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Seri Iskandar Campus, Perak, MALAYSIA



**PROCEEDINGS OF THE 16TH REGIONAL
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SIMPORA XVI: 2025**

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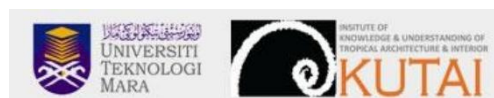
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COURTYARD PHARMACY: MEDICINAL PLANTS IN KUTAI HOUSE LANDSCAPES OF PERAK TENGAH

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Abstract:

For generations, the courtyard of a Malay house represented more than just an outdoor space. It functioned as a living pharmacy, a kitchen garden, and a sanctuary that supported everyday life. In the case of the Kutai houses in Perak Tengah, Malaysia, these courtyards reflected a legacy in which plants were not only cultivated for food and utility but also embodied healing traditions, cultural symbolism, and identity. However, this heritage is increasingly under threat. Rapid modernization and changing lifestyles have caused many families to neglect the traditional practice of planting medicinal species, raising the risk that this body of knowledge will fade with time. This study aims to document and analyze the role of medicinal plants cultivated in the courtyards of seventeen (17) Kutai houses. Data collection was conducted through field visits, direct observation of plants, and semi-structured interviews with some homeowners who shared their knowledge and personal memories of how these plants were used. The findings reveal that ten (10) species are still commonly grown, including coconut, pandan, banana, lemongrass, and betel, which were observed most frequently. These plants play multiple roles in daily healthcare, treating conditions such as fever, wounds, digestive problems, and women's health, while also serving as essential elements in cultural ceremonies and household rituals. The results suggest that courtyards were more than private gardens. They were cultural landscapes of care, reflecting the intimate relationship between people and nature. This relationship highlights the resilience of traditional Malay knowledge and its relevance to modern concerns of health, sustainability, and cultural continuity. The study concludes by emphasizing the importance of preserving and revitalizing this heritage through community awareness, conservation efforts, and the integration of medicinal plants into contemporary landscape design. Such initiatives can ensure that the spirit of the Malay courtyard continues to inspire and serve future generations.

Keywords: Malay courtyard, Kutai house, medicinal plants, cultural landscape, living heritage

INTRODUCTION

The Kutai houses of Perak Tengah represent one of the earliest surviving vernacular house forms in the Malay Peninsula, with origins traced to the early nineteenth century (Zakaria et al., 2021). They reflect refined Malay craftsmanship, climatic adaptability, and the integration of Islamic and local values into domestic architecture. Their courtyards once embodied the

multifunctional character of Malay home environments by supporting household activities, social interactions, food preparation, and the cultivation of medicinal plants that formed a courtyard pharmacy sustaining daily health needs, including treatments for fever, digestive discomfort, women's reproductive well-being; wounds, and spiritual cleansing (Ramya et al., 2024). This tradition has become increasingly vulnerable as modernization and urban development reshape the physical and cultural landscapes of Malay settlements. Many modern courtyards, especially in cities and suburbs, are now paved, turned into parking lots, or replanted with decorative plants. These changes show that people are losing touch with useful ethnobotanical knowledge. As a result, younger generations possess limited awareness of plant-based practices that once structured everyday life. As noted by Brumann and Gfeller (2021), the erosion of such knowledge signifies not only the disappearance of practical skills but also the loss of identities, worldviews, and community resilience.

From a heritage perspective, Kutai houses and their courtyards represent cultural landscapes of healing that extend beyond architecture, embodying intangible cultural heritage through knowledge of plant species, preparation methods, and symbolic meanings transmitted orally and practiced daily (UNESCO, 2023). Perak Tengah, with sites such as Pulau Misa Melayu and the Pasir Salak Historical Complex, provides a meaningful context, situating the Kutai house within broader Malay identity and historical memory. The courtyard functions as a cultural archive where ecological practice, religious significance, and social life converge. While prior research has examined Malay vernacular architecture, house compounds, and traditional medicine (Chen, 1998; Nasir, 1985; Adnan & Othman, 2010; Zakaria et al., 2016; Alsarhan et al., 2014; Ramya et al., 2024), few studies treat the courtyard as a living pharmacy. This study addresses that gap by documenting medicinal plants in seventeen Kutai house courtyards, analyzing their practical and symbolic functions, and interpreting their cultural significance.

LITERATURE REVIEW

2.1 Malay Courtyard as a Multifunctional Domestic Landscape

The Malay house courtyard, or *laman*, has historically been a multifunctional space integrating ecological, social, and symbolic roles, supporting cooking, play, crafts, social interaction, food production, and healthcare through medicinal plants. Its flexible boundaries allowed the courtyard to blend seamlessly with surrounding agricultural land, creating a subsistence landscape where plants were chosen for shade, food, herbs, and medicine, reflecting household needs and cultural practices rather than aesthetic design (Ghaffarian Hoseini et al., 2014; Nasir, 1985; Zakaria et al., 2020). Today, multifunctionality has declined as modern homes increasingly favor paved or ornamental courtyards or eliminate them entirely due to urban spatial constraints, reflecting changing lifestyles and values that prioritize decoration over function and raising concerns about the loss of traditional knowledge, domestic ecologies, and community resilience.

2.2 Kutai House as Vernacular Heritage

The Kutai house of Perak Tengah, emerging in the early nineteenth century, is the oldest surviving Malay vernacular dwelling in the peninsula (Zakaria et al., 2021). Its timber construction, elevated floors, pitched roofs, and carved details reflect Islamic and local artistic influences, with scholars highlighting its climatic adaptability, social meaning, and refined craftsmanship (Nasir, 1985; Chen, 1998). The house is inseparable from its courtyard, which mediates daily activities such as food preparation, childcare, and rituals while connecting the domestic space with the natural environment. Typically divided into front, side, and rear courtyards, each zone supports social reception, utilitarian planting, kitchen gardening, and waste management (Zakaria et al., 2022). The Kutai house is more than just a building; it is a cultural landscape that shows how people have adapted to and lived in harmony with nature. While previous scholarship has emphasized built form, this research highlights the courtyard as a repository of medicinal plants and intangible heritage.

2.3 Malay Ethnomedicine and the Role of Medicinal Plants

Ethnomedicine has been central to Malay society, relying on diverse wild and cultivated plants prepared as decoctions, poultices, baths, oils, and fresh condiments (Tan et al., 2023; Alsarhan et al., 2014; Ramya et al., 2024). It is closely linked to Islamic values and indigenous cosmologies, integrating physical remedies with spiritual practices such as prayer, ruqyah, and ritual cleansing (Laderman, 1991). Medicinal plants were traditionally grown within house compounds to ensure accessibility and continuity of care, with Malaysia rich in species, including 1,300 in Peninsular Malaysia and 7,411 in Sabah, historically used to treat pain and inflammation (Abu Bakar et al., 2018). Beyond their therapeutic function, plants carried ritual and symbolic meanings, with betel leaves in social ceremonies, turmeric in wedding rites, and pandan representing freshness and purity. However, the rise of biomedical healthcare and lifestyle changes has marginalized ethnomedicine, contributing to the erosion of plant-based knowledge, cultural identity, and ecological relationships among the Malays.

2.4 Cultural Landscapes and the Courtyard as Heritage

The concept of cultural landscape provides a framework for understanding the Malay courtyard, as UNESCO defines such landscapes as combined works of nature and humans reflecting long-term interactions between communities and their environment (UNESCO, 1992). In the Kutai house compound, plant cultivation, spatial organization, and cultural practices form an integrated system, exemplifying biocultural relationships where ecological resources are shaped by human values and cultural systems are sustained by nature (Maffi, 2005). Plants in the courtyard serve as both physical resources for food and medicine and as cultural symbols for ritual and identity, making the courtyard simultaneously ecological infrastructure and cultural text. This duality highlights the need to safeguard not only built forms but also landscape practices, as the decline of Malay courtyards reveals gaps in heritage conservation that often neglect everyday domestic landscapes which embody intangible heritage. Focusing on Kutai courtyards re-centers the significance of domestic landscapes as vital cultural heritage.

2.5 Living Heritage and Intangible Knowledge

The concept of living heritage is central to the courtyard pharmacy tradition, highlighting knowledge and practices transmitted through daily life, oral traditions, rituals, and community interactions (UNESCO, 2003). Malay medicinal plant knowledge exemplifies this, with information being passed intergenerationally, often by women responsible for domestic health, and embedded in language, ritual, and everyday routines rather than formal texts (Brumann and Gfeller, 2021). Courtyards serve as pedagogical spaces where children learn plant uses by observing and assisting elders, ensuring continuity of practice. However, modernization, nuclear family structures, urban migration, and formal schooling disrupt these transmission pathways, making intangible heritage vulnerable when social contexts shift (Abdul Aziz et al., 2020). Documenting Kutai courtyards therefore goes beyond listing plants, encompassing the recognition and preservation of living heritage systems that sustain cultural knowledge and practice.

METHODOLOGY

3.1 Research Design

This study used a qualitative ethnographic approach to document and interpret the role of medicinal plants in the courtyards of Kutai houses in Perak Tengah. Ethnography was selected for its ability to capture lived experiences, cultural meanings, and everyday practices within landscapes (Creswell & Poth, 2018). Unlike quantitative surveys, it prioritizes local voices, symbolic interpretations, and intangible heritage, which are essential to understanding the Malay courtyard as a living pharmacy. The research combined direct observation, semi-structured interviews, and photographic documentation to provide a comprehensive perspective, ensuring both the physical presence of plants and the cultural narratives surrounding them were captured.

3.2 Study Area

The research was conducted in Perak Tengah District, Perak, Malaysia, a region historically linked to Malay identity and heritage through sites such as Pulau Misa Melayu and the Pasir Salak Historical Complex, which embody cultural resistance and continue to symbolize Malay heritage. Within this setting, the Kutai house stands out as a distinctive architectural and cultural form dating to the early nineteenth century, featuring timber construction, elevated floors, pitched roofs, and intricate carvings (Zakaria et al., 2021). Its courtyard system is particularly significant, demonstrating how Malay families historically organized domestic landscapes to support subsistence, health, and cultural continuity. Seventeen (17) Kutai houses were purposively selected for this study due to their continued occupation or maintenance, preserving both tangible and intangible heritage associated with courtyard practices.

3.3 Sampling Strategy

The study used purposive sampling to select households with accessible Kutai houses and residents willing to participate, an approach suited to capturing in-depth cultural insights given the rarity of surviving houses (Daniel, 2012). Participants included homeowners, elders, and family members with knowledge of courtyard practices, with eight (8) informants interviewed across seventeen (17) households. Efforts were made to ensure diversity among participants, recognizing that medicinal plant knowledge is often unevenly distributed within households.

3.4 Data Collection

The study employed two (2) complementary methods. Site observation was conducted in each courtyard to identify plant species, record their spatial arrangement, density, and condition, and capture photographic evidence of placement and use. Semi-structured interviews with homeowners and elders collected narratives on plant functions, preparation methods, and symbolic meanings, focusing on the plants cultivated, their medicinal uses, and sources of knowledge. All interviews were conducted in Malay and transcribed for analysis, with visual data such as photographs and sketches integrated to support spatial interpretation. Cross case comparisons across seventeen households were then performed to identify patterns and variations in courtyard practices.

3.5 Limitations

Although the qualitative ethnographic approach yielded rich insights, it is important to acknowledge several limitations. The sample of seventeen (17) houses, although significant, may not represent all Kutai houses in Perak or broader Malay ethnomedicine practices. Seasonal variations could have affected the presence of certain plants, and reliance on oral narratives may be influenced by memory biases, particularly among elderly informants.

FINDINGS

4.1 Overview of Medicinal Plant Diversity

Field surveys across the 17 Kutai house courtyards documented a total of ten (10) medicinal plant species that were actively cultivated and used by households. These species include coconut (*Cocos nucifera*), pandan (*Pandanus amaryllifolius*), banana (*Musa acuminata*), lemongrass (*Cymbopogon citratus*), betel (*Piper betle*), turmeric (*Curcuma longa*), ginger (*Zingiber officinale*), galangal (*Alpinia galanga*), kaffir lime (*Citrus hystrix*), and hibiscus (*Hibiscus rosa-sinensis*). While the first six species appeared in nearly all courtyards, the remaining four were observed less consistently.

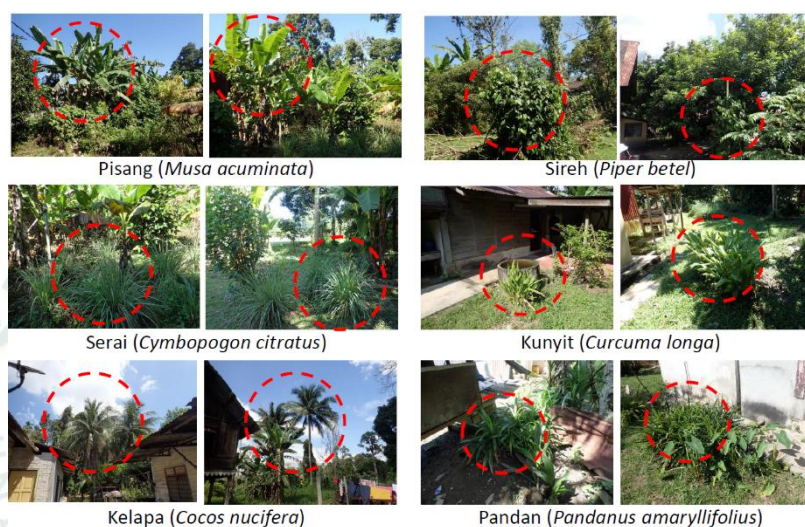


Figure 1: The Location of Medicinal Plants in the Kutai House Compound

4.2 Medicinal Functions and Health Practices

This pattern demonstrates the continuity of traditional plant use in the Kutai courtyard, with species such as coconut, pandan, banana, lemongrass, betel, and turmeric playing central roles in health, cooking, and ritual practices while symbolizing both functional and cultural significance. Informants highlighted the ease of propagation and multifunctionality of these plants as reasons for their persistence. Pandan was valued for its fragrance, cooling properties, culinary use, and benefits for women's health; lemongrass for its versatility in cooking and medicinal teas; and coconut for hydration, food preparation, and ritual cleansing.

4.2.1 Everyday Healthcare

Households used courtyard plants as a first line of treatment for common ailments such as fever, colds, stomach aches, and minor wounds. Lemongrass tea was commonly used for fever and indigestion, turmeric decoctions for their anti-inflammatory properties, and coconut water to prevent dehydration during hot weather or illness. Banana sap was applied to burns and wounds, while banana fruit was valued for restoring energy and treating diarrhea. Betel leaves produced an antiseptic solution for skin and oral health when boiled. These practices illustrate how medicinal plants complemented or substituted pharmaceutical remedies for everyday health needs.

4.2.2 Women's Health

Interviews highlighted the central role of plants in women's reproductive and maternal health, with pandan leaves boiled to regulate menstruation and support postnatal recovery, turmeric used in confinement rituals to restore energy and purify the body, and betel leaves applied to

prevent infections and maintain reproductive wellbeing. These practices reflect enduring confidence in herbal remedies, with many women still preferring them over modern medicine (Tengku Mohamad et al., 2019).

4.2.3 Ritual and Symbolic Uses

Several plants held ritual significance in the Kutai courtyard. Turmeric was used in wedding ceremonies such as the *berinai* ritual as a symbolic blessing, coconut water featured in cleansing rituals for illnesses believed to have spiritual causes, and betel leaves played a central role in social exchanges, representing respect and hospitality. These practices highlight that medicinal plants function not only as remedies but also as cultural texts embodying values of purity, fertility, and social cohesion. As one elder explained, these plants are not just medicine but also customs (*Pokok ini bukan hanya ubat, tetapi adat*).

4.3 Spatial Patterns of Planting

Observation showed that plant placement in Kutai courtyards followed practical rather than aesthetic logic, with species arranged for accessibility, shade, and microclimatic needs. Front courtyards were typically planted with betel vines and hibiscus to support social and ritual functions, side courtyards contained pandan, lemongrass, and ginger near kitchens for cooking and herbal use, and rear courtyards hosted larger species such as coconut and banana, providing shade, marking boundaries, and meeting spatial requirements. Although homeowners did not describe formal design principles, the organization reflected a functional zoning system consistent with earlier literature (Zakaria et al., 2021), reinforcing the courtyard as a living system that integrates ecology, health, and culture.

4.4 Knowledge Transmission and Memory

Interviews indicated that medicinal plant knowledge was primarily transmitted orally across generations, with elders recalling childhood experiences assisting parents or grandparents in preparing herbal remedies. Younger participants were less knowledgeable and frequently depended on elders for guidance. Several mentioned that their children exhibited minimal interest in caring for courtyard plants, favoring contemporary medicine or commercially acquired herbs. As one homeowner explained, people today trust the pharmacy more than the plants in the yard (*"Orang sekarang lebih percaya kedai ubat daripada pokok di halaman"*). This generational gap underscores the fragility of intangible heritage, as the symbolic and practical knowledge associated with these plants may fade if not actively preserved.

4.5 Courtyard as Cultural Landscape of Care

The findings demonstrate that Kutai courtyards functioned as cultural landscapes of care. They were at once ecological systems, health infrastructures, and cultural archives. Plants served both as food and medicine, making the courtyard a biocultural space that linked survival, health, and identity. By integrating medicinal plants into daily life, Kutai courtyards enabled households to remain self-sufficient, resilient to illness, and connected to cultural traditions.

DISCUSSION

5.1 The Courtyard as a Cultural Landscape of Healing

The findings show that Kutai house courtyards function as cultural landscapes of healing, not merely as utilitarian gardens, reflecting long term relationships between communities and their environment (UNESCO, 1992). The widespread presence of coconut, pandan, banana, lemongrass, betel, and turmeric illustrates the resilience of a biocultural system where ecological resources are deeply embedded in social and symbolic life. While previous studies of Malay vernacular architecture have emphasized timber craftsmanship, spatial organization, and climatic adaptability (Nasir, 1985; Chen, 1998), this study highlights the courtyard planting system, expanding heritage discourse from built forms to landscape practices that integrate ecological and cultural dimensions inseparably.

5.2 Ethnobotanical Knowledge and Everyday Healthcare

The use of plants such as lemongrass for fever, turmeric for inflammation, and coconut for hydration demonstrates the enduring importance of ethnobotanical knowledge in the Malay context, where ethnomedicine coexists with biomedicine, Islamic healing, and shamanistic practices (Ramya et al., 2024). Courtyard pharmacies reflect both practical healthcare strategies and markers of cultural identity, providing locally grounded, cost-effective and culturally meaningful care. This knowledge is increasingly concentrated among elderly women, who act as custodians of reproductive and maternal health practices, integrating domestic and spiritual care. The decline in intergenerational transmission risks creating a bottleneck in which vital practical and symbolic knowledge may be lost as elders passed away.

5.3 Ritual Significance and Symbolic Dimensions

The symbolic roles of plants in Kutai courtyards demonstrate that their significance extends beyond pharmacological use. Betel leaves in ceremonies, turmeric in weddings, and coconut water in cleansing rituals function as cultural texts embodying values of purity, fertility, protection, and hospitality within Malay cosmology. This aligns with Geertz's (1973) concept of culture as a web of meanings, where plants act as active participants in social life. The courtyard thus represents a symbolic ecology in which everyday practices reinforce cultural

identity and community cohesion, highlighting the role of plants as mediators between nature, culture, and spirituality rather than mere economic or medical resources.

5.4 Spatial Logic and Functional Zoning

Observation of Kutai courtyard layouts shows that plant placement follows functional zoning rather than aesthetic design, reflecting a pragmatic approach in Malay domestic landscapes where accessibility and survival are prioritized. Front yards hosted plants for social functions such as betel and hibiscus, side areas supported kitchen herbs like pandan, lemongrass, and ginger, and rear spaces accommodated larger species such as coconut and banana. This spatial organization illustrates Rapoport's (1990) notion of non-verbal communication in vernacular environments, where the arrangement of space conveys social and ecological priorities. Unlike modern ornamental landscaping, the Kutai courtyard integrates edible and medicinal plants into a design that supports subsistence, health, and ritual life, offering insights for food security, wellbeing, and cultural continuity within sustainable living practices.

5.5 Towards Revitalization

Despite existing challenges, the findings reveal opportunities for revitalizing courtyard pharmacy traditions. Households expressed pride in their courtyards and willingness to share knowledge if supported by researchers, NGOs, or government initiatives. Community gardens, ethnobotanical parks, and digital archives could preserve and transmit this knowledge, while incorporating medicinal plants into modern landscapes can reconnect new generations with traditional values. The concept of the courtyard pharmacy embodies local wisdom, where plants around the yard serve as food, medicine, and herbs, with preparation methods guided by intergenerational knowledge and Islamic teachings. This practice also fostered community cohesion, as sharing plants and remedies strengthened ties among families and villages, creating a simple yet effective traditional healing landscape.

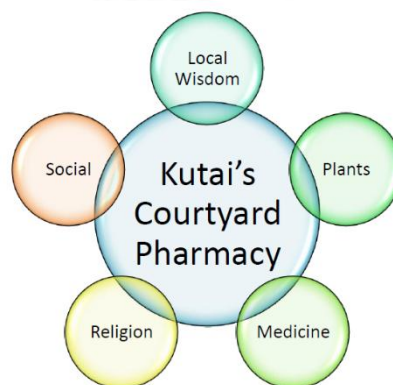


Figure 2: Kutai's Courtyard Pharmacy

CONCLUSION AND RECOMMENDATIONS

This study demonstrates that the courtyards of Kutai houses in Perak Tengah are cultural landscapes of healing that embody the intimate relationships between people, plants, and place. Documentation of ten medicinal plant species shows that these courtyards historically functioned as living pharmacies, supporting everyday healthcare, women's reproductive wellbeing, ritual life, and cultural identity. The persistence of coconut, pandan, banana, lemongrass, betel, and turmeric highlights the resilience of Malay ethnobotanical knowledge despite modernization pressures. Courtyard layouts followed pragmatic spatial logics, prioritizing accessibility and survival, while plants served dual roles as remedies and cultural symbols embedded in rituals, ceremonies, and social interactions. Knowledge transmission was deeply gendered and intergenerational, with women as custodians of domestic health, and the decline of courtyard pharmacies reflects broader challenges of knowledge erosion, urbanization, and cultural homogenization. Framing Kutai courtyards as biocultural landscapes contributes to scholarship in architecture, ethnobotany, heritage studies, and sustainability, situating Malay courtyard practices within global discourses on living heritage, biocultural diversity, and sustainable design with relevance to the Sustainable Development Goals. The findings suggest that strategies combining heritage conservation, community engagement, and contemporary design can mitigate the decline. Community awareness and education can be strengthened through workshops, heritage trails, and school curricula, while urban planners and landscape designers can integrate traditional medicinal species into modern developments. Collaborative conservation initiatives involving universities, NGOs, and government agencies should extend beyond timber architecture to include the cultivation of heritage plants and associated practices. Systematic documentation and digitization of plant uses, preparation methods, and oral narratives can safeguard knowledge and make it accessible to wider audiences.

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