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## **THE OLFATORY LANDSCAPE: EXPLORING THE TAPESTRY OF SMELLSCAPE IN BAGAN SUNGAI YU FISHING VILLAGE**

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### **Abstract**

This study explores the olfactory landscape and intricate smellscape in Bagan Sungai Yu, a fishing village in Kuala Selangor, renowned for its distinctive Bagan fishing environment. In addressing the research gap that previously only emphasised the visual character, this study adopts a novel approach by asking the researchers to play the role of visitors during smell mapping. Additionally, 17 local people and 25 respondents from the Kuala Selangor Municipal Council actively contribute to the survey questionnaire phase. The findings emphasise the village's olfactory identity, showcasing the intricate connections between the environment, daily activities, and cultural practices. Beyond shaping cultural identity, the study delves into the interplay between olfactory experiences, human psychology, and memories among residents and authorities. Recognising the potential for intangible landscape preservation, this research seeks to contribute towards understanding the role of smell in fishing villages, establishing smell mapping as a valuable tool. The identified similarities in smell identification underscore the significance of shared olfactory experiences, enhancing the relevance of smell mapping in bridging community perspectives and promoting sustainable practices.

**Keywords:** Olfactory landscape, smellscape, Bagan, fishing village, coastal

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## **INTRODUCTION**

In the enchanting olfactory landscape of Bagan fishing village, additional aromatic dimensions unfold as one delves into the distinctive scents of mangrove, petrol, and the muddy river. The air is infused with the earthy, organic fragrance of mangroves, contributing a natural and refreshing undertone to the coastal symphony. Intermingling with this, the occasional whiff of petrol adds a subtle industrial note emanating from the village's connection to marine activities. The muddy river introduces its robust scent, a blend of rich, mineral-laden earthiness intertwined with the marine fragrances. Together, these diverse olfactory elements create a sensory mosaic, further enriching the immersive experience for visitors and painting a vivid picture of the multifaceted and authentic coastal living in Bagan fishing village. In line with Bell et al. (2023), these olfactory flows generate microgeographies of smell that shape visitors' experience of the particular ambiance.

The smellscape of Bagan fishing village enriches its visual character and plays a pivotal role in shaping landscape memory. Comprising scents like invigorating sea air and traditional dishes, the smellscape enhances the overall perception of the coastal environment, creating a multi-sensory experience (Xiao et al., 2020; He et al., 2022). This fusion of scents becomes intertwined with visual memories, forming a lasting and emotional connection. The smellscape acts as a mnemonic device that contributes to Bagan fishing village's enduring identity and character by fostering a unique and memorable sensory landscape for residents and visitors alike. Previously, Thomas (2015) and Biglin (2020) revealed that specific olfactory elements can evoke the memory of a place due to the emotional connection, which is inherently therapeutic.

Previous research on the Bagan fishing village has emphasised the visual, neglecting the crucial olfactory landscape. User experience can be enhanced by purposefully including scents if there is an effort to recognise the essential functional architecture plays in evoking strong emotions and memories. Space's identity is shaped by many factors, including its materiality, structural audacity, history, and practicality. However, they ignore all other sensations, including touch, hearing, smell, and taste, in favour of concentrating just on vision (Ghisleni, 2023). While visuals are significant, the olfactory experience captures cultural essence, fostering authenticity and tradition (Hickman, 2022). Distinctive smellscape contributes to a community's identity, influencing perceptions and creating lasting impressions (Gorman, 2017; Kang & Xie, 2023). Recognising the importance of the olfactory landscape is crucial for a comprehensive understanding of the interplay between sensory experiences and cultural identity, ensuring the preservation of places like Bagan fishing village. Hence, this study investigates Bagan fishing village's olfactory landscape and

smellscape, discerning their influence on cultural identity and enriching the community's understanding of visitors' overall sensory experience.

## **LITERATURE REVIEW**

In Malay, the term "Bagan" signifies fishing village piers, poles, and wooden bars for fish drying (Mohamed. M.Z., & Hassan. N., 2017). Bagan, relying on fishing, is intricately shaped by environmental and socioeconomic factors, demonstrating clever adaptations to challenging geography through human actions and natural processes (Yahaya, 2020; Felix, 2016). The smellscape of Bagan fishing village, positioned by the river or sea, uniquely defines its identity and reflects its profound connection to the ocean. Recognising the importance of non-visual senses, particularly fragrance interactions fostering emotional links and memories, the concept of "Smellscape," introduced by Xiao et al. (2020), underscores the impact of smells on place identities. Preserving Bagan fishing village's authentic smellscape is vital for safeguarding its cultural heritage and identity. Emphasising the broader "sense of place," encompassing tangible and intangible aspects, shapes human perceptions of the environment. This highlights the crucial role of recognising and celebrating the olfactory dimension in understanding places like Bagan fishing village.

The olfactory landscape, defined by the perception of scents within a specific environment, goes beyond traditional sensory experiences. Linked with smellscape, it shapes landscape memories by evoking emotions and cultural associations, influencing individuals' perceptions and connections with a cultural space. The deep connection with human psychology profoundly shapes how a place is perceived, its image, and its identity within the broader cultural context. Tan & Mohamad (2023) support this idea by highlighting the link between a place's meaning and its social and psychological development, showing how this influences people's perceptions of it. Recognising the importance of scents in shaping human experiences provides a comprehensive understanding of how olfaction influences our perception of the world, thus fostering a deeper connection with the places we inhabit.

The research by Lindborg and Liew (2021) has advanced the exploration of smell mapping and smellscape, methodologies that depict the olfactory environment in a fishing village. Smell mapping involves creating visual representations or maps that capture the distribution and intensity of smells, achieved through surveys, measurements, or artistic expressions. In contrast, smellscape delves into the subjective and cultural aspects of the overall olfactory experience, examining how individuals perceive and interact with real and imagined smells in their surroundings. Smellscape research, particularly in urban settings (McLean, K. 2017), explores emotional, social, and psychological

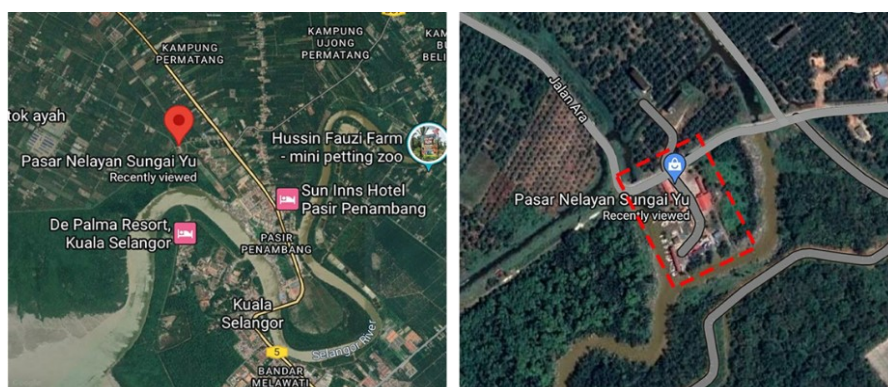
dimensions of smell, and this contributes to a deeper understanding of its role in shaping experiences of space and place.

According to Edler et al. (2020), smell walking is an immersive method that intricately explores a particular place's olfactory landscape and smellscape, unveiling its character's nuanced layers. Therefore, this experiential practice involves purposeful strolls through the village, actively exploring diverse scents to understand the cultural and subjective aspects of how individuals perceive smells in this unique environment. Associated with the concepts of olfactory landscape and smellscape, smell walking provides comprehensive insights into the identity of the fishing village, facilitating a thorough understanding of the sensory experiences embedded in its character. Expanding beyond environmental exploration, this method delves into the psychological dimensions of smell, revealing its impact on emotions and memories. Integrating smell walking into the study of fishing village character enhances individual appreciation for the role of scents in shaping the human experience and cultural identity within these coastal communities.

## METHODOLOGY

### Study Area

Bagan Sungai Yu stands as a significant fishing village in Kuala Selangor, yet the rapid development in its vicinity poses a potential threat to its existence. Therefore, it is imperative to undertake an olfactory study in this village, revealing intangible elements such as smellscape and smell mapping. These aspects play a vital role in shaping the social memory of both locals and visitors regarding the fishing village. This exploration is fundamental for preserving the cultural landscape and thoroughly comprehending the village's distinctive identity.



**Figure 1:** Key plan (left) and location plan (right) of Bagan Sungai Yu Fishing Village, Kuala Selangor

Source: <https://maps.google.com>

### Method of Data Collection

The olfactory landscape in Bagan Sungai Yu employs qualitative and quantitative methods for a comprehensive exploration. Through smell walking, the qualitative approach delves into subjective experiences and cultural nuances, providing rich and nuanced descriptions. Meanwhile, quantitative methods, exemplified by survey questionnaires, offer measurable data for statistical analysis, allowing broader generalisations and comparative assessments. Integrating these methodologies ensures a thorough and balanced understanding of the olfactory landscape, contributing to effective fishing village preservation strategies. The process of data collection is presented in Figure 2.

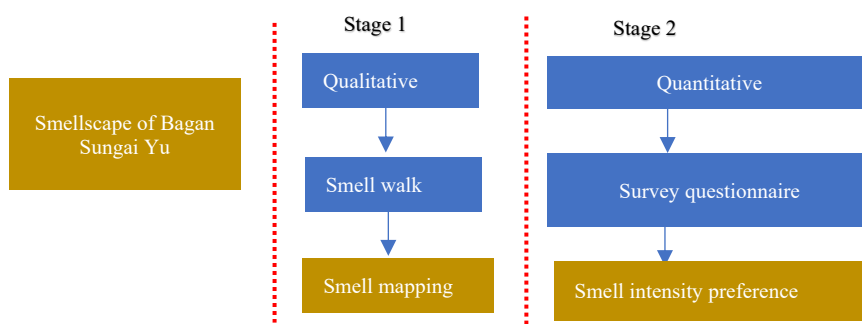


Figure 2: Methods of data collection

### Smell Walk and Smell Mapping

The human nose is actively engaged as a qualitative data collection tool to identify diverse smells in Bagan Sungai Yu. A “smell walk” methodology, coupled with smell mapping, is employed in this approach. Researchers systematically navigate through specific points along a designated route, commencing from the entrance and progressing through the market area, fish collection jetty, and culminating at the coastal region with mangrove trees.

During this olfactory journey, each distinct smell is discerned and meticulously needs to be recorded at various focal points (Song & Wu, 2022). The combination of the human nose and the smell walk approach, complemented by smell mapping, facilitates a comprehensive understanding of the olfactory landscape in Bagan Sungai Yu. The spatial distribution of smells along the route can be observed, and the resulting smell map serves as a valuable output, providing insights into the types of scents present at different locations along the specified route.

## **Survey Questionnaire**

### *Local People*

17 respondents, including locals, fishermen, and visitors, participated in a survey aiming to grasp perceptions and experiences of the smellscape in Bagan fishing village. The questionnaire collects demographic details and prompts respondents to identify distinctive village smells, exploring their cultural significance in fishing practices, cuisine, religious events, and the impact of modernisation. Insights from preferences and perceptions about specific odours aim to gauge smells' emotional and experiential impact. This data will offer valuable insights into the cultural importance of the smellscape, shaping the identity and experiences of the local community in Bagan fishing village.

### *Local Authority*

25 respondents, including officers and technical workers from the Kuala Selangor Municipal Council (*MPKS*), participated in a survey to explore their preferences and identify potential threats to the smellscape in Bagan fishing village. The questionnaire collects demographic information, delving into their experiences with various smells tied to cultural heritage and traditional fishing practices. It seeks opinions on the smellscape's role in promoting cultural identity and sustainable tourism while assessing awareness of threats like pollution and urban development. The survey evaluates the local authority's measures to preserve the unique smellscape, providing valuable insights into their perspective on its importance and commitment to safeguarding its cultural and environmental significance.

## **RESULTS AND DISCUSSION**

This section will categorize the study's outcomes and discussions into two parts. The first encompasses the outcomes derived from the smell walking method, where researchers act as visitors, observing and mapping scents based on location. The second part includes the survey results involving 17 local residents and 25 respondents from the *MPKS*.

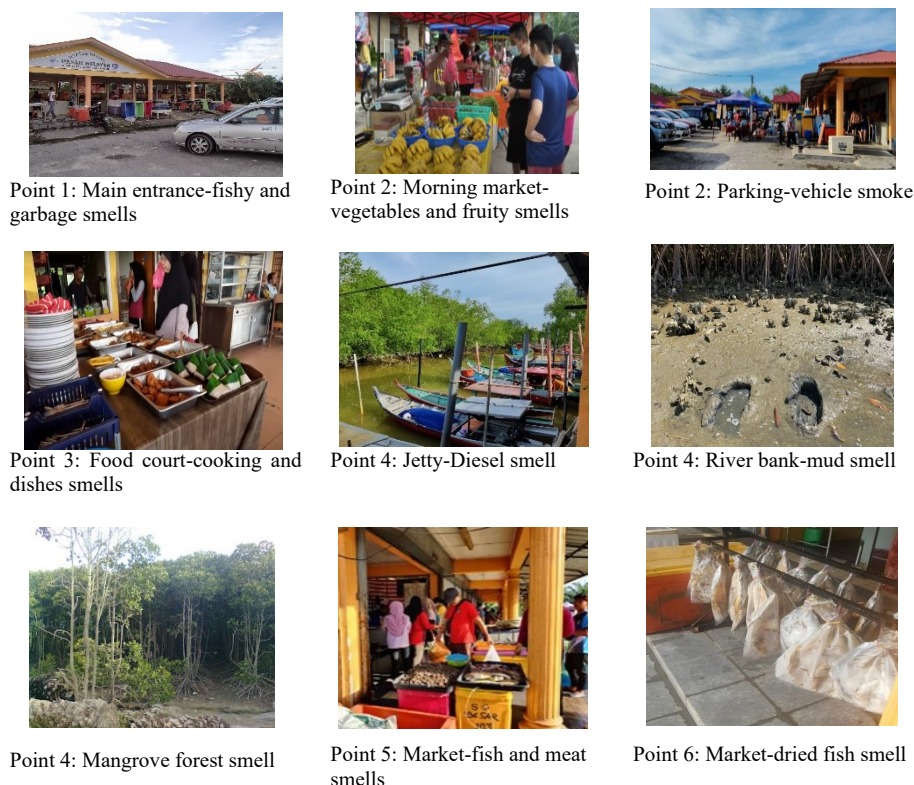
### **Smell Walking and Smell Mapping**

Based on the six points where the smell is observed, each point shows the dominant type of smell based on the activities and elements found in the area (Fig 3).

The smell at the entrance (Point 1) is dominated by the fishy odour from the market and the smell of drains and garbage. In the vehicle parking area (Point 2), the distinct smells of vehicle exhaust and the aroma of fruits, vegetables, and food from the morning market are particularly evident. Moving to the food court area (Point 3), one can perceive the aroma of cooking and pastries sold in the food

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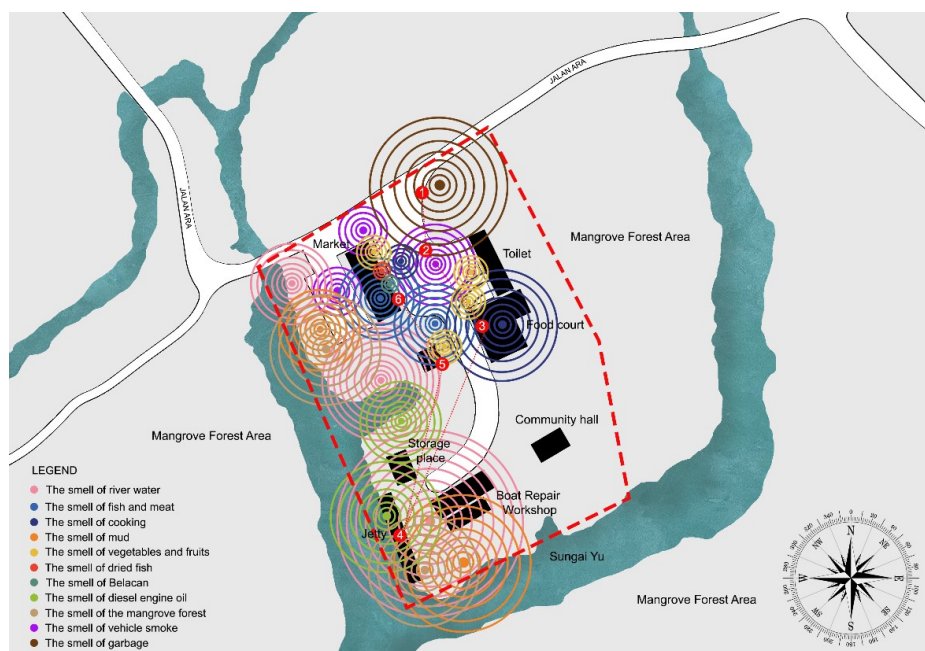
court. At the jetty area (Point 4), three noticeable smells can be identified: the scent of boat diesel oil, the aroma of mud along the riverbank, and the fragrance of mangrove trees and other plants along the Sungai Yu banks. In the market section, two distinct odours prevail: the smell of fish and meat and the scent of dried fish and shrimp paste (Points 5 and 6).



**Figure 3:** The types of smells found at each point along the route  
*Source: Authors, 2023*

Based on the smell mapping depicted in Figure 4, the intensity of each smell is indicated by the size of the circles, with larger circles representing more pungent smells. The smell mapping in Bagan Sungai Yu reflects the intricate influence of the river environment, fish market, local culture, and activities. Three distinct smell patterns emerge from the mapped distribution. At the entrance, prominent smells from garbage bins and drains indicate waste management practices. The dominance of fishy aroma mirrors the influence of sea and river produce activities in the fish market.

The parking area, market interior, and food court also display a blended scent predominantly characterised by cooking aromas, reflecting the rich local culinary practices. The jetty area features a mixed scent dominated by muddy river water, diesel aroma from boat usage, and the fragrance of mangrove trees along the Sungai Yu banks. These patterns highlight the direct connection between environmental elements, daily activities, and the distinctive smellscape shaping the cultural identity of Bagan Sungai Yu.



**Figure 4:** The type and distribution of smells mapped according to the strength of the smell at each point of the route.

Source: Authors, 2023

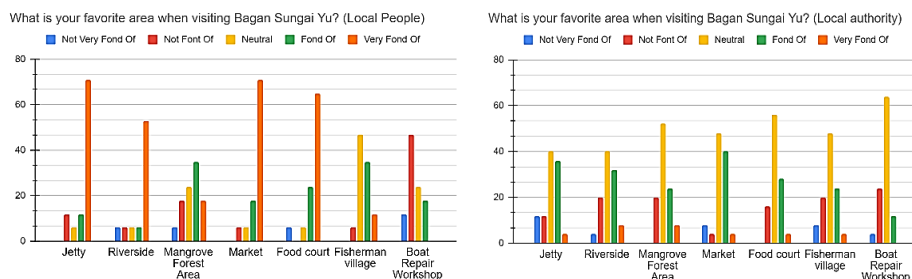
### Survey Questionnaire

This section presents the findings and discussions from a survey conducted among residents and MPKS respondents, categorised into three main sections. The first section examines respondents' perspectives on place and types of smells. The second section addresses challenges and issues concerning the fisherman's market, the fishing pier, and Sungai Yu. Lastly, the third section explores insights into the future development and preservation of the landscape character of Bagan Sungai Yu.



*Favourite Place*

Figure 5 illustrates commonalities and distinctions in preferred locations at Bagan Sungai Yu Fisherman's Market, embraced by local residents and authorities. The fishing pier, market, and food court stand out as popular choices, with around 71% of residents favouring the pier and market, 65% the food court, and 52% the riverside. Local authorities exhibit moderate interest across all locations, averaging approximately 50%. Among them, the market takes precedence at 40%, followed by the jetty at 35%, and the riverside at 32%.



**Figure 5:** Respondent's favourite place

Overall, local authorities express an average interest of 28% in piers, fish markets, and the riverside. The differences and similarities between residents and authorities stem from residents' emotional ties to specific areas. In contrast, authorities maintain a comprehensive perspective, considering various factors such as tourism, economy, and development, highlighting the intricate balance between local sentiment and administrative priorities in shaping preferences.

*Intensity of Smell*

In Figure 6, residents generally excel in identifying smell intensity compared to local authorities. Cooking aromas lead at 52%, followed by the scent of dried fish shrimp paste at 47%. Local authorities primarily recognise the smell of fish and meat (40%) and the scent of garbage (31%). Both groups identify intense smells of cooking, fish, and garbage in the market area. Residents outperform authorities (37% vs. average 24%) in identifying river water, mangrove forest, and mud smells. There is a significant difference, with 22% of local authorities unable to identify certain smells compared to 5% of residents.

The observed similarities and differences can be attributed to residents' intimate connection and familiarity with specific scents holding personal or cultural significance. Local authorities approach the assessment more objectively, considering several factors like urban planning, environmental concerns, and tourism development. The discrepancy may reflect residents'

nuanced awareness of natural elements compared to the more generalised perceptions of authorities.

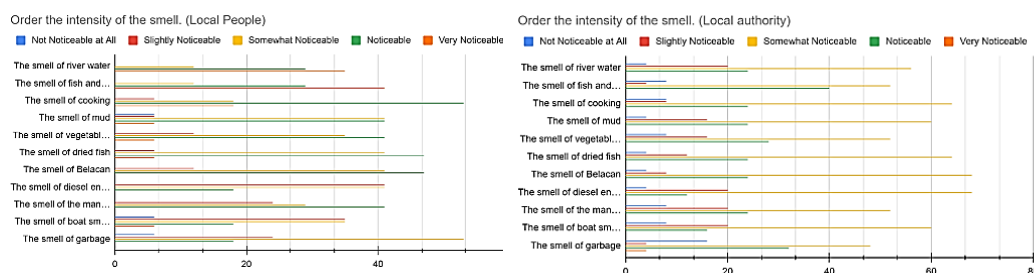
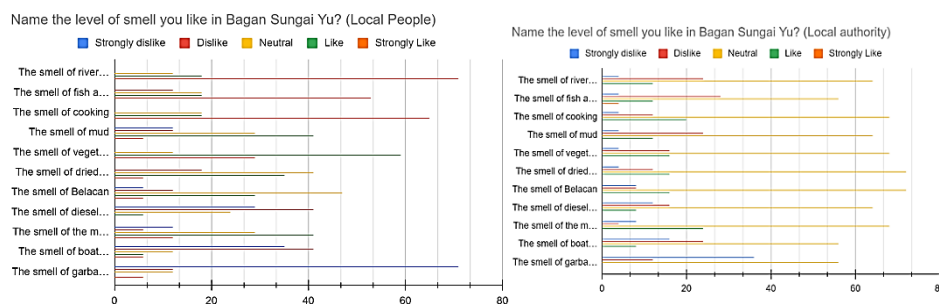


Figure 6: Ability to identify the intensity of smell

### Favourite Smell

The data depicted in Figure 7 delineates both commonalities and distinctions in the preferred smells among residents and authorities. Residents favour the scent of mangrove forests with 41%, while local authorities show a preference for 25%. Overall, residents express preferences for the smells of the river (71%), cooking (62%), fish (52%), vegetables (55%), mud (41%), and mangroves (41%). Conversely, both residents (70%) and authorities (35%) share their distaste for the smells of garbage and diesel used for boats.

The results reveal nuanced preferences and aversions to smells among residents and authorities in Bagan Sungai Yu, offering insights into the interplay of olfactory landscape, memories, and respondent backgrounds. Residents prefer the scent of the mangrove forest, reflecting a deeper connection to their natural surroundings and cultural heritage. Their overall liking for scents associated with daily life, culinary practices, and distinctive features of the environment suggests a desire to preserve the authentic olfactory character of their fishing village. Conversely, the common dislike for odours associated with pollution and industrial activities underscores a collective aversion to unwanted environmental impacts.



**Figure 7:** Favourable smell among local people and local authority

Taking a more objective stance, authorities show a lower preference for specific smells, potentially considering broader factors like environmental management and tourism development. These differences highlight the intricate dynamics of olfactory experiences, memories, and the diverse backgrounds of respondents, contributing to our understanding of how smells shape cultural preservation and sustainable development in fishing villages.

## SIGNIFICANT FINDINGS

Exploring Bagan Sungai Yu's olfactory landscape offers a unique lens into the interwoven fabric of environmental elements, daily activities, and cultural identity. Through a combination of smell mapping and a survey questionnaire, this study unveils the nuanced scentscape of the fishing village. The results provide a visual representation of smell patterns and delve into the preferences, memories, and identification abilities of local residents and authorities. This multidimensional approach allows for a holistic understanding of how smells shape the cultural identity of Bagan Sungai Yu. Three pivotal insights emerged from the results and discussions presented in the preceding section.

### *i. Smell Mapping Insights into Olfactory Landscape*

The first subtopic focuses on the outcomes of the smell mapping depicted in Figure 2. It delves into how the intensity of each smell, represented by the size of circles, provides a visual narrative of Bagan Sungai Yu's olfactory landscape. This section explores the nuances of the identified smells and their spatial distribution, setting the foundation for understanding the interplay between environmental elements and daily activities. The integration of smell mapping as a method underscores its importance in objectively capturing and visually presenting the intricate olfactory features of the village. Therefore, in light of the world's various sensory dimensions and the dominance of visual perception in modern culture, smell mapping emphasises people's ability to feel and create

place through their sense of smell (Endreß, 2023; Paraguai, 2013). As a component of the sense of smell, odour perception is linked to chemical interactions, morphology, and behavioural towards space. These relationships are dynamic and interdependent, involving morphology, behaviour, genetic makeup, and cultural traits (Catullus, 2000)

*ii. Alignment with Local Preferences and Identifications*

The second subtopic bridges the smell mapping results with the preferences and identification abilities observed among residents and authorities (Figures 3, 4, and 5). It highlights the congruence between the mapped smell patterns and the respondents' experiences, emphasising how the dominant fishy aroma in the fish market, cooking aromas in specific areas, and mixed scents at the jetty align with the observed preferences. The survey questionnaire method supplements this discussion as a complementary tool to gather subjective insights, memories, and preferences related to the identified smells. Concerning these insights, Hall (1990) identified proxemic behaviours as cross-cultural interactions between individuals and settings. The sense of smell has a strong ability to promote the aspects of physical space that interactants maintain without realising it, which is essentially the study of Hall's proxemics. According to him, nonverbal cues influenced by physical distance are also included in the olfactory code, a mode of presence and degrees of body and space odours. Olfaction offers an inherently non-reversible, more direct, and less planned interaction with the surroundings. Therefore, alignment with local preferences and identification evokes a direct perception of the neighbouring townscapes (Paraguai, 2013)

*iii. Cultural Identity Shaping Through Smellscape*

The third subtopic expands the discussion to underscore the cultural significance of the identified smells in shaping the identity of Bagan Sungai Yu. It examines how the smellscape, as revealed through smell mapping and the survey questionnaire, intricately weaves together environmental elements, daily activities, and the unique olfactory experiences of the community. This section emphasises the role of the human nose, preferences, memories, and psychological responses in enriching the cultural fabric of fishing villages. The combination of smell mapping and the survey questionnaire emerges as a comprehensive approach, elucidating both objective and subjective dimensions of the smellscape and its cultural implications. These characteristics correlate to the senses as they perceive and are fundamental components of a location's physiognomy (Stefanou & Vasilara, 2013). Senses give us all the instruments to recognise and understand a place's distinctiveness, distinguish its identity, and bring its essence to life. Systems of olfactory classification generate meanings and particular logic; these codes are not universal but relatively local. Smells are associated with cultural

values and are understood as a model and a way to define and engage with the outside world. People who are connected to smell experiences may be able to organise spatial experiences, and as a result, symbolise different ways of acting in the world Haque (2004). The local smellscape, with its unique and familiar scents, significantly enhances cultural and heritage appreciation, enriching the sensory experience and deepening the connection to a place's identity. Mat Radzuan et al. (2024) emphasizes that in an increasingly globalized world, it is crucial for each location to maintain its unique identity, defined by its distinctive characteristics.

## **CONCLUSION AND RECOMMENDATION**

The utilisation of smell mapping has provided a comprehensive understanding of Bagan Sungai Yu's olfactory landscape, offering valuable insights into the village's image and identity. This method has proven pivotal in objectively capturing and visually presenting the intricate olfactory features of the village. The alignment between the mapped smell patterns and the preferences of residents and authorities underscores the harmonisation of objective and subjective dimensions, establishing a robust foundation for exploring the village's cultural and environmental significance. Developing solutions that consider the relationship between all the sensory channels we use to read and perceive the spaces around us includes smell in the design. This course of study and practice is also closely tied to neuroarchitecture, the theory that places can enhance individuals by creating wholesome experiences for their occupants.

While recognising the study's limitations, such as providing a snapshot of the smellscape, future research endeavours could delve into temporal variations and incorporate advanced olfactory analysis techniques. This would contribute to a more nuanced and dynamic understanding of the olfactory landscape. Additionally, exploring the longitudinal changes in smells and their cultural implications over time could enrich the narrative. In conclusion, the combined use of smell mapping and survey questionnaires emerges as a powerful approach, shedding light on the cultural importance and identity-shaping role of smells in fishing villages like Bagan Sungai Yu.

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