. Gentrification, modernisation, weak enforcement of law and natural causes such as neglected buildings are the banes to the heritage buildings in MIKLOVA. (Ismail & Shamsuddin 2005) In 2011, Ipoh City Council had identified 140 buildings throughout Ipoh as heritage buildings and has indicated them in the Special Area Draft Plan

for Ipoh. Of these, 120 have been listed within the National Heritage Act 2005 to be gazetted for preservation. (Wong 2011) In 2012, a list of 114 buildings and monuments with historical and heritage value was approved by Perak state executive council for preservation. However, there are many others heritage buildings not included in the list. Many buildings initially identified as heritage buildings had its status removed at the owner's request. These owners often have a vested interest in the real estate industry. (Kaur, Fong & Loh 2012) To date, there are 25 buildings/monuments/sites in Ipoh which are gazetted as 'state' heritage through the Local Government Act 1976 and there are even fewer listed as national heritage under the National Heritage Act 2005. (Perak Heritage Society 2015)

(ii) Limestone hills

The limestone hills were rarely seen in the limelight until recently when environmental awareness becomes widespread in the 90's. Historically, to answer the national demand for cement after the formation of Malaysia in 1963, cement production commenced in Ipoh in 1964 when Kanthan Works began its operation. (Lafarge 2016) Over the years, Ipoh has evolved to become an important cement producer against the beautiful backdrop of the karst landscape it was being bestowed. Consequently, it is not a surprise that many of the limestone hills have been scarred by abandoned or ongoing quarrying operations. In 1990 the MNS carried out a year-long study of the 45 limestone hills in Perak covering only 1.7 per cent of the state's land mass. Of the 45 hills surveyed, 31 were identified to be economically feasible for limestone exploitation without causing irreversible and permanent damage to the nature while 14 were shortlisted as hills requiring legal protection for their geo-biological importance. Gunung Kanthan emerged as one of the top four most important hills in Kinta for conservation protection due to the fossils found, its unique cave system, and the rare and endangered species it harbours. In 2012, 16 prominent limestone hills with Gunung Kanthan topping the list, was announced as important areas as biodiversity hotspots. It was recommended that protection for tourism, research and recreation of these limestone hills should be pursued as opposed to limestone quarrying. Consequently, the Ipoh City Council recommended the Perak state government that no new approval licenses for quarry sites should be approved in the vicinity of Ipoh. In the same year, Lafarge had stated that a rehabilitation master plan was being prepared for the Kanthan Plant. (Lafarge 2012) However, quarrying will result in irreversible damage to the geo-biologically significant Gunung Kanthan. Therefore rehabilitation is futile in maintaining the outstanding universal value of Gunung Kanthan as a cultural and natural site. In 2013, the public became aware that Lafarge plans to quarry the entire hill. (See Figure 31) Subsequently, quarrying was paused until a Biodiversity Survey commissioned by Lafarge was completed when the 5 temples nestled at the southern hill, local scientists and MNS raised concerns. (Kiew et al. 2014)

In the wider area, the multiple monetary benefits of limestone hills and caves for tourism, agriculture, biodiversity and pharmaceuticals have been identified by the Ipoh City Council as conservation reasons of the limestone outcrops. In fact, the part of limestone hills that hold most of the benefits lie above ground while 80 per cent of the limestone lies subsurface. (Striking a happy balance 2013) In 2004, there have been discussions that Kinta should follow the path of the Selangor state in exploiting limestone underground. (Ritchie 2004) Further, Ipoh City Council had considered installing giant spotlights at certain stretches of limestone hills to illuminate one of its most valuable natural assets as an added tourist attraction. (Loh, Fong & Ngo 2012) However, the effect of strong light on nocturnal species has not been studied and documented.

(iii) Tin-mining lakes

Figure 35 indicates the extent of Ipoh city in pink. To the south of Ipoh's urban periphery, much of the historical tin-mining landscapes have not been altered for urban development as the case in Ipoh. It can be seen from that the area untouched by rapid urban expansion is approximately twice the size of Ipoh. Although two-third of MILOKVA is still intact, there has been no provision and discussion in the state's law and gazetted documents for its protection.

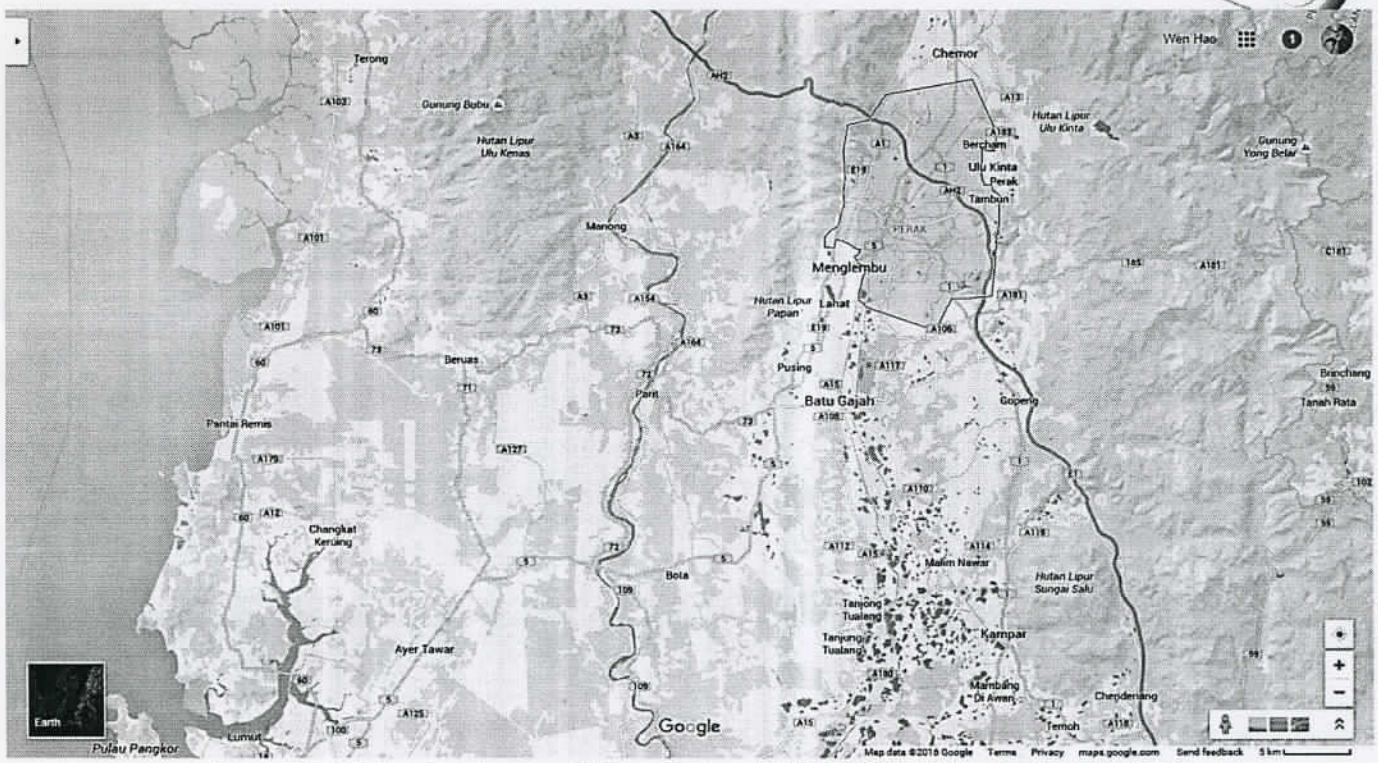


Figure 35. *Mining Landscape of Kinta Valley, "MILOKVA".* (Google Maps 2016b)

(iv) Kinta River and heritage trees

The bird's eye view of Kinta River from Figure 18 indicates well-preserved river banks. The river's exceptional uniformity in width is not of natural coincidence but is largely a result of human intervention. Historically, Kinta River was the lifeline of Kinta before the advent of railway. The rise of mining and agriculture sectors at the turn of 20th century had badly damaged the river, resulting in river sedimentation and a series of 'record floods' in Ipoh from 1910's to 1920's. An extensive flood mitigation scheme was immediately drawn up by the state engineer in 1919. By the 50's, the project was extended to encompass the straightening of 61 km of river, from Ipoh, the centre of Kinta Valley to Kuala Chenderiang, near the southern extent of the valley. The Kinta River was remade into a 35.5 km long canal, 2.1 m deep, with a 36.5 m wide bottom, flanked by spoil banks 1.8 m high and 3 m wide; both berms and banks were grassed. Five weirs were installed at selected intervals to brake the flow of water down to a total drop of 8.2 m. In this project, the mining companies undertaking the deviation works had to connect the tributaries, divert the roads and rebuild all the bridges. The legacy of this engineering feat has been well preserved. (Khoo & Lubis 2005)

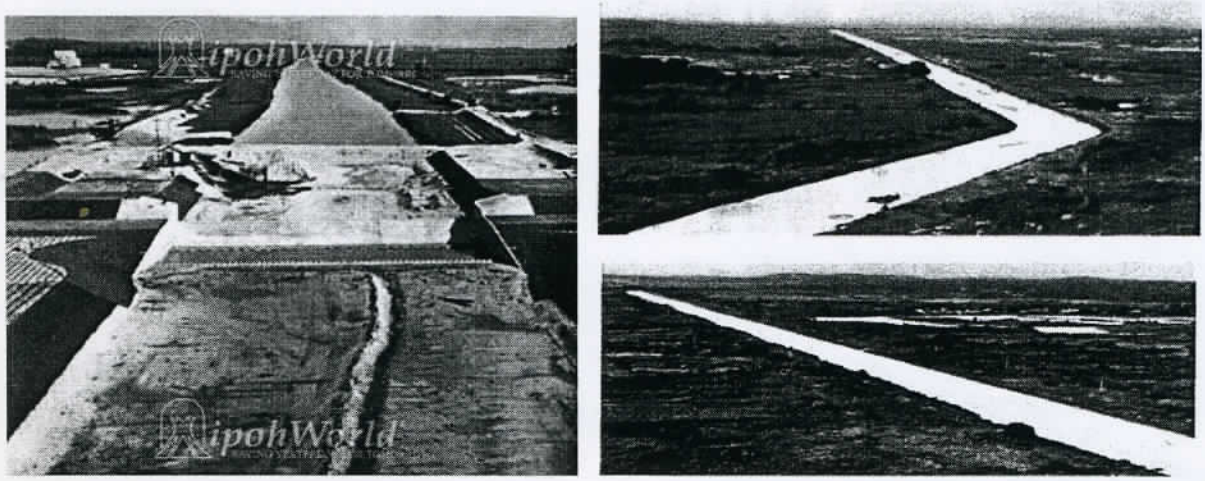


Figure 36. *The deviation of Kinta River, part of the flood mitigation scheme.* (Khoo & Lubis 2005)

Figure 37. *Kinta River at the side of D.R. Seenivasagam Park.* (Trip Advisor 2015)

D.R. Seenivasagam Park, which was the earliest public park of Ipoh has a number of historic trees planted by the British. There is a tree preservation order under the Town and Country Planning Act 1976. At the national level, the National Landscape Department has documented heritage trees under Tree Inventory System (2008-2010). Trees that older than 30 years would be preserved, and 1,220 heritage trees in Perak have subsequently been listed. As such, the Ipoh tree at the Ipoh Railway Station is valued at RM123,735.60 (28,354USD); *Pokok Hujan-Hujan* or Rain Trees along Seenivasagam Road in Ipoh, 120-years-old, at RM1,301,900.98 (298,334USD). (Perak Heritage Society 2015)

4.3 Responses

There are a number of statutes in Malaysia that are able to address the pressures exerting on the cultural heritage state of MILOKVA. These will be mentioned briefly. In addition, concerned government agencies are required to enforce laws to protect the cultural landscape of MILOKVA as provided by the executive and judicial systems of Malaysia. This is logical since Malaysia practises the principle of *trias politica*. Further, policies and programs specifically designed to address the cultural landscape of Ipoh and MILOKVA will be discussed. All of which will lead to the conclusion on how effective is the protection and conservation of cultural and natural heritage in Malaysia.

(i) Legislation

Long before Malaysia is a party of the World Heritage Convention, Antiquities Act 1976, Town and Country Planning Act 1976 and Local Government Act 1976 were instrumental in safeguarding the national heritage of Malaysia. While Street, Drainage and Building Act 1976 prohibits unauthorised demolition of buildings, many historical buildings of Malaysia have in the past, benefitted indirectly from *The Rent Control Act* (1966), which made redevelopment unprofitable. This has, however, changed since 1997 when the act was repealed, resulting in some profit-seeking owners who lack appreciation for the buildings' heritage values demolishing the original structures to make way for larger and taller buildings. In 2005, *The National Heritage Act* was formulated to safeguard the tangible and intangible heritage of Malaysia, guaranteeing them a future. (Netto 2010; Atsumi 2003)

Table 3. *Enacted laws to legally protect the cultural heritage of Malaysia.* (The Commissioner of Law Revision 2006; UNESCO 2008)

Enacted Acts	Applications
The Antiquities Act (1976, repealed in 2005)	▪ Restricted to individual monuments or groups of interrelated tangible elements older than c.100 years. ▪ Drawn to "provide for the control and preservation of, and research into ancient and historical monuments, archaeological sites and remains, antiquities and historical objects".

The National Heritage Act (2005)	▪ Includes tangible and intangible cultural and natural heritage. The Act includes a wide definition of heritage. ▪ It establishes a new administration of the heritage: a special management unit (Department of Heritage) under the new Ministry of Culture, Arts and Heritage, and a Commissioner of Heritage to execute the powers and functions of the Act; sets up the National Heritage Council (an advisory body), the Heritage Fund and the National Heritage Register. ▪ It provides for designation of heritage sites, declaration of heritage objects, underwater cultural heritage, declaration and protection of national heritage, licensing, appeal, enforcement powers and offences.
The Town and Country Planning Act (1976, amendments 1993, 1995, 2001) – Act 172	▪ Governs urban and rural planning, providing a comprehensive system of control and guidance for applications. ▪ Provides protection against new developments and gives planning authorities the capacity to protect the built heritage in their own jurisdiction. ▪ Provides for the protection of heritage trees.
The Local Government Act (1976) – Act 171	▪ Empowers local authorities to contribute to maintaining historic buildings or sites, acquire land to protect the significance of the sites, and raise or receive grants towards establishment and maintenance of public monuments and memorials, art galleries and museums.
The Street, Drainage and Building Act (1976, amendment 1993)	▪ Prohibits the unauthorised demolition of buildings. Buildings include "any house, hut, shed or roofed enclosure, whether used for the purpose of a human habitation or otherwise, and also any wall, fence, platform, staging, gate, post, pillar, paling, frame, hoarding, slip, dock, wharf, pier, jetty, landing-stage or bridge, or any structure support or foundation connected to the foregoing".

(ii) Judiciary

On 18 June 2012, the Majestic theatre which was identified as a heritage building earlier was demolished without getting prior approval from the Ipoh City Council. Consequently, the city mayor considered a legal action against the developer for destroying the landmark building under the Street, Drainage and Buildings Act 1967, which might result in a maximum fine of RM50,000 (11,514 USD) or three years jail or both. A stop-work order has been issued by the council but this was ignored by the developer, demolition continues from June 21 until 25. (Wong 2012b) From 2012 to 2015, there was no lawsuit against the developer as indicated by the city mayor. Currently, the construction work of The Majestic condominium which sits on the former ground of Majestic theatre is near its completion. (Loh 2015)

Figure 38. *The Majestic condominium as seen in the background, built by the developer, who also demolished the heritage Majestic theatre illegally.* (Loh 2015)

(iii) The management plan of Kinta Valley as a cultural landscape

When compared to other district in Perak, Kinta Valley is unique. It was once a district in its own right but has been administratively split into two in 2009 (Kinta in the north and Kampar in the south), therefore maintaining the integrity of the former district boundary. While Ipoh is the state capital of Perak, the administration of the valley is shared by the three cities within. Ipoh City Council administers Northern Kinta, the Batu Gajah local authority governs Western Kinta and the Kampar local authority administers Sothern Kinta/Kampar district. In governing this valley, gazetted management plans have been prepared in accordance with the Perak State Structure Plan 2020 and these management plans focus on the details of district-level local plans (See Figure 39). Currently there is no management plan for the mining cultural landscape of Kinta Valley, albeit on a smaller scale there is a special area plan for Ipoh town.

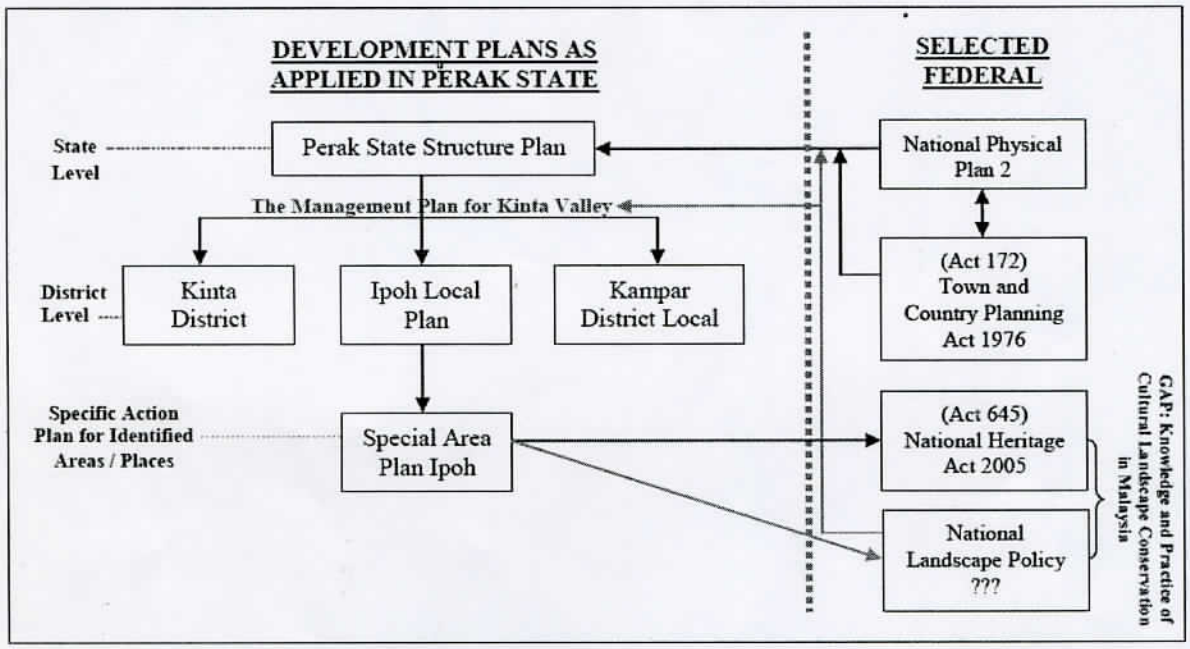
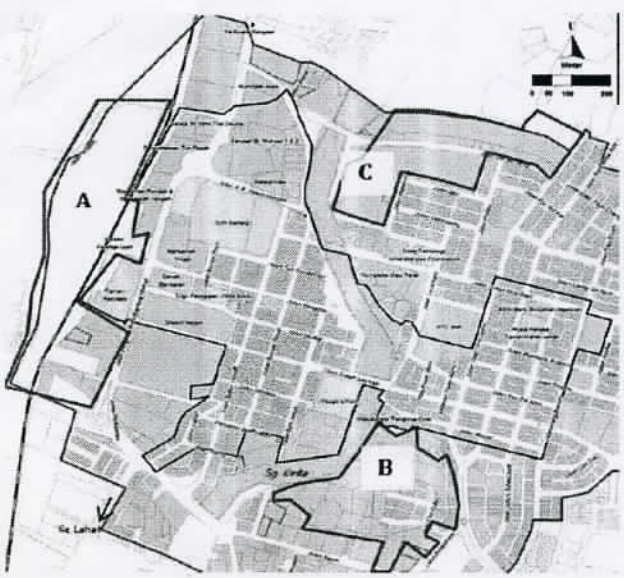


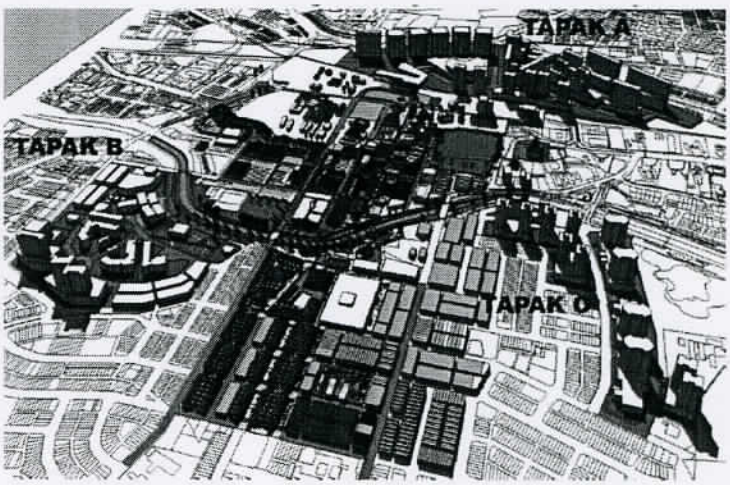
Figure 39. *The management plan for Kinta Valley.* (Ahmad & Jones 2015)

(iv) Special Area Plan for Ipoh Town: Tin Heritage City 2020

The post-industrial landscape of Kinta Valley hosts countless imprints of past human activities brought about by the prospect of making a fortune from tin mining. The influx of people of different backgrounds coming to this valley, world views, ethnicities, languages and religions such as Southern Chinese (Hakka, Cantonese, Hokkien and Hainanese), Southern Indians (Tamils), Northern Indians (Sikhs), Western communities together with Sumatran Malays contributed to a rich social interaction of those who settled and work in Kinta Valley. This historical development is a key asset to Perak state that has yet to be realised despite being integral and reflective of a cultural landscape. Given the of importance of Ipoh old town as being part of this tin heritage legacy, the state government has rendered this awareness into *Draft Special Area Plan for Ipoh Town: Tin Heritage City 2020*. Within the context of this document, although the emphasis of conservation is focused upon buildings and monuments (See Figure 26), recognition does exist to heritage properties implied in the content of this document. This is indicative to the state government's commitment in ensuring the identified properties are given due recognition and protection. Further, the Special Area Plan, drawing from the *National Heritage Act 2005 (Act 645)*, is indicative of a future enactment of legislation (at state level) for the protection of heritage properties extant in Perak.

In the Special Area Plan, the core zone represents the urban layout of early Ipoh in 1921, with Kinta River running at its centre. Together with the buffer zone, an area of 2.552 km^2 was designated by the Ipoh City Council as 'Tin Heritage City' in 2013. (Ipoh City Council 2013) This represents 0.396% of the total land mass of the Ipoh metropolitan area. (See Figure 40) It was outlined that three parcels of land adjacent to the core zone will be developed. High-rises are expected to dominate the landscape. Unfortunately, this form of development strategy contradicts the original intention of strengthening Ipoh as a tin heritage city.





◄Figure 40a ▲ Figure 40b

Figure 40. *40a shows three parcels of land (A, B & C) identified for future high-rises of Ipoh. All of which are immediately outside the jurisdiction of core zone (in black line). 40b depicts a bird eye's view of Ipoh's future skyline.* (Ipoh City Council 2013)

(v) Perak Structure Plan 2020

At the state level, the *Perak Structure Plan 2020 (2008, p. 140)* formulated a strategy that outlines the need to recognise the Chenderong Tin Mining Village [PSN28-*Desa Perlombongan Bijih Timah Chenderong*] located between Batu Gajah and Tanjung Tualang including the last tin dredge in Malaysia, TT5 dredge as a tourism 'product' for Perak. The textual strategy in this document portrays awareness amongst stakeholders on the heritage values of this region. Despite much of this strategy focuses upon tourism activities, it reveals that the heritage values of the selective sites have been considered for conservation. (Ahmad & Jones 2015)

5 EVALUATION

Table 4. *A summary of the topics covered in section 4.*

PSR	Topics covered
Pressures	▪ Urban expansion ▪ Weak enforcement of heritage conservation legal framework and laws ▪ Lack of business successors ▪ Gaps in knowledge and practice of cultural landscape conservation in Malaysia ▪ Limestone quarrying
States	▪ Heritage buildings ▪ Limestone hills ▪ Tin-mining lakes ▪ Kinta River and heritage trees
Responses	▪ Legislation ▪ Judiciary ▪ The management plan of Kinta Valley as a cultural landscape ▪ Special Area Plan for Ipoh Town: Tin Heritage City 2020 ▪ Perak Structure Plan 2020

Internationally, the intention to conserve cultural landscapes not just as historical evidence, but as living systems and possible future templates for cultural development is surmounting. Working landscapes should remain to be economically viable within the framework of integrity and authenticity. (Ahmad & Jones 2015) At the state level, the gazetted documents lack the consciousness of what cultural landscape embodies. At the municipal/district level, as evidenced in the Special Area Plan for Ipoh, the heritage consciousness is limited to the extent of urban boundary, which is a crude summarisation of the heritage value of the industrial landscape of Kinta Valley. Hence, the main barrier in recognising the heritage value of MILOKVA as part of the general Malaysia heritage lies with poor stakeholder, governance and community in understanding this concept.

Although MILOKVA is able to demonstrate its heritage significance at a national level, without sufficient legislative support and protection, as well as a shift in paradigm or understanding amongst the stakeholders, the values of this landscape will gradually be diluted by unsophisticated developments. Before long, the integrity and authenticity of the cultural heritage which the mining landscape hosts will be emptied out. Engelhardt and Rogers (2009) had pointed that the loss of authenticity due to minimal community knowledge, poor enforcement of legislation, and insufficient funds and incentives as the key constraints towards heritage conservation in Asia. Therefore, without proper acknowledgement and recognition, much of the landscape fabrics will soon disappear. The loss of a sense of place will be most detrimental to the integrity of Kinta Valley's post-industrial landscape. (Ahmad & Jones 2015)

The manifold pressures exerted on the cultural landscape of Kinta Valley are threatening the authenticity and integrity of its outstanding universal values. Economic pressures such as urban expansion and limestone quarrying are already altering the urban landscape of the largest urban centre in Kinta Valley, Ipoh. The quality of life of its inhabitants and the endemic species living in the isolated limestone hills as well as the cave temples residing in this valley are all affected as they cannot escape from the fact that their destinies are interlinked. Other more complex issues such as a lack of business successors in certain traditional business cannot be dealt with legal instruments and policies alone. More studies are needed to research for sound solutions in order to upkeep the living heritage of MILOKVA.

While Malaysia has four properties on the World Heritage List, already two properties are nominated in the cultural category; other potential cultural heritage sites such as MILOKVA should not be taken light-heartedly. Albeit on a smaller scale, in 2010, the Perak state government had announced that plan had been made for Ipoh to be nominated as a UNESCO World Heritage Site but this pursuit was relinquished in 2012 on the ground that 'the buildings of Ipoh do not possess British influence like those in George Town and Melaka'. (Loh 2012) The Perak state government has not found the right direction in illustrating the rich socio-cultural tapestry left by the former tin-mining sector. The

effectiveness of Malaysia in protecting the cultural heritage at the national level has seen mixed-results. Some cultural properties are heading in the right direction with regard to heritage conservation and preservation efforts while others are heading the opposite direction. With regard to MILOKVA, without a doubt, more constructive efforts are in a dire need.

Other the other hand, drawing from the perspectives of natural heritage, Malaysia is largely effective in its conservation and protection, and is on the right path. In 2009, the federal government vowed to establish a network of wildlife corridors in the central forest spine of Titiwangsa Range, the backbone of Peninsula Malaysia. In 2014, the largest national park of Malaysia that straddles three states, Taman Negara, has been submitted to the Tentative List, awaiting the final approval of UNESCO heritage committee. In 2015, possibly the most bio-ecologically important sites of Borneo, Imbak Canyon, Danum Valley and Maliau Basin were amalgamated to form the largest protected class I forest reserve in Malaysia, significantly larger than Taman Negara or the other two UNESCO natural sites of Malaysia, Kinabalu Park and Mulu National Park. Efforts are already underway for its UNESCO listing. (Department of Town and Country Planning 2009; Matius 2011; Sabah Forestry Department 2016)

6. RECOMMENDATIONS

The following recommendations are proposed for the improvement of the implementation of World Heritage Convention in Malaysia with regard to MILOKVA as well as other cultural and natural properties. In the literature, proper coordination among government agencies with overlapping jurisdiction as an effective way to improve heritage management has been raised innumerable times. (Ochavo 2013) This is deeply rooted in sound governance, which is quite broad a recommendation for the purpose of this research. Therefore, the following recommendations are aimed to be more specific, building upon World Heritage Convention, relevant to government departments, agencies, bodies and other stakeholders for strategizing outcomes effectively within a limited timeframe.

(i) Create awareness of MILOKVA

Public awareness of the heritage significance of the mining landscape of Kinta Valley is low. To better instil awareness and understanding in the cultural values of the landscape, mass media such as television, internet and radio could be adopted as channels to spread the intended message. Additionally, billboards across the country could be utilised to market MILOKVA as a tourism product. Public awareness will grow when appreciation for the heritage values of MILOKVA throughout the country increases.

(ii) Review current laws and gazetted documents

- There is an urgency to review the Malaysian National Heritage Act 2005 to align it to international conservation practice and charters. This includes addressing the paradigm shift from monument and building conservation (through the spirit of Venice Charter) to recognising the heritage values embedded within places and landscapes (as expressed in ICOMOS' Burra Charter and Florence Charter).
- To address the current situation where fines for unauthorised demolition is negligible (11,514 USD), the Street, Drainage and Buildings Act 1976 should be reviewed in order to increase fines to a level high enough that future monetary profits from developing the property is difficult to cover the monetary penalty of unauthorised demolition.
- Further, the Malaysian National Landscape Policy should extend the scope of cultural landscape conservation from solely agricultural landscapes to embrace mining cultural landscapes as amplified in Kinta Valley's post-industrial landscape. (Ahmad & Jones 2015)

(iii) Prepare a development master plan for MILOKVA

- A sustainable development master plan for MILOKVA outlining aspects and outstanding universal values of MILOKVA and subsequently development guidelines to ensure all new developments on green field and brown field sites satisfy the criteria of cultural, economic and environmental sustainability. (See Figures 41 – 46)

- The professional institute representing the profession of landscape architecture in Malaysia, the Institute of Landscape Architect Malaysia (ILAM), together with the National Landscape Department of Malaysia (JLN) and academics/experts from various institutions in Malaysia should collaborate to produce such a master plan in order to enhance understanding and advance knowledge of cultural landscape heritage amongst stakeholders (of public and private sectors), communities and heritage custodians. Conservation should not be development-exclusive. In fact, the master plan should encourage community-driven developments. (Ahmad & Jones 2015)
- Include preservation guidelines as a brake on the demolition of decontrolled buildings and the decay of inner city of Ipoh, Chemor, Batu Gajah, Gopeng, Papan and other historic towns of MILOKVA. Henceforth, conserving the Kinta Valley mining cultural landscape will ensure the retention of its authenticity and subsequently contribute to the Perak state's socio-economic sustainability. (Atsumi 2003)

(iv) Develop a rigorous mechanism of reviews, risk assessments and public consultations for future development projects.

All future development projects should undergo a rigorous process of expert reviews, risk assessments (social and environmental impact analysis), and public consultations (i.e. participatory multi-criteria analysis) to ensure the development projects are qualitative and democratic in the sense that they take into account of public inputs. Notably, socially-inclusive developments are more likely to be economically successful, generating political goodwill for the government.

(v) Setting up a risk response mechanism

Currently, there is no risk response mechanism to deal with unexpected natural and man-made disasters on the built and living heritage in Kinta Valley. Having a risk response mechanism will not only prepare the relevant authority in dealing with issues like flash floods, fire outbreaks and unauthorised demolitions of heritage properties but also complete the knowledge infrastructures on sustainable developments of MILOKVA, from master plan to mechanisms of reviews, risk assessments and public consultations and finally risk response mechanism.

(vi) Provide business incentives and business apprenticeship programme

To save the traditional businesses (chick blind weaving, ancestral tablet carving, signboard engraving and plum blossom coffin manufacturing) from disappearing, business incentives and business apprenticeship programmes should be offered to lower the difficulties business start-ups face in these sectors. Business incentives should also guarantee the continual existence of such businesses as a living heritage and collective memories of MILOKVA.

(vii) Maintain a heritage inventory and a resource library

- Build and maintain a heritage inventory completes with GIS data (Geographic Information System) to monitor the on-going situations of heritage buildings, heritage trees, abandoned tin-mines, Kinta River and intangible heritage of MILOKVA.
- Document the living heritage of MILOKVA (chick blind weaving, ancestral tablet carving, signboard engraving and plum blossom coffin manufacturing) and make sure these resources are electronically accessible for the public.

(viii) Apply UNESCO world heritage status for the mining landscape of Kinta Valley

Prepare MILOKVA for its UNESCO-listing as a cultural heritage site. Research and study all relevant historical documents and sources written by the British, Chinese, Malays, Indians and other communities who once lived and settled in the area. The gaps in the history of MILOKVA must be filled in and this shall be made a reference for future application of UNESCO world heritage status. Once the mining landscape of Kinta Valley gains UNESCO's recognition, the socio-economic possibilities and opportunities for the area will be endless.

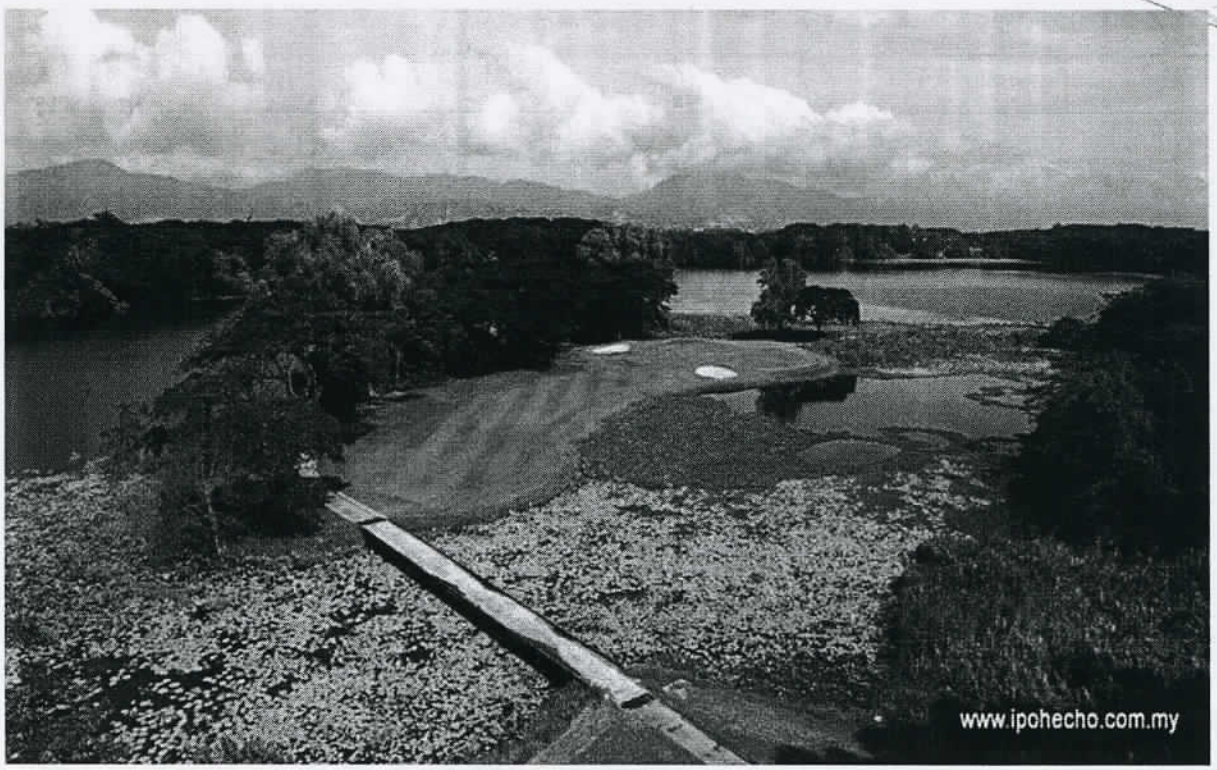


Figure 41. *Clearwater Sanctuary Golf Resort in Batu Gajah, one of the most scenic gold courses in Malaysia, transformed from a number of disused mining ponds.* (JAG 2012)

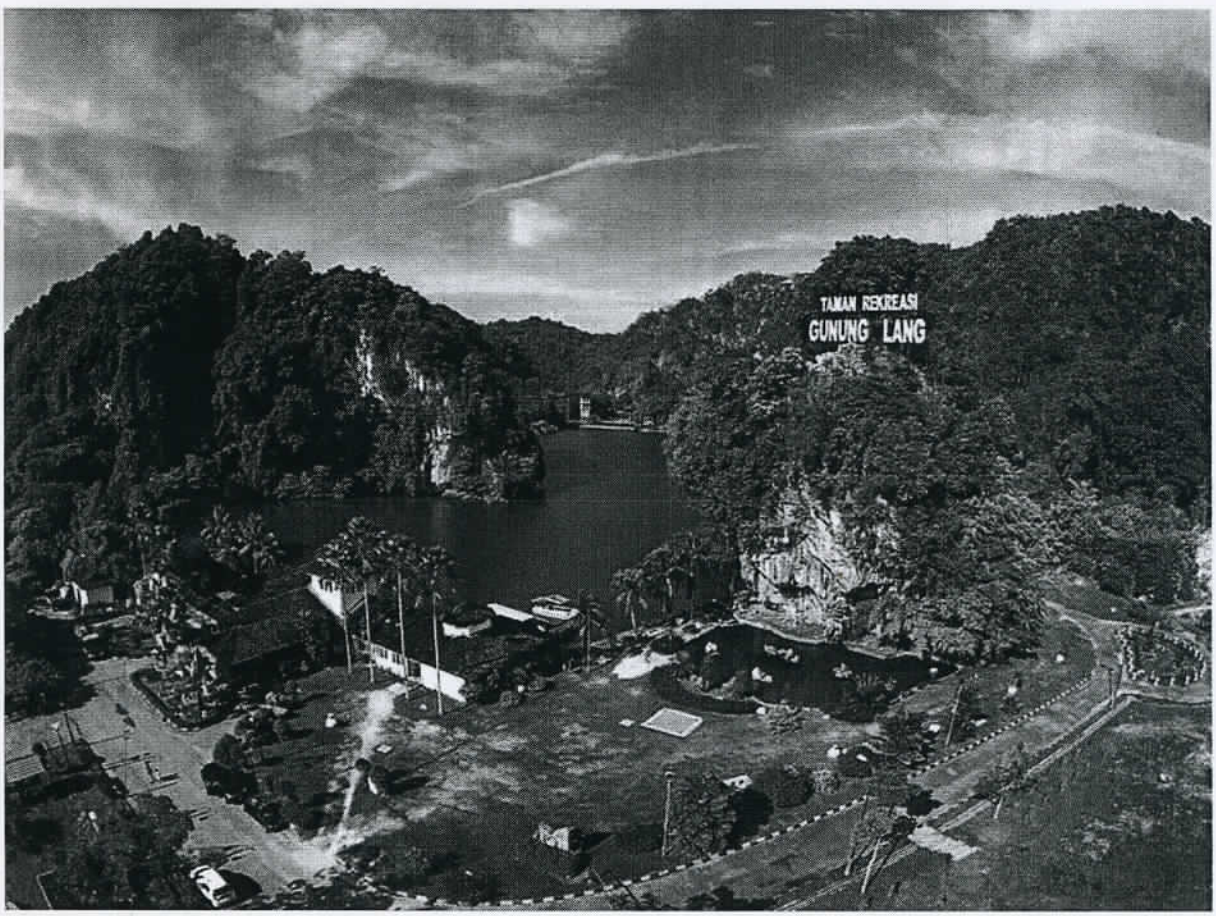


Figure 42. *Gunung Lang Recreational Park, located in Ipoh, is equipped with three man-made lakes from former tin mines.* (Rs25 2015)

Figure 43. *An adaptive reuse of a former tin-mine in Tambun. The Lost World of Tambun is famous for its state-of-the-art water theme park and rock climbing facilities.* (Iza 2011)

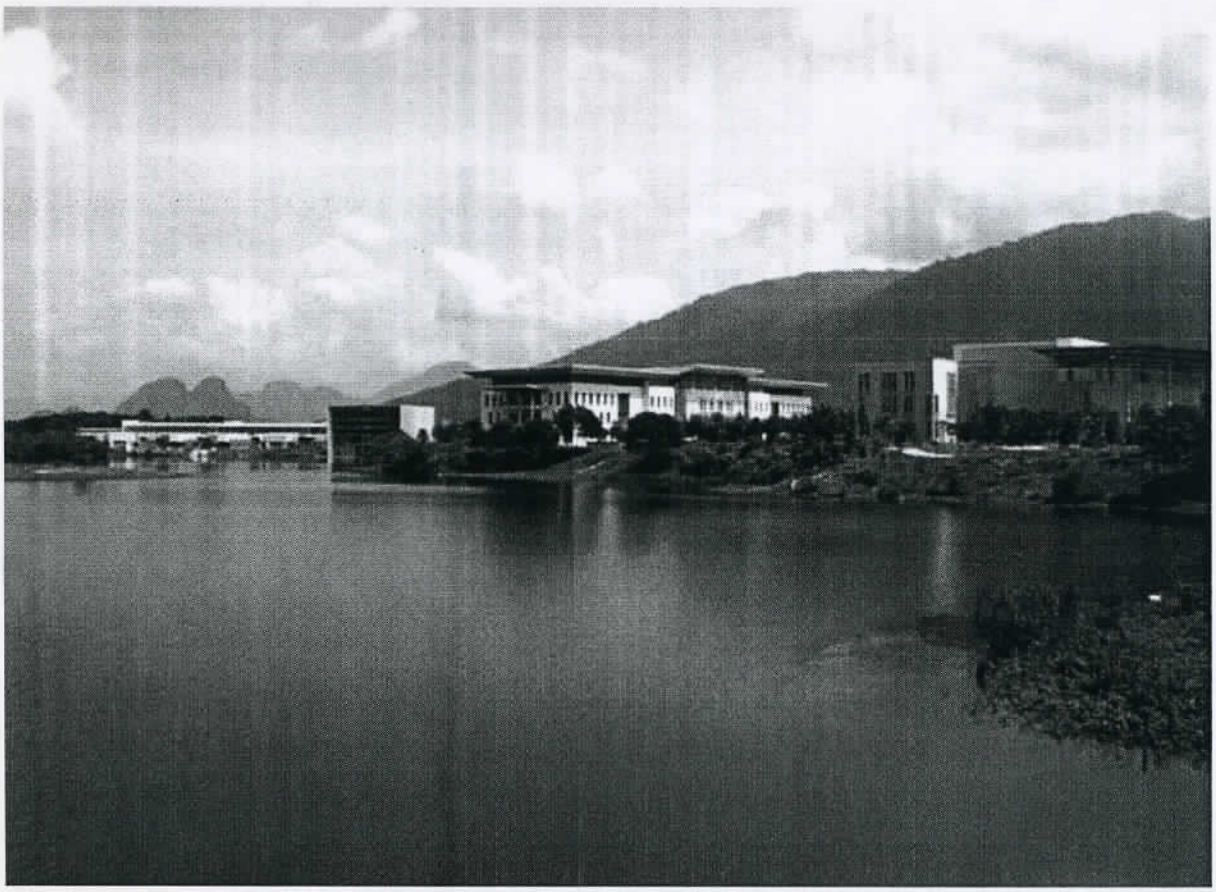


Figure 44. *West Lake of Universiti Tunku Abdul Rahman in Kampar is another example of successful adaptive reuse of the former tin-mines.* (Same stories about us 2010)

Figure 45. *Some of the abandoned tin mines in Kinta have been converted into agricultural farms, while respecting the historical landscape of the area.* (Ahmad & Jones 2013)

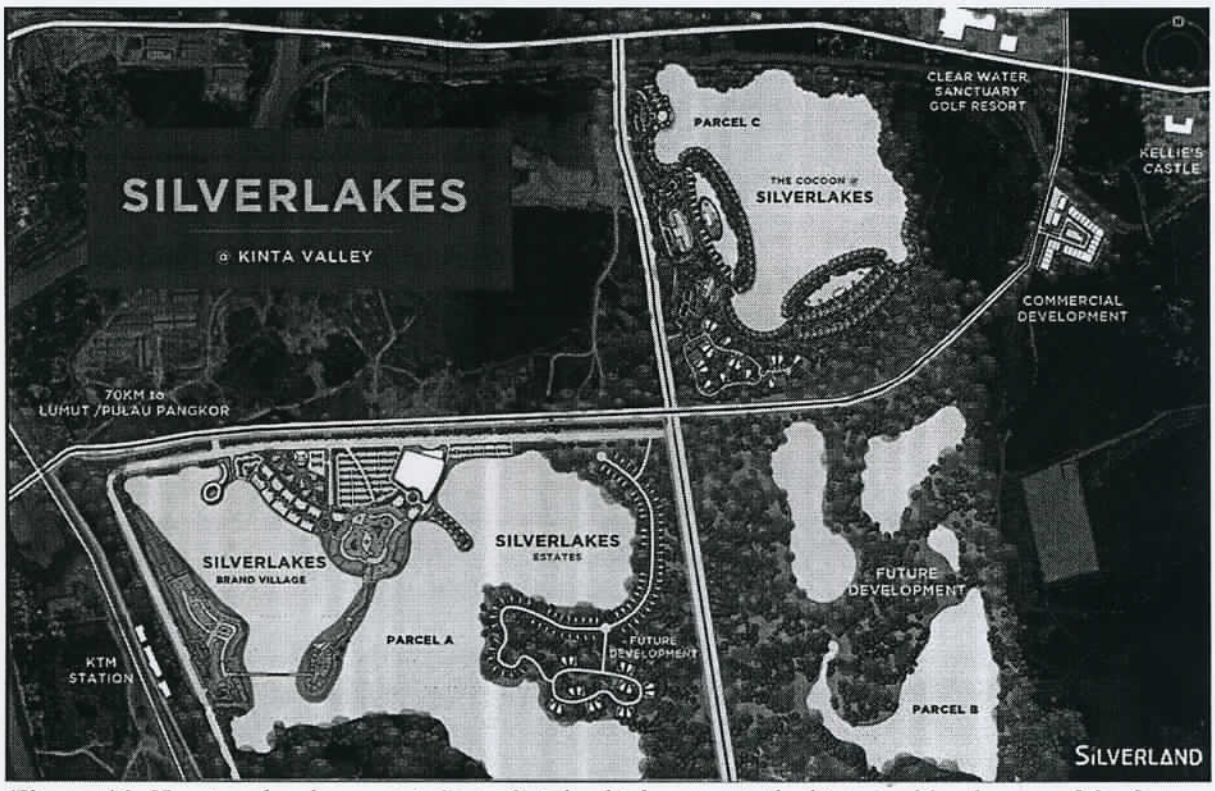


Figure 46. *Housing development in Batu Gajah which respects the historical landscape of the former tin-mines has shown that land reclamation works have been kept at the minimum.* (Silver Land Capital 2016)

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