

Reconsidering the World Heritage Potential of the Kinta Valley Post-Industrial Mining Landscape, Malaysia

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Abstract

The distinct landscape of the Kinta Valley is undeniably unique in its capacity in narrating significant phases and processes in Peninsular Malaysia's history and culture. While tin mining brought about massive development to the Valley's landscape, evidenced in the making of modern Kinta and Kampar Districts today, and Malaysia generally, this paper focuses on the potential of Kinta Valley as a World Heritage Listed mining cultural landscape. The rich cultural tapestry that is evident today across the Valley's mining lands provides a significant living platform to understanding and appreciating the diversity of Malaysia's cultural landscapes and in particular, offering a new perspective about industrial heritage values to Malaysia's domestic and international tourism catchments.

Keywords: Cultural Landscape as Heritage; Heritage Conservation; Post-Industrial Mining Landscape; Kinta Valley.

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DOI: <https://doi.org/10.21834/e-bpj.v4i11.1736>

1.0 Introduction

The global Industrial Revolution era marked a significant change in the Malaysian landscape before the close of the 19th century. Huge social structural and cultural changes took place during the tin mining rushes that the Malaysian landscape facilitated. This new land exploitation arrangement resulted in major advances in mining technological advancement and the establishment of new transportation networks. These transformative patterns and technologies are the essential factors that permeate and characterise the successful working processes of this industry. From a cultural heritage perspective, it is therefore essential to understand the complexity and nature of mining exploration at this place in expressing historical, scientific, social and culture values, and incorporate such into statements of significance, heritage registrations, and management plans and strategies (Ahmad, 2018; American Society of Landscape Architects, 2010; Lennon, 1997; Pearson & McGowan, 2000, 2009; Smith & Lawrence, 2018).

Regardless of their often ruinous characteristics, these unique industrial landscapes portray the very nature of mining exploration, exploitation, and their relationship to the global industrialisation phenomena. In particular, mining landscapes also evidence a remarkable tapestry of social and cultural processes that are immersed within this landscape type. In recent years the international heritage community has acknowledged that industrial mining landscapes are one important cultural manifestation as demonstrated in the inscription of Las Médulas, Spain, onto World Heritage List (WHL) in 1997 (Smith & Lawrence, 2018). Being the first derelict industrial landscape inscribed on the WHL, this inscription further underpins changes in heritage interpretation and perspectives having regard to recognition that industrialisation is a key part of our human culture and thus industrial landscapes are an expression of this culture.

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Increasingly since 1997 the international heritage community (e.g. ICOMOS, TICCIH, UNESCO, etc.) has articulated their growing acceptance and recognition of the heritage values embedded in mining cultural landscapes (see industrial mining landscapes recognition on the UNESCO World Heritage List). Ahmad (2018) argues that Malaysian legislation has failed to keep pace with these international changes resulting in only item or site recognition being presently applied in this country (National Heritage Department, 2018; The Commissioner of Law Revision, 2006). Thus, there is an absence of any national heritage recognition of mining landscapes in Malaysia that comprising part of this country's cultural heritage legacy (Ahmad & Jones, 2015b). Further, the legal text limitations of the Malaysian *National Heritage Act 2005*, together with the Malaysian *National Landscape Policy* (NLP, 2014, pp.27-29), that currently focuses only on natural landscapes albeit with a cultural dimension, are more underpinned by tourism activities and aspirations than by heritage conservation aims. These limitations, of Malaysian national legislation and policy towards heritage values, are also reflected in the Malaysia Government's limited engagement with the UNESCO World Heritage List and their dearth of submissions to the UNESCO World Heritage Tentative List tending to concentrate only upon natural landscape protection (see Table 1). Considering the potential of Kinta Valley to demonstrate significance evidence and values about Malaysia's industrial mining landscape and cultural heritage (Ahmad (2018), this absence of inclusion is palpable. Therefore, this paper offers a significant insight towards re-charting this focus.

Table 1: Malaysia UNESCO World Heritage List and Tentative List

No.	UNESCO World Heritage List	UNESCO Tentative List
1.	Gunung Mulu National Park, Sarawak (<i>natural landscape</i>) Date of Inscription: 2010; Criteria: (vii)(viii)(ix)(x)	FRIM Selangor Forest Park (<i>cultural landscape</i>) Date of Submission: 23/02/2017; Criteria: (v)
2.	Kinabalu Park, Sabah (<i>natural landscape</i>) Date of Inscription: 2000; Criteria: (ix)(x)	Gombak Selangor Quartz Ridge (<i>natural landscape</i>) Date of Submission: 23/02/2017; Criteria: (vii)
3.	Melaka and George Town, Historic Cities of the Straits of Malacca (<i>cultural landscape</i>) Date of Inscription: 2008; Criteria: (ii)(iii)(iv)	National Park (Taman Negara) of Peninsular Malaysia (<i>natural landscape</i>) Date of Submission: 05/06/2014; Criteria: (ix)(x)
4.	Archaeological Heritage of the Lenggong Valley, Perak (<i>cultural landscape</i>) Date of Inscription: 2012; Criteria: (iii)(iv)	Royal Belum State Park (<i>natural landscape</i>) Date of Submission: 23/02/2017; Criteria: (x)

Source: Reproduced from Ahmad (2018, p. 8).

2.0 The Post-Industrial Mining Landscape

The idea of a cultural landscape has expanded from the middle of the 20th century, reaching the international heritage community before being finally accepted by the UNESCO World Heritage Convention in 1992 (Rössler, 2015). The latter's definition recognises the "combined works of nature and of man", as highlighted in Article 1 of the World Heritage Convention (UNESCO, 2017, p. 81). This concept further recognises humans as being the shaping force of Earth's natural landscapes. Thus, cultural processes (Roe & Taylor, 2014; Taylor, 2009, 2017) that coalesce within each layer of a landscape can be evidenced through each World Heritage Listed cultural landscape recognised property all around the world today.

Pearson and McGowan (2000; 2009) stress that whole landscape settings where mining industrialization has occurred most often portray a notable and particular industrial character that distinguishes its cultural significance. Such characteristics give rise to the special identity of historic mining places and or landscapes. Thus, significant mining places are rich in heritage values (including both tangible and intangible qualities) that warrant special protection actions and management strategies. To Pearson and McGowan (2009, p. 210), heritage elucidates 'things we want to keep, enjoy or learn from, and pass on to the next generation - includes many aspects of our cultural environment, among them being mining places'. This is particularly relevant to historic mining sites that possess tangible and intangible evidences that exhibit past extractive mining activities and processes (Ahmad & Jones, 2015a; Ballinger, 2012; Drew, 2012).

2.1 From Scenic Quality to Recognizing the Value of Ruinous Landscape: The Shift of Heritage Perspectives

Post-industrial mining landscapes possess a rich cultural tapestry that manifests and evidences human responses and stewardship actions and policies towards the subject environment. Due to the nature of mining, that crafts a significant visual impact upon a landscape, this dramatic scene is what Storm (2014, p. 1) describes as a post-industrial 'landscape scar'. Perhaps the 'wound' and 'scar' labels used by Storm in her *Post-Industrial Landscape Scars* (2014) are metaphoric references to dramatize the hazardous, polluted, and abandoned ground nature of open pit mines and or ruined industrial sites that are today neglected and forgotten. Regardless of these negative perspectives and unpleasant scenarios, these 'scars' trigger individual and community nostalgic memories, and awaken recollections of past mining experiences and lives, thus recalling the feeling of 'sorrow and betrayal, of the abuse of power and latent hazards' caused by industrial activities (Storm, 2014, p. 1). Noble and Spude (1992, p. 13) argue that mining landscapes 'evoke images of time, place, and historical patterns associated with past mining epochs'. Therefore, the heritage values embedded within post-industrial landscapes 'convey ambiguous and complex pasts about injustice and fear, along with survival, resilience, and courage ...; they are physical reminders of something' (Storm, 2014, p. 1). Notable spatial patterns that emerge as a consequence of mining activities can reflect cultural processes in landscape and depict significant heritage values that genuinely describe and express a mining cultural landscape. Evidence of this claim, of being able to represent through World Heritage listed properties, has seen the shift of WH nominations from the year 2000 with the inscription of the Blaenavon Industrial Landscape in the United Kingdom.

2.2 The Dearth of Heritage Mining Cultural Landscape Study from Malaysia and South East Asia Region

Australia ICOMOS's *Burra Charter* underscores that cultural significance 'is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects' (Australia ICOMOS, 2013, p. 2). Five important cultural values

established through this *Charter* define cultural association and the merits that bind areas, places, or landscapes including their aesthetic, historic, scientific, social and or spiritual values (Australia ICOMOS, 2013). The Joint ICOMOS-TICCIH (2011, p. 1) further asserts that industrial mining landscapes consist of fabric that evidences 'production, transportation and power-generating or harnessing process and technologies, trade and commercial interactions, and new social and cultural patterns' together with intangible dimensions that connects 'skills, memories and social life of workers and their communities'.

In examining abandoned mining landscapes, it is very evident that a notable gap exists in the South East Asian Region related to cultural landscape properties being inscribed in the World Heritage List. Taylor (2017) believes that more significant cultural landscape properties, especially mining landscapes in Asia, have yet to be identified and assessed. Of current ICOMOS listings, Ahmad (2018) concludes that only one industrial mining landscape in Asia (Iwami Ginzan Silver Mine and its Cultural Landscape) has been inscribed on the World Heritage List raising the spectre that there are potentially more industrial mining landscapes in Asia, and specifically in South East Asian Region (Smith & Lawrence, 2018; UNESCO, 2018) worthy of consideration.

3.0 Research Design and Strategy

In general, this research applied a mixed-method approach. Utilising exploratory sequential design, the main investigatory strand of this research remains qualitative. However, in documenting the Kinta Valley industrial mining landscape characteristics and its associated features, various qualitative methods were used for data collection. This included a series of site surveys and observations for primary data collection as well as conducting a focus group workshop about establishing and confirming the extant mining fabric that is still intact in Kinta Valley. Documentary research through secondary data collection was also undertaken for this research. This included library searches for historical and archival records in Malaysia, reviewing the relevant period and contemporary government reports and documents together with the use of geospatial data analysis to enable a comprehensive reading and mapping of the landscape to be established, thus completing the first and second phase analysis of the research.

4.0 Findings

4.1 The Cultural Landscape Assessment of Kinta Valley

Exploring the tracery of human interventions, and human responses to this environment have exposed the Valley's rich cultural tapestry linked to tin mining exploitation that possesses extant tangible and intangible forms and meanings that can be evaluated as to their heritage values and merits (Ahmad & Jones, 2015a). In the case of Kinta Valley, its geological ground that is rich with alluvial tin deposits, the pattern of human mining exploitation in the Valley as a consequence has crafted a significant and particularly unique spatial organization that includes the establishment of 22 old clustered settlements that remains today. Due to this particular clustered setting, the existence of a mixed cultural community underpinned by religious beliefs distinguishes a unique spatial setting visually and tangibly characterised by religious places, villages and cemeteries extant today. It is therefore apparent that when Relph defines place as being 'identity composed of three interrelated components or 'physical features or appearances, observable activities and functions, and meaning or symbol' (cited in Taylor, 2008, p. 5), that in the case of the Kinta Valley this translates into the extant built environment tangible fabric together with the continuity of tangible and intangible cultural traditions and practices that directly influences the current physical form and historical development of this cultural landscape.

Further, in the act of accommodating historical layers of mining activities and their technological advances, new circulation networks (consisting of roads and railways) were constructed from the 1880s onwards connecting all important mining areas with the aim of aiding the easy movement of extracted tin ore. With this movement system established, agricultural activities together with ancillary industries (including timber mills, foundries, *amang* retreatment plants, etc.) were established along these newly developed roads and railway lines thus manifesting a remarkable and particular industrial landscape mosaic. Places like Papan-Pusing, Tronoh, Lahat, Menglembu-Ipoh, Kampar-Mambang Diawan, Batu Gajah, Tanjung Tualang-Kampung Baharu Timah and Chemor-Tanjung Rambutan significantly demonstrate this historical setting and pattern. This landscape mosaic is especially evident when viewed through Google Earth imagery that easily depicts the existence of mining ponds that are highly visible resulting in an explicit fabric component highlighting the former land use of the Valley's boom tin mining era (see Figure 1 – Figure 3). With deforestation of land in the Valley due to mining activities, much of these areas today have been enveloped with successional vegetation and wild plants often creating novel ecosystems, and with sand mining activities can be viewed in the western and southern flanks of the Kinta Valley.

Hence recognising the presence of this contemporary historic mining landscape fabric together with the establishment of a significant and particularly unique landscape mosaic (see Figure 1 - Figure 3), this study has validated the existence of a mining-influenced cultural landscape (human-nature dependent) that demonstrates strong heritage merit and identity embodying an internationally significant industrial mining cultural landscape.

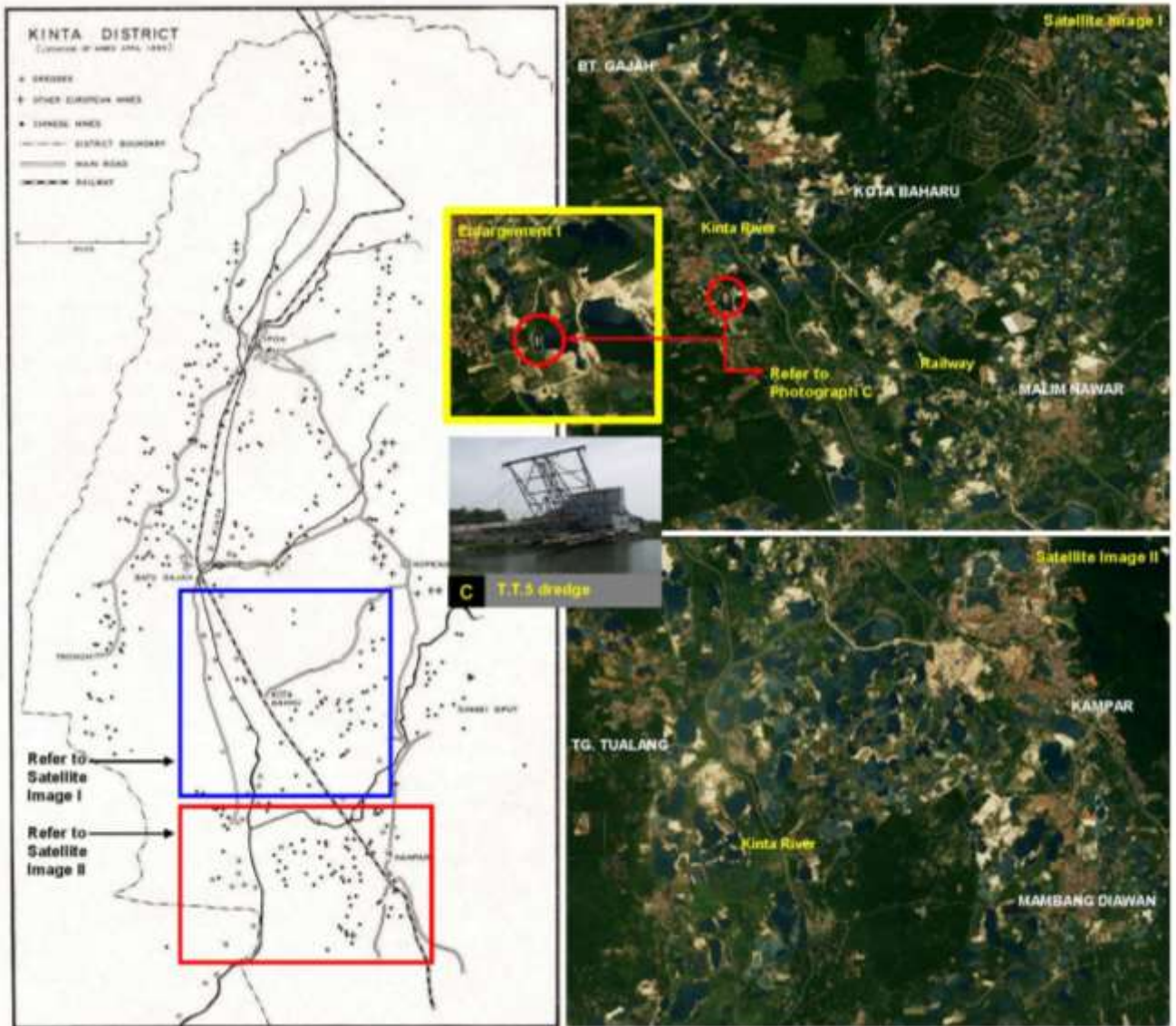


Figure 1: Different types of mining methods applied in Kinta Valley have demonstrated significant impact on its physical landscape depicted through various sizes of tailing dumps, dredge ponds and tailing retention ponds/sedimentation that are currently extant within the Kinta Valley landscape especially within the areas of Batu Gajah-Tanjung Tualang and Kota Baharu-Malim Nawar-Kampar.
 Source: Reproduced figure from Ahmad (2018, p. 171).



Figure 2: The canalization of Kinta River involving 61km length, from Ipoh to Kuala Chenderiang.
 Source: Old photo reproduced from (Khoo & Lubis, 2005, p. 325); new photo was photograph by author in 2018.



Figure 3: Field trip to the Kampar River former tin mining dam in 2014.

Source: Old photograph courtesy by Tan Sri Hew See Tong and new photo was photograph by the author in 2014.

4.2 Heritage Merit Embodying the Kinta Valley Ruin Landscape

Recognizing the abovementioned five important criteria embodied in the *Burra Charter* it is clear that Kinta Valley possesses important cultural values embodied in its tangible and intangible landscape attributes and places that underpins the historic, scientific, aesthetic, social and spiritual qualities at local, Perak state and even Malaysian national levels. It is difficult to justify which value surpasses each other, given the complexity of the Kinta Valley industrialization; each cultural value as normally interpreted in cultural heritage discourses is interdependent. This also includes the natural values of the Kinta Valley that provides a conducive amphitheatre setting that permeates aesthetically through the massive tin exploration activity areas within the Valley landscape. The natural qualities of the Valley reflect its physiographic setting (the lush water catchment areas in both the Keledang and Main Ranges) together with its geological ground that host rich stanniferous alluvium tin deposits that provided the right conditions for complex mining activities and historical innovation techniques to be trialled and to prosper in Kinta Valley from the 1880s. Due to these innovations, 15 mining dams were established in the Valley's hinterland (due to availability of prolific water resources), demonstrating the integrity of the Kinta Valley natural setting that binds human thoughts and attitudes towards the perception of their environment. This resulted in Kinta Valley being the venue for successful hydraulic mining practice and innovation in Malaysia for decades, commencing from the 1890s with the successful working of Gopeng tin mines. Mining innovation and expansion in Kinta Valley also reflects direct foreign investment and international technological transfer across the 19th century further resulting in the growth of the engineering discipline in Malaysia. Additionally, with the development of 2 permanent hydro-electric power plants (although the Malim Nawar power plant is today no longer in use) that were established to support mining activities together with the canalization of 61 km of the Kinta River mitigating siltation issues as to prolong the mining expansion in the Valley. The mining activities especially enabled the sustenance of a reliable electric power supply for dredge mining along the Kinta River corridor. These extension facilities also reflect evidence of scientific knowledge development of state and national level significance.

The tangible and intangible landscape fabric extant within Kinta Valley's post-industrial mining landscape today enables heritage values to be recognized and established. This research has additionally concluded that all five cultural values embodied in the *Burra Charter* are embedded within the Kinta Valley landscape are present but that they are also interdependent. Together with the Valley's natural quality, a significant industrial landscape mosaic is evident. Although ruinous and visually derelict, the land that once served as a former tin mining ground offering today historic, scientific and aesthetic values that depict the strong identity and cultural heritage legacy of the Kinta Valley. Further, by applying the Malaysian national heritage criteria stated in section 67 of the Malaysian *National Heritage Act 2005*, the Kinta Valley post-industrial mining landscape meets criteria (a), (c) and (e) demonstrating the heritage merit of the Kinta Valley as a continuing landscape of national significance.

5.0 Discussion

5.1 Valuing Kinta Valley Mining Cultural Landscape as National Heritage

The distinct landscape of Kinta Valley is undeniable. It is an unique tract of land that clearly narrates an important phase in Peninsular Malaysia's history and culture including process history that resulted in the massive industrialization that impacted this landscape and its waters. From the 1860s mining intensively commenced in Gopeng, in Perak State, and this activity slowly decreased in production over the next 150 years. But active mines (re-mining on the former mining land) continue in Kota Baharu and Malim Nawar today. In addition to the mines, *amang* retreatment plants extant in Pusing, Kampar, Malim Nawar, and Mambang Diawan demonstrate the process of tailings treatment -- the by-product of tin mining -- and these significantly contribute to the historical and present tin extraction and production from this Valley. This extraordinary tin mining extraction phenomena continued (and continues) to shape this Valley landscape for more than 150 years. Therefore, this industrial footprint, evidenced in the past tin mining legacy including all its physical and cultural

accoutrements, resulted in creating the unique visual landscape that is Kinta Valley today. Manifest to this conclusion is that the extant post-industrial mining landscape (physical landscape) contributes to the cultural and social uniqueness of this Valley. Other than the landscape, important fabric includes the natural environment (due to its physiographic setting), socio-cultural patterns and traditions, and the built heritage (including the 1880s old townships, settlements and villages) that were established as the principle items that enveloped and characterised the present industrial image and narrative of this Valley. Notably, these are not just threads that construct the tangible material form and evidence, but also that there is a remarkable spectrum of intangible values extant that include oral histories, beliefs, and customs that characterise the mental imagery, memories and rituals of this Valley landscape today.

6.0 Conclusion & Recommendations

Manifest of the remarkable industrial phenomena arising from the massive tin mining expansion in Kinta Valley for 110 years, Kinta Valley landscape possesses state, national and international levels of cultural heritage significance. The Valley possesses similar if not comparable landscape patterns that are equivalent to the World Heritage List inscribed mining cultural landscapes (e.g. Cornwall and West Devon Mining Landscape, United Kingdom; Iwami Ginza Silver Mine and its Cultural Landscape, Japan; and, the Nord-Pas-de-Calais Mining Basin, France). Apart from being the rarest (due to its extant industrial landscape fabric) and the longest tin working mining region in Malaysia (for more than 150 years; the 1860s–2018), this continuity of tin mining process establishes its regional identity as well as its cultural heritage. These attributes and characteristics offer a significant platform for industrial heritage tourism development to commence and be expanded in Perak State.

Noting the major gap from Southeast Asia about World Heritage List recognised mining cultural landscape, this place offers a major opportunity for Malaysia to lift its cultural heritage credentials internationally by proposing this landscape to the Tentative World Heritage List in the future. Being the rarest and the most productive alluvial mining ground in Malaysia, and one of the core tin mining extraction venues internationally, this landscape offers a different perspective of ore mining ground in contrast to other World Heritage Listed mining cultural landscapes especially the Cornwall and West Devon Mining Landscape, United Kingdom. With advances in mining knowledge evolution and technology expansion towards the end of the 19th century, Kinta Valley mining ground has been acknowledged by many researchers as being the world's richest alluvial tin producer from the end of the 19th century (Jones, 1925; Tin Industry (Research and Development) Board (1984); Ingham & Bradford, 1960); The Kuala Lumpur Tin Market, 2010).

Acknowledgement

This paper in part derives from the researcher's PhD thesis entitled 'Cultural Landscape Study of the Kinta Valley Post-Industrial Mining Landscape, Malaysia' (2018) from Deakin University, Australia. Many parties have been involved in this research, especially with the running of the expert focus group workshop as well as site surveys. Special dedication also goes to Professor David S. Jones, who with his wisdom has guided the researcher to accomplish with critical findings that could further benefit the Perak State government in the future.

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