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ENHANCEMENT PROJECT OF LAMAN KAED SPACE FUNCTIONALITY THROUGH THE CONCEPT OF ṬUMA'NĪNAH

Zahlia Maethilda Zulkarnain, *Siti Noorfairus Che Abdullah, Masidah Abdul Majid, Raja Intan Suhaylah Raja Abdul Rahman, Roziha Che Haron, Nur Ulfah Awatif Umairah Alias
Kulliyyah Architecture and Environmental Design, International Islamic University Malaysia

ABSTRACT

Laman KAED forms an integral part of the spatial identity and communal character of the Kulliyyah of Architecture and Environmental Design (KAED) at the International Islamic University Malaysia (IIUM). Nevertheless, several areas within the courtyard remain underutilised and lack functional integration within students' daily academic and social activities. This study therefore explores strategies to enhance the functionality and usability of Laman KAED in order to transform it into a vibrant, inclusive, and purposeful environment. Data collection methods included surveys, site observations, and questionnaires to examine user needs, spatial preferences, and patterns of space utilization. The findings are expected to inform design interventions that encourage a sense of ṭuma' nīnah tranquility, serenity, and emotional balance while simultaneously strengthening the role of the courtyard as an active communal hub within the campus environment. Ultimately, the project aspires to establish a multifunctional landscape that supports social interaction, well-being, entrepreneurship, and community engagement in alignment with the holistic educational values of IIUM.

Keywords: Laman Functionality, KAED, IIUM, Space Enhancement, Tuma' nīnah, Campus Design

*Corresponding author: noorfairus@iium.edu.my

INTRODUCTION

Laman KAED, located within the International Islamic University Malaysia (IIUM), occupies a central position within the Kulliyyah of Architecture and Environmental Design (KAED). Despite its strategic location and strong potential as a communal hub, the courtyard remains underutilized and lacks functions that effectively support student interaction, social activities, and entrepreneurial engagement.

At present, the space functions primarily as a transitional area rather than an active social and academic environment. Consequently, opportunities for informal learning, cultural exchange, relaxation, and income-generating activities remain limited. In response to these issues, this study aims to enhance the functionality of Laman KAED by identifying existing shortcomings and proposing design strategies capable of transforming the courtyard into a vibrant, inclusive, and economically sustainable environment.

Central to the proposal is the concept of ṭuma' nīnah, which embodies tranquility, harmony, and emotional serenity. Through the integration of therapeutic landscapes, multifunctional spaces, and inclusive design principles, the project seeks to establish a courtyard environment that supports both psychological well-being and meaningful community interaction.

METHOD / PROCEDURE

This study employed site visits, direct observations, and spatial analysis to evaluate the existing condition and future potential of Laman KAED. Figure 1 and 2 displayed the field studies were conducted at Taman Tasik Titiwangsa, TRX City Park, and Laman KAED in order to compare the ways in which public and semi-public spaces are designed, utilized, and activated.

At KAED, detailed documentation was undertaken through photographs, sketches, and site measurements to record circulation patterns, existing facilities, spatial organization, and user behavior as shown in Figure 3. Furthermore, indoor, semi-indoor, and outdoor spatial references were analyzed comparatively to evaluate functionality, usability, and user engagement across different environmental settings.

The insights derived from these studies informed the development of strategies aimed at improving Laman KAED as a multifunctional space that supports social interaction, entrepreneurship, cultural engagement, and sustainable income-generating activities.



Figure 1: Walking at TRX City Park (Source: Author)



Figure 2: Site Observation at Taman Tasik Titiwangsa (Source: Author)



Figure 3: Laman KAED (Source: Author)

KEY PLAN, LOCATION PLAN AND SITE PLAN



Figure 4: Key Plan, Not to Scale (Source: Authors)



Figure 5: Location Plan, Not to Scale (Source: Authors)



Figure 6: Site Plan, Not to Scale (Source: Authors)

LITERATURE REVIEW

Outdoor spaces within educational and communal settings are increasingly recognized as essential extensions of academic and social life. As illustrated in Figure 4,5, and 6 showing the underutilized outdoor spaces that have potential. When thoughtfully designed, courtyards and open landscapes encourage interaction, cultural exchange, reflection, and a stronger sense of identity and belonging (Wang, Ismail, & Bin, 2024).

Recent studies further emphasize sustainability and multifunctionality as fundamental principles in contemporary landscape design. Outdoor environments that integrate ecological strategies such as shading systems, vegetation, and material reuse, while simultaneously accommodating flexible spatial functions, are better able to respond to evolving community needs and environmental challenges (Ak, 2024; Wang, Ismail, & Bin, 2024). Consequently, landscapes should no longer be perceived merely as ornamental additions, but rather as dynamic systems that actively contribute to social, environmental, and economic well-being.

In addition, contemporary landscape design increasingly incorporates therapeutic, inclusive, and entrepreneurial dimensions. Multisensory environments have been shown to enhance psychological well-being, while universal design principles ensure accessibility and inclusivity for diverse user groups. Simultaneously, entrepreneurial landscapes provide opportunities for economic activity and community engagement. Collectively, these approaches redefine courtyards and open spaces as socially cohesive, self-sustaining, and multifunctional environments (Wang, Ismail, & Bin, 2024; Ak, 2024).

• THERAPEUTIC GARDENS & SENSORY DESIGN

Therapeutic gardens contribute significantly to stress reduction and psychological well-being through sensory engagement involving planting, aromatic herbs, textured surfaces, and natural soundscapes. As illustrated in Figure 5, the design engages the five human senses sight, sound, smell, touch, and taste in order to create a more immersive and restorative environmental experience. Previous studies demonstrate that sensory gardens stimulate the senses of smell, sight, sound, and touch, thereby encouraging relaxation, resilience, and social inclusion (Zhou & Zeng, 2023; Wajchman-Świtalska et al., 2020; Porada, 2022).

Furthermore, these multisensory interactions reinforce the role of therapeutic landscapes in creating restorative and inclusive environments that support both emotional and physical well-being. As such, sensory design becomes an essential strategy in developing outdoor spaces that foster tranquility and meaningful user experiences.

• MULTI-FUNCTIONAL YARDS FOR EDUCATION, CULTURE, & COMMUNITY

Courtyards and open yards increasingly function as social and academic environments that extend learning beyond traditional classroom boundaries. Their multifunctional nature enables activities such as reflection, discussion, collaboration, and cultural exchange, while simultaneously contributing to health and well-being through accessible outdoor environments (Juba & Bogenç, 2024; Alnusairat et al., 2022).

When carefully designed, such spaces become integral components of campus identity and significantly enhance the quality of students' daily experiences. Therefore, multifunctional courtyards should not merely accommodate movement and circulation, but should also support meaningful social and educational engagement.

• ENTREPRENEURIAL LANDSCAPE & SELF-SUSTAINING CAMPUSES

Landscape design can also support entrepreneurship through the integration of spaces for markets, pop-up stalls, exhibitions, and community-based activities. Such strategies contribute positively to local economic development while simultaneously creating opportunities for students to engage in entrepreneurial initiatives and practical learning experiences (Herlina & Wahira, 2024; Sălăgean Şoldan & Bejinaru, 2023).

Moreover, entrepreneurial landscapes ensure that open spaces remain active and socially engaging throughout the day. As illustrated in Figure 9, this approach aligns closely with sustainable campus models that emphasise financial self-reliance, social vitality, and long-term community sustainability.

• INCLUSIVE & ACCESSIBLE LANDSCAPE DESIGN

Inclusive landscapes incorporate universal design principles such as ramps, barrier-free circulation routes, tactile surfaces, and clear wayfinding systems in order to ensure accessibility for all users, including persons with disabilities.

Rather than being regarded solely as a regulatory requirement, accessibility is increasingly understood as an essential component of sustainable and human-centred design that promotes social equity, inclusivity, and community cohesion (Gramkow, Merit, & Stigsdotter, 2022). Consequently, accessible outdoor environments contribute not only to physical mobility but also to broader social participation and inclusiveness.

INTEGRATED RELATIONSHIP BETWEEN THERAPEUTIC, MULTIFUNCTIONAL, ENTREPRENEURIAL, AND INCLUSIVE LANDSCAPE DESIGN THROUGH THE CONCEPT OF ṬUMA'NĪNAH

The enhancement of Laman KAED through the concept of *ṭuma'nīnah* integrates therapeutic gardens and sensory design, multifunctional community spaces, entrepreneurial landscapes, and inclusive accessibility into a cohesive and holistic courtyard environment. The need for this concept arises from the current underutilisation of the courtyard, limited user engagement, lack of functional diversity, and insufficient environmental comfort within the space. In response, the proposed design seeks to transform Laman KAED into a more meaningful, restorative, and people-centred environment that supports the academic, social, emotional, and cultural needs of the IIUM community.

Therapeutic landscape elements such as greenery, shaded pathways, and sensory experiences promote tranquility, emotional well-being, and relaxation, while multifunctional spaces support learning, cultural interaction, recreation, and community engagement. Simultaneously, entrepreneurial features such as kiosks and event spaces contribute towards a self-sustaining campus environment by encouraging student participation and economic activities. These strategies are further strengthened through inclusive and accessible landscape design that ensures comfort, safety, and equal usability for diverse user groups. Collectively, the integration of these interconnected themes transforms Laman KAED into a restorative, socially vibrant, and sustainable communal space that reflects the values of harmony, inclusivity, and holistic well-being within the IIUM community.

CASE STUDIES

Several precedent studies as listed in Table 1,2,3, and 4 were analyzed to identify suitable design strategies relevant to the enhancement of Laman KAED through the concept of tuma'ninah. The selected case studies demonstrate how courtyards, urban parks, and multifunctional public spaces can successfully integrate social interaction, therapeutic landscapes, inclusivity, sustainability, and entrepreneurial activities. Furthermore, these precedents provide valuable insights into circulation planning, environmental comfort, accessibility, and spatial activation, which collectively inform the proposed design interventions for Laman KAED.

Case Study 1: Sheikh Nahyan Centre for Arabic Studies



Figure 7: Sheikh Nahyan Centre for Arabic Studies
(Source: ArchDaily, 2017)

Aspect	Description
Case Study	Sheikh Nahyan Centre for Arabic Studies
Location & Typology	Located at the University of Balamand, Lebanon, the Sheikh Nahyan Centre is designed around a central courtyard that functions as both an academic and social hub.
Users	Primarily utilized by students, educators, and visiting researchers for academic, social, and cultural activities.
Key Features	<ul style="list-style-type: none"> The courtyard supports informal learning, cultural exchange, and reflective activities. Passive ventilation strategies, local stone materials, and shaded seating enhance environmental comfort and sustainability. The building design responds sensitively to the site's natural slope, thereby reducing earthwork and environmental disturbance.
Design Significance	The Sheikh Nahyan Centre for Arabic Studies demonstrates how courtyards can function as multifunctional, sustainable, and inclusive gathering spaces that encourage interaction, well-being, and environmental responsiveness.

Case Study 2: Taman Kuliner Condong Catur



Figure 8: Taman Kuliner Condong Catur
(Source: NativeIndonesia, 2020)

Aspect	Description
Case Study	Taman Kuliner Condong Catur
Location & Typology	Located in Yogyakarta, Indonesia, Taman Kuliner Condong Catur is an entrepreneurial courtyard that integrates commercial activities with leisure and community gathering spaces.
Users	Primarily utilized by food vendors, families, youth, tourists, and local communities for dining, social interaction, and recreational activities.
Key Features	<ul style="list-style-type: none"> A central open courtyard integrated with food stalls and shaded seating creates a cohesive and welcoming environment. The spatial arrangement encourages communal dining, social interaction, and engagement among diverse user groups. The space provides opportunities for small businesses, temporary vendors, and student entrepreneurship activities.
Design Significance	Taman Kuliner Condong Catur demonstrates how open public spaces can function as entrepreneurial landscapes that support income generation while simultaneously fostering social interaction, community vibrancy, and cultural engagement.

Case Study 3: Taman Tasik Titiwangsa



Figure 9: Aerial View of Taman Tasik Titiwangsa
(Source: Shutterstock, 2022)

Table 3: President Study at Taman Tasik Titiwangsa

Aspect	Description
Case Study	Taman Tasik Titiwangsa
Location & Typology	Located in Kuala Lumpur, Malaysia, Taman Tasik Titiwangsa is a major urban recreational park redesigned to emphasize inclusivity, accessibility, and diverse recreational activities.
Users	Primarily utilized by families, joggers, cyclists, elderly visitors, differently-abled users, and tourists for recreation, leisure, exercise, and social interaction.
Key Features	<ul style="list-style-type: none"> • The park incorporates playgrounds, splash parks, cycling and jogging tracks, as well as lakeside decks that support recreational and community activities. • Shaded rest areas and extensive tree canopies improve thermal comfort, environmental quality, and biodiversity. • Inclusive design elements such as ramps, tactile paving, and accessible playgrounds enhance usability for diverse user groups, including persons with disabilities.
Design Significance	Taman Tasik Titiwangsa demonstrates how urban parks can successfully balance recreation, accessibility, and therapeutic landscape design, making it a valuable precedent for the development of inclusive and multifunctional courtyard environments.

Case Study 4: TRX City Park

Table 4: President Study at TRX City Park

Aspect	Description
Case Study	TRX City Park
Location & Typology	Located within Kuala Lumpur's Tun Razak Exchange (TRX) financial district, TRX City Park is a 10-acre elevated urban park that integrates leisure, ecology, and urban connectivity.
Users	Primarily utilized by office workers, residents, families, children, tourists, and differently-abled users for recreation, relaxation, social interaction, and community activities.
Key Features	<ul style="list-style-type: none"> • The park includes various recreational and social spaces such as Play City, Play Cave, splash areas, amphitheaters, and forest walk pathways. • Sustainable landscape strategies, including native planting, rain gardens, and bioswales, are incorporated to improve ecological performance and environmental resilience. • Universal accessibility is enhanced through clear wayfinding systems, barrier-free circulation, and strategically placed rest nodes that improve user comfort and inclusivity.
Design Significance	TRX City Park demonstrates how contemporary urban parks can successfully integrate multifunctionality, inclusivity, and ecological landscape design within dense urban environments, making it a relevant precedent for the enhancement of flexible and sustainable communal spaces.



Figure 10: Aerial View of TRX City Park
(Source: Oculus Landscape, 2024)

SITE ANALYSIS AND SYNTHESIS

• Circulation and Accessibility

The analysis revealed that the courtyard is located away from the primary circulation route, resulting in limited visibility and reduced user engagement. Existing pathways are relatively uninviting and lack ramps or barrier-free access for elderly users and persons with disabilities (OKU). Therefore, the introduction of clearer circulation systems, accessible pathways, and inclusive design interventions would significantly improve accessibility and encourage more frequent daily use.

• Zoning and Space Utilization

Large portions of the courtyard currently remain underutilized due to the absence of clearly defined spatial zoning and activity areas. As a result, the courtyard lacks spatial identity and functional diversity. Establishing designated zones for cultural, educational, entrepreneurial, and recreational activities would therefore contribute towards activating the space and improving overall user engagement.

• Entrepreneurial and Cultural Opportunities

At present, the site lacks facilities that support student entrepreneurship or cultural activities. Consequently, opportunities for economic engagement and cultural interaction remain limited. The incorporation of kiosks, exhibition spaces, and cultural display areas could create income-generating opportunities while simultaneously strengthening KAED's institutional identity and community presence.

• Comfort & Microclimate

At present, the site lacks facilities that support student entrepreneurship or cultural activities. Consequently, opportunities for economic engagement and cultural interaction remain limited. The incorporation of kiosks, exhibition spaces, and cultural display areas could create income-generating opportunities while simultaneously strengthening KAED's institutional identity and community presence.

DESIGN CONCEPT

TUMA'NINAH (PAUSE)

The concept of Tuma'ninah, rooted in the notion of serenity and inner peace, responds directly to the need for therapeutic and restorative spaces within the intensity of campus life. Similar to a sensory garden that engages multiple human senses, the proposed design offers a retreat where students and staff may experience relief, reflection, and emotional rejuvenation.

Natural elements such as trees, greenery, water features, and shaded walkways are carefully integrated to create an environment that calms both the body and mind, thereby extending the courtyard's role beyond purely functional use. By stimulating the senses of sight, sound, smell, touch, and taste, the space encourages mindfulness and a deeper connection with nature.

Furthermore, the organic spatial arrangement, inclusive pathways, and multifunctional landscape elements embody harmony, balance, and tranquility, transforming the courtyard into a meaningful environment for learning, interaction, healing, and reflection.

Inspired by Surah Ar-Ra'd (13:28), which reminds believers that hearts find peace through the remembrance of Allah, the proposal aspires to establish a sanctuary where knowledge, culture, spirituality, and community coexist harmoniously in continuity and peace.

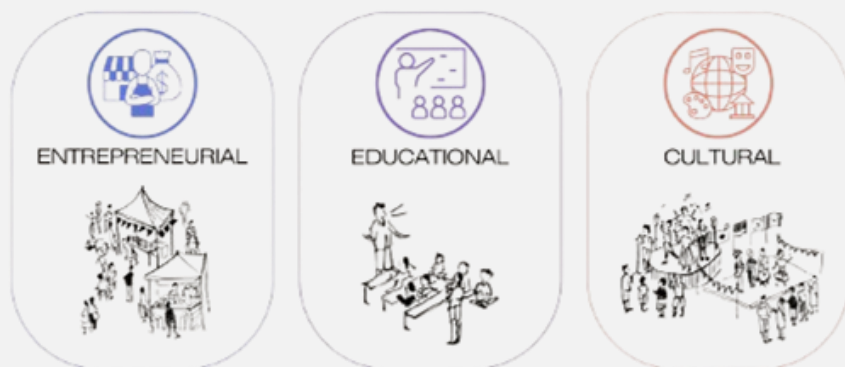


Figure 11: The Design Strategies For Landscape Design of Laman KAED.
 (Source: Authors)

Additionally, as illustrated in Figure 12 and 13 the ideation and design development of the design concept emphasizes the integration of nature, movement, and human interaction through shaded pathways, sensory planting, water elements, and flexible communal spaces that encourage relaxation, reflection, and social engagement. At the same time, as illustrated in Figure 11, the proposal supports multifunctionality by incorporating areas for academic, cultural, recreational, and entrepreneurial activities, thereby transforming Laman KAED into a dynamic and restorative environment that balances tranquility, functionality, and community interaction.

DESIGN DEVELOPMENT

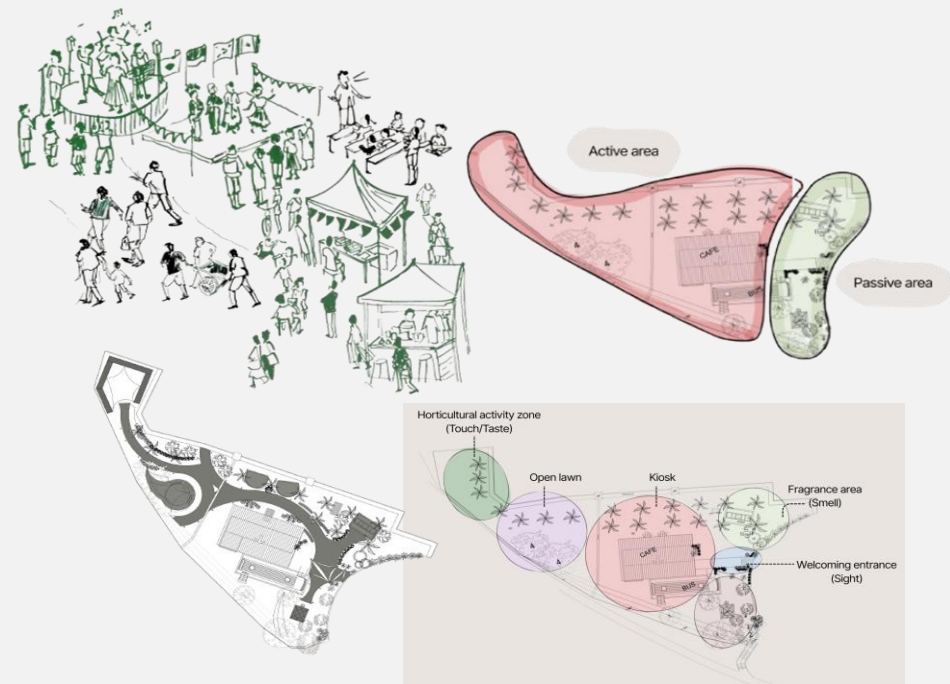


Figure 12: Design Ideation
 (Source: Authors)

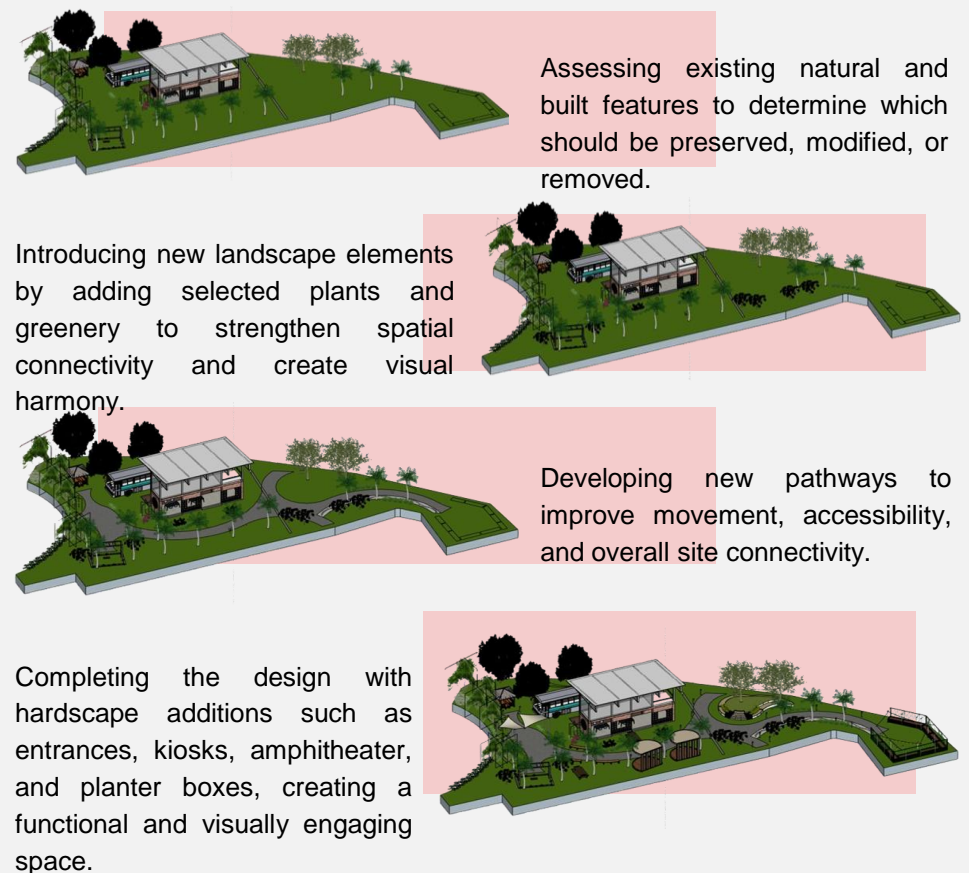


Figure 13: Design Development
 (Source: Authors)

DESIGN FINALISATION

The final design proposal for Laman KAED revolves around the concept of “A Pause Beyond the Expected: A Therapeutic Garden Experience”, symbolizing seamless access to spaces of rest, reflection, and social interaction that are open and welcoming to all users. The courtyard functions as a restorative hub that supports well-being, creativity, and knowledge-sharing while bringing the IIUM community together within a calming and inclusive environment as illustrated in Figure 14 until 29. The essence of peace and therapeutic healing is expressed through the integration of landscape elements, sensory experiences, and architectural structures that collectively create a tangible atmosphere of tranquility.

Furthermore, the design successfully fosters meaningful social interaction, strengthens community belonging, and enhances emotional well-being through inclusive and multifunctional spaces. Ultimately, the proposal transforms the courtyard into an engaging and restorative environment that responds to the evolving social, cultural, and psychological needs of the university community.



Figure 14: Entrance of Laman KAED



Figure 15: Kiosk
(Source: Authors)

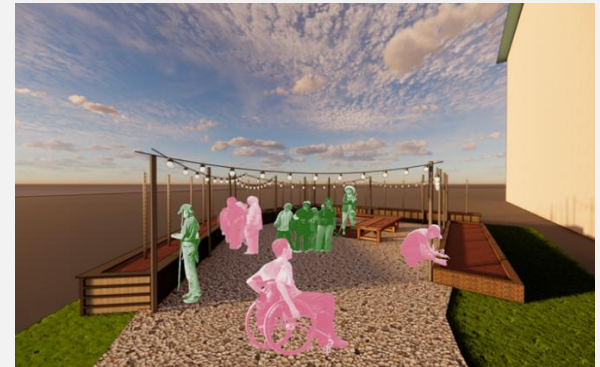


Figure 16: Horticultural Area
(Source: Authors)



Figure 17: Swing
(Source: Authors)



Figure 18: Gazebo
(Source: Authors)



Figure 19: Open Lawn
(Source: Authors)



Figure 20: Reflexology Path
(Source: Authors)



Figure 21: Tensile Structure
(Source: Authors)



Figure 22: The Perspective View of The Laman KAED
(Source: Authors)

ELEVATION AND SECTION DRAWINGS



Figure 23: Masterplan
(Source: Authors)



Figure 24: Front Elevation
(Source: Authors)



Figure 25: Rear Elevation
(Source: Authors)



Figure 26: Left Elevation
(Source: Authors)



Figure 27: Right Elevation
(Source: Authors)



Figure 28: Section X-X'
(Source: Authors)



Figure 29: Section Y-Y'
Source: Authors)

COST ESTIMATION

DETAILED COST BREAKDOWN

Listed in Table 5 is the detailed cost breakdown demonstrates a balanced allocation of the project budget across key components such as landscape enhancement, functional facilities, accessibility improvements, infrastructure, and supporting amenities. A significant portion of the budget is dedicated to landscape and environmental works, reflecting the project's emphasis on creating a therapeutic and environmentally responsive courtyard that aligns with the concept of *tuma'ninah*. At the same time, allocations for kiosks, seating areas, pathways, lighting, and communal spaces highlight the project's commitment to improving functionality, inclusivity, and social interaction. Overall, the cost distribution indicates a strategic financial approach that prioritizes user comfort, sustainability, and long-term usability while supporting the transformation of Laman KAED into a vibrant and multifunctional campus environment.

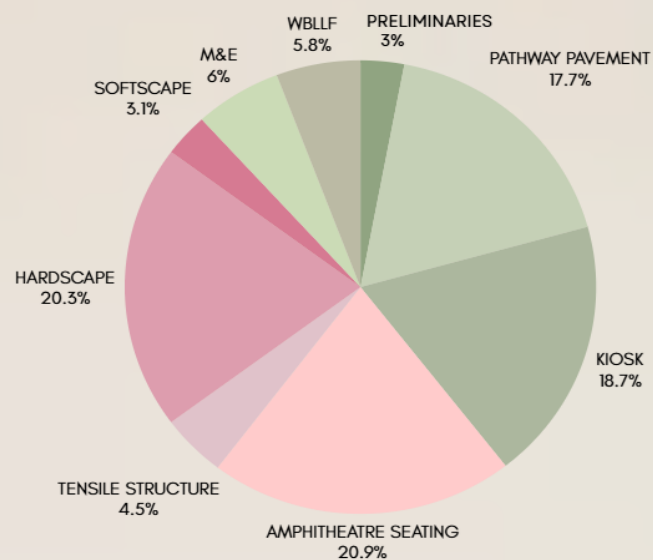
As illustrated in Figure 34 the pie chart of the cost breakdown provides a clear visual representation of the distribution of the total project expenditure across the major work categories. The largest percentage is allocated to landscape and environmental enhancement works, highlighting the project's strong emphasis on creating a therapeutic, comfortable, and sustainable outdoor environment. Meanwhile, other allocations towards functional facilities, accessibility improvements, infrastructure, and supporting amenities demonstrate the project's balanced approach in addressing both aesthetic and practical needs. Overall, the chart reflects a well-planned financial strategy that supports the development of an inclusive, multifunctional, and environmentally responsive courtyard for the KAED community.

To summarize, the detailed cost breakdown table and pie chart collectively illustrate the allocation of the overall project budget across major components such as landscape enhancement, functional facilities, accessibility improvements, infrastructure, and supporting amenities. A substantial portion of the expenditure is dedicated to landscape and environmental works, reflecting the project's strong focus on creating a therapeutic, sustainable, and comfortable outdoor environment aligned with the concept of *tuma'ninah*. At the same time, the allocation for kiosks, communal spaces, pathways, lighting, and accessibility features demonstrates a balanced approach towards improving functionality, inclusivity, and user experience. Overall, both the table and pie chart indicate a strategic and well-distributed financial planning approach that supports the transformation of Laman KAED into a multifunctional, engaging, and environmentally responsive campus space.

Table 5: Detailed Cost Breakdown

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (RM)	AMOUNT
A1	PRELIMINARIES				
A2	TURFING/ GRASS AREA/ FLOWER				
A3	CLEARING / CLEANING / TIDYING AREA (GOOD)				
A4	RUBBISH AND DISPOSAL				
A5	EXISTING UTILITIES & METERING				
B WORK BELOW SUNKET FLOOR/ FLOOR					SUBTOTAL RM 2,982.00
B1	BROKEN TERAZO	M2	20	RM 5.15	103.20
B2	GRANITE (T)	M2	31	RM 6.25	193.75
B3	DRAIN TECH COVER (B.M)	M2	14	RM 6.60	92.40
B4	SANDA FACE (RUBBER BAR)	M2	202	RM 6.60	1,333.20
B5	CONCRETE KERB (150X150MM)	M	8	RM 45.00	360.00
B6	CONCRETE KERB AND ROAD KERBING	M2	11	RM 20.00	220.00
B7	ROAD SUBBASE AND HARD BASE	M3	111	RM 8.25	915.75
B8	CONCRETE	M3	23	RM 78.00	1,794.70
C PATHWAY/ PAVEMENT					SUBTOTAL RM 1,298.50
C1	EXPOSED	M2	1	RM 302.00	302.00
C2	EXPOSED CONCRETE AGGREGATE	M2	35	RM 45.18	1,581.30
C3	INTERLOCKING CYME	M2	20	RM 64.17	1,283.40
C4	KERBING	M	342	RM 5.50	1,881.00
D WORK					SUBTOTAL RM 5,662.00
D1	CONCRETE SEAT (E) COLOUR	M2	1	RM 180.00	180.00
D2	STAIR (TERRACE) AND HAND RAIL	KG	283	RM 2.60	735.80
D3	RAIN BAR	M2	12	RM 22.00	264.00
D4	GABION WALL	M3	9	RM 22.00	298.00
D5	BOULDER	M3	12	RM 61.00	732.00
D6	WATER	M	26	RM 11.00	286.00
D7	LOG	M3	15	RM 32.64	489.60
D8	ROCK CLADDING	M2	18	RM 24.50	441.00
D9	WALL	M2	10	RM 81.13	811.30
D10	TASCA BOND	M2	2	RM 81.13	162.26
D11	WOVEN BAMBOO	M2	5	RM 11.33	56.65
D12	PLATED PARK BOARD	M2	21	RM 31.76	667.00
D13	TIMBER DECK	M2	14	RM 70.11	981.54
E AMPHITHEATRE SEATING					SUBTOTAL RM 4,521.32
E1	GEOTEXTILE	M2	4	RM 15.33	61.32
E2	GEOMEMBRANE	No.	26	RM 102.31	2,661.96
E3	GABION MATTRESS	M2	21	RM 183.15	3,844.15
E4	CONC. WALL AND GABION (M3)	M2	11	RM 123.45	1,357.95
E5	CONC. PLANTER BOX CACING AND MEITEEL	M	7	RM 24.76	173.32
E6	BOTTING 19 VOLUME TIMBER CAP	M2	44	RM 2.04	89.76
E7	RAISED PLANTER AND BAMBOO	M2	9	RM 22.54	202.86
E8	ARTIFICIAL TURFING	M2	8	RM 21.50	172.00
E9	TIMBER SEATING/CAP	M2	2	RM 251.66	503.32
E10	WOVEN BAMBOO	M2	5	RM 11.33	56.65
F TIMBER STRUCTURE					SUBTOTAL RM 2,189.96
F1	SHS GALVANISED STEEL PIPE	No.	12	RM 124.13	1,489.56
F2	SPANDEK STEEL DECKING WITH CONNECTION	No.	12	RM 32.83	393.96
F3	BAMBOO CLUMP AND CEILING	No.	5	RM 61.33	306.44
G HARDSCAPE					SUBTOTAL RM 2,584.94
G1	DRAIN COVER 1.8M	No.	26	RM 13.33	346.58
G2	CAMPER BENCH	No.	24	RM 1,472.25	4,046.00
G3	SIGNAGE	No.	1	RM 561.33	561.33
G4	PICNIC KET BAMBOO TABLE		LUMP SUM	RM	3,354.00
G5	MOTORISED SWING CHAIR		LUMP SUM	RM	2,100.00
G6	ILLUMINATEH 200W			RM	207.03
H SOFTSCAPE					SUBTOTAL RM 6,219.28
I TREES					
H1A	PTEROCARPA CHINOPHORA	No.	21	RM 11.00	231.00
H1B	CHOISIA/ HONGKONG	No.	24	RM 9.00	216.00
H1C	DELIMA/ MAKETAN	No.	24	RM 12.10	290.40
H1D	MURRAY P	No.	4	RM 21.00	84.00
H2 PALMS					
H2	LICUALA GRANDIS	No.	8	RM 14.50	116.00
H3 SHRUBS					
H3A	PLUMBAGO ZINGRAPH	No.	6	RM 17.32	103.92
H3B	ROSA ROXBURGHII	No.	11	RM 13.79	151.69
H3C	JASMINE	No.	27	RM 7.20	194.40
H3D	TUMBUH LAMPUCOLA	No.	6	RM 9.89	59.34
H4	GROUND COVER	No.	8	RM 3.14	25.12
I MECHANICAL AND ELECTRICAL					SUBTOTAL RM 1,624.57
I LIGHTING					
I1A	STRING LIGHT WITH SOLAR	No.	8	RM 63.50	508.00
I1B	SIMPLE LIGHT WITH SOLAR	No.	81	RM 18.50	1,498.50
I1C	STRIP LIGHT WITH SOLAR 3BH	No.	62	RM 18.70	1,159.40
I1D	STRIP LIGHT WITH SOLAR 5BM	No.	1	RM 134.13	134.13
TOTAL RM 29,613.27					
TECH. RM 296.13					
BALANCE RM 0.00					

COST BREAKDOWN



RM 50 000.00

PRELIMINARIES	RM 1 500.00
WBLFF	RM 2 914.01
PATHWAY PAVEMENT	RM 8 906.75
KIOSK	RM 9 422.04
AMPHITHEATRE SEATING	RM 10 484.23
TENSILE STRUCTURE	RM 2 269.38
HARDSCAPE	RM 10 179.24
SOFTSCAPE	RM 1 561.19
M & E	RM 2 763.16

Figure 30: Cost Breakdown
(Source: Authors)

CONCLUSION

This paper has presented the findings and design outcomes related to the enhancement of Laman KAED through the concept of *tuma'ninah*. By addressing the courtyard's existing shortcomings, the proposal transforms a previously neglected and underutilized space into an environment that promotes tranquility, therapeutic value, and meaningful social interaction.

The redesign introduces open, inclusive, and multifunctional spaces that encourage participation, collaboration, and community engagement. Simultaneously, the incorporation of improved materials, landscaping strategies, and environmentally responsive design interventions enhances both the aesthetic quality and functional performance of the courtyard.

Moreover, the revitalization not only reactivates the physical environment of Laman KAED but also strengthens its role as a practical, engaging, and restorative setting for the IIUM community. Ultimately, the enhanced courtyard stands as a welcoming and therapeutic environment capable of supporting the evolving needs of students and staff while fostering well-being, inclusivity, and social cohesion.

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Lecturers

1. Asst. Prof. Dr. Siti Noorfairus Che Abdullah (Department of Applied Arts and Design)
2. Asst. Prof. Sr. Dr. Masidah Abdul Majid (Department of Quantity Surveyor)
3. Asst. Prof. Sr. Roziha Che Haron (Department of Quantity Surveyor)
4. Asst. Prof. Raja Intan Suhaylah Raja Abdul Rahman (Department of Applied Arts and Design)
5. Nur Ulfah Awatif Umairah Alias (Department of Architecture)

Table 6: List of Students

No.	Students Name	Matric
1	AHMAD HADI HADRI BIN ZAINUDDIN	2310583
2	IRDHINA ZAHIRA BINTI FAHMI	2310772
3	FARAH DIYANA BINTI RAJMAN	2310966
4	NAJLA IRDINA AL-FAHMI BINTI KHAIRIL AMRAN	2311224
5	NURUL IMAN NAFISAH BINTI SUHAIMI	2311390
6	MUHAMAD HAFIZAN BIN MAT HASAN	2311507
7	HAJAR ARIFAH BINTI ROSDI	2224400
8	NUR ANIS NADHIRAH BINTI AMIR RAMADZAN	2226598
9	NADHIRAH AFIFAH BINTI MUHAMAD	2229088
10	MUHAMMAD AIMAN BIN NASRUDDIN	2310091
11	FARAH NUR ILHAMI BINTI EKHSAN	2310262
12	RAJA NAILY QISTINA BINTI RAJA ISKANDAR SHAH	2310478
13	FAIQ DANISH BIN FADZIL	2211349
14	NURUL ATIQA AH AYUNI BINTI AHMAD FAIZOL	2211510
15	NUR FATIN ZAFIRAH BINTI MOHAMAD NISFU	2212322
16	ZAHLIA MAETHILDA BINTI ZULKARNAIN	2212636
17	NUR ADRIANA ALYA BINTI RUSMAN @ MAN	2212842
18	NUR ANNISSA BALQIS BINTI AZIZ	2212538

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09

REVIVING SOULS: ENHANCING LAMAN KAED AS COMMUNAL PUBLIC SPACES IN UNIVERSITY

Muhammad Alif Mohd Hisham, *Raja Intan Suhaylah, Roziha Che Haron,
Nur Ulfah Awatif Umairah Alias, Masidah Abdul Majid, Siti Noorfairus Che Abdullah
Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia

ABSTRACT

The project aims to revive and revitalize Laman KAED at the Kulliyah of Architecture and Environmental Design (KAED), International Islamic University Malaysia (IIUM), transforming it into a vibrant hub that promotes interaction, creativity, and spiritual grounding. Bayu Bentala Corporation envisions this space as a reflection of KAED's identity, embodying the harmony between nature, humanity, and divine principles while supporting academic and social development. The design emphasizes inclusivity, sustainability, and Shariah compliance. Proposed innovations include paved walkways for improved circulation, kiosks as income generating elements for KAED, and a stage to foster engagement between lecturers and students. Together, these interventions seek to create a multifunctional, aesthetically pleasing, and meaningful environment. Finally, this initiative aspires to establish Laman KAED as an iconic landmark that represents the Kulliyah's architectural excellence while nurturing a sense of belonging and community.

Keywords: Laman KAED, Social Development, Interaction, Sustainability, Shariah Compliance

*Corresponding author: rajasuhaylah@iium.edu.my

INTRODUCTION

Aesthetic and vibrant gathering spaces are vital for students as they foster interaction, creativity, and a sense of belonging while supporting mental well-being and academic engagement. Efficient use of space ensures inclusivity and sustainability, with multi-purpose areas accommodating diverse activities in line with Shariah compliance. In this context, KAED aims to transform the existing Laman KAED into a sustainable landscape that reflects its architectural identity and values by harmonising nature, humanity, and divine principles. As illustrated in Figure 1 the proposed interventions such as paved walkways, kiosks as income-generating elements, and a stage for lecturer-student interaction will enhance circulation, encourage community participation, and establish the courtyard as a multifunctional hub that supports both academic excellence and social development.

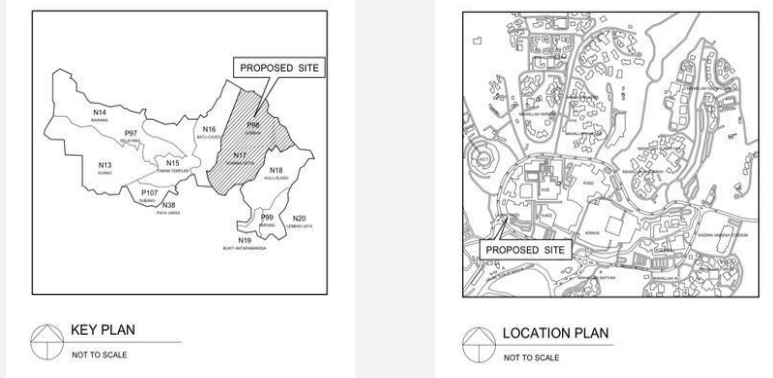


Figure 1: Key and Location Plan
(Source: Authors, 2025)

METHODOLOGY

Figure 2 shows the process undertaken to achieve the design project's objectives. The process began with a thorough literature review, followed by site analysis, precedent study and design concept. Followed by consultation sessions with the supervisor, the design was finalised. Finally, documented all processes and design in E-magazine and the multimedia presentation.

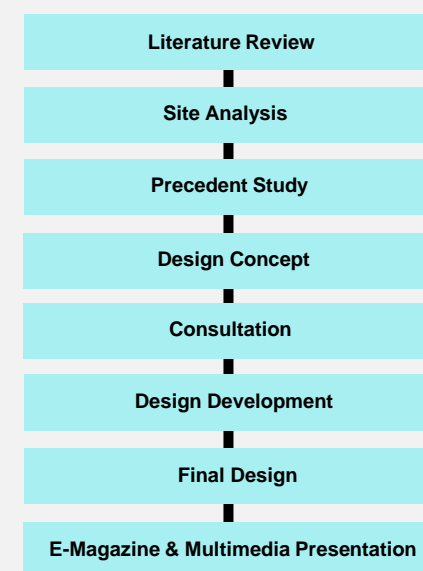


Figure 2: Research Methodology Chart
(Source: Authors, 2025)

LITERATURE REVIEW PLACEMAKING AND THE ROLE OF COMMUNAL SPACES IN MALAYSIA

Recent studies show that well-designed communal spaces in Malaysia provide social, environmental, and psychological benefits when supported by sustainable planning. Tharim et al. (2023) highlight how biophilic strategies implemented in Malaysian green-rated office buildings improved user comfort and enhanced environmental resilience. Similarly, Manan, Artha, and Putri (2025) examined public perception of biophilic design in Kuala Lumpur high-rise buildings, finding that natural integration positively shaped how users engaged with urban communal environments. These findings reinforce that communal spaces, when embedded with ecological and cultural sensitivity, can foster vibrant interactions and long-term usability.



Figure 3: Dataran Merdeka's New Pedestrian Upgrades
(Source: My Kuala Lumpur Pass, 2024)

WELLBEING AND COGNITIVE BENEFITS OF BIOPHILIC CAMPUS SPACES

Recent research underscores how biophilic and restorative environments on campuses can significantly enhance wellbeing and cognitive function. Thani (2024) demonstrated that student engagement in biophilic landscapes fostered restorative experiences that improved focus and prolonged interaction with communal spaces. Similarly, Sakip (2024) highlighted that biophilic elements in university libraries not only enhanced cognitive performance but also contributed to stress reduction and greater academic productivity. Zamri (2025) further noted that such design interventions directly alleviate stress, depression, and anxiety, reinforcing the mental health value of natural integration in campus settings. Collectively, these findings suggest that embedding restorative and biophilic qualities into campus communal areas transforms them into living laboratories that support both academic excellence and holistic student wellbeing.



Figure 4: University of Malaya Rimba Ilmu Biophilic Communal Space
(Source: Hati NGO, 2025)

BIOPHILIC DESIGN AND STRATEGIES FOR REVIVING CONNECTION WITH NATURE

Biophilic design has gained momentum globally and locally as a way to strengthen user connection with nature while improving mental and physical health. Tekin et al. (2025) identified key gaps and emerging trends in biophilic design research, noting its capacity to restore psychological wellbeing and enhance built environment sustainability. Khan (2025) further emphasized that integrating elements such as greenery, daylight, and natural ventilation fosters human sensory comfort and reduces stress. In the Malaysian context, Zahir (2024) explored how biophilic architectural features in Geoffrey Bawa's works reshaped spatial perception, reinforcing the relevance of culturally rooted nature–architecture integration. Together, these studies show that reconnecting architecture with nature enhances healing, restoration, and environmental performance.



Figure 5: Biophilic Design Integration
(Source: Bonaiuto et al., 2025)

MANAGEMENT CHALLENGES IN REVITALISING PUBLIC COMMUNAL SPACE

While communal spaces offer multiple benefits, their quality is often undermined by governance and maintenance gaps. Zamri (2025) emphasizes that under-maintained environments exacerbate stress, anxiety, and reduced wellbeing, particularly in dense urban settings. Likewise, Syafinaz and Md Sidik (2025) argue that Malaysian urban public spaces need structured biophilic interventions and stronger community involvement to overcome issues such as poor upkeep, limited coordination, and declining user participation. Collectively, these findings suggest that addressing management challenges through co-management and nature-based strategies can ensure sustained engagement.



Figure 6: Abandoned Skatepark in a Malaysian Forest
(Source: Publicly documented, Selangor, 2025)

PRECEDENT STUDIES AND CASE STUDIES

CROSSRAIL PLACE ROOF GARDEN, CANARY WHARF, LONDON, UNITED KINGDOM



Figure 7: Crossrail Place Roof Garden
(Source: Google)



Figure 8: Crossrail Place Roof Garden's
Multifunctional Green Roof Strategy
(Source: Google)

Located above the Crossrail station in Canary Wharf, the Crossrail Place Roof Garden is an innovative green space that fuses nature and architecture. Designed by Foster + Partners and Gillespies, the garden is enclosed in a striking timber lattice roof, creating a sheltered environment that supports a unique blend of Eastern and Western plant species, which reflect the site's location on the Prime Meridian line. The space is more than just a garden, it includes seating areas, performance spaces, and winding walkways that invite exploration. It's a peaceful sanctuary in one of London's busiest financial districts, offering both commuters and visitors a refreshing pause amidst the urban rush.

GARDEN OF COSMIC SPECULATION, DUMFRIESSHIRE, SCOTLAND



Figure 9: Garden of Cosmic Speculation's
Landscape
(Source: Google)



Figure 10: Garden of Cosmic
Speculation's Curves Design
(Source: Google)

The Garden of Cosmic Speculation, created by landscape architect and theorist Charles Jencks, is a remarkable private garden that integrates science, philosophy, and art into its landscape design. Spanning over 30 acres, it features a range of imaginative sculptures, geometrically designed earthworks, fractals, black holes, and DNA-inspired elements, that each representing concepts from the universe and human understanding of space and time. The garden's flowing curves and mathematical symmetry are not only visually stunning but also intellectually stimulating. Though only open to the public one day a year, it has become globally renowned as one of the most thought-provoking gardens in the world.

TRX CITYPARK, KUALA LUMPUR, MALAYSIA



Figure 11: TRX Citypark Garden
(Source: Google)



Figure 12: TRX Citypark - Birdview
(Source: Google)

TRX City Park is a landmark public park located at the heart of Kuala Lumpur's new international financial district, the Tun Razak Exchange. Spanning 10 acres, the elevated park was designed to seamlessly integrate green spaces with the urban skyline. It offers wide open lawns, tree-lined promenades, shaded rest areas, and sustainable rainwater management systems. The landscape incorporates local flora and eco-friendly materials, creating an inviting space for both leisure and community activities. Surrounded by iconic skyscrapers, the park functions as the "green lung" of the city, enhancing the quality of life and urban biodiversity while promoting healthy, outdoor living in the city center.

TAMAN TASIK TITIWANGSA, SELANGOR, MALAYSIA



Figure 13: Taman Tasik Titiwangsa's
Reflective Water
(Source: Authors, 2025)



Figure 14: Taman Tasik Titiwangsa's
Jogging Paths
(Source: Authors, 2025)

Taman Tasik Titiwangsa is one of Kuala Lumpur's most iconic recreational parks, offering a serene escape in the middle of the bustling capital. Centered around a scenic lake with views of the KL skyline, the park covers over 95 hectares and features lush green landscapes, cycling and jogging paths, water activity zones, children's playgrounds, and reflective water bodies. A recent revitalization project introduced modern features such as interactive water fountains, dedicated sports areas, and improved accessibility, making it even more family-friendly and inclusive. The park is a cherished green space where residents and tourists alike gather for exercise, picnics, or simply to enjoy nature within the urban environment.

Figure xx

SITE ANALYSIS

Laman KAED is an open communal courtyard located within the Kulliyah of Architecture and Environmental Design (KAED) at the International Islamic University Malaysia, Gombak Campus. Its strategic location positions it as a key transitional node for students and staff. Pedestrian movement remains constant throughout the day. The physical characteristics of the site reveal a gently sloping terrain with a mix of hardscaped walkways and soft landscape elements such as lawns and scattered trees. While this open layout allows for flexibility of use, the space currently lacks defined programmatic functions that would strengthen its role as an active communal hub within the kulliyah.



Figure 15: Laman KAED's Entrance



Figure 16: Students Activity at Pavillion at Laman Kaed

In terms of climate, the location is representative of the usual tropical climate of Malaysia, where high temperatures, high humidity, and a lot of rain affect outdoor comfort. Laman KAED's openness permits a certain amount of natural ventilation, but the lack of flora and shade structures leads to extended exposure to sunshine and precipitation, discouraging extended occupation. Although they partially shade the adjacent buildings, some of them also block cross-ventilation. These environmental considerations emphasize how crucial it is to incorporate sustainable design elements, such tree planting, water-sensitive landscaping, and covered pavilions, to enhance the site's microclimatic resilience and comfort.

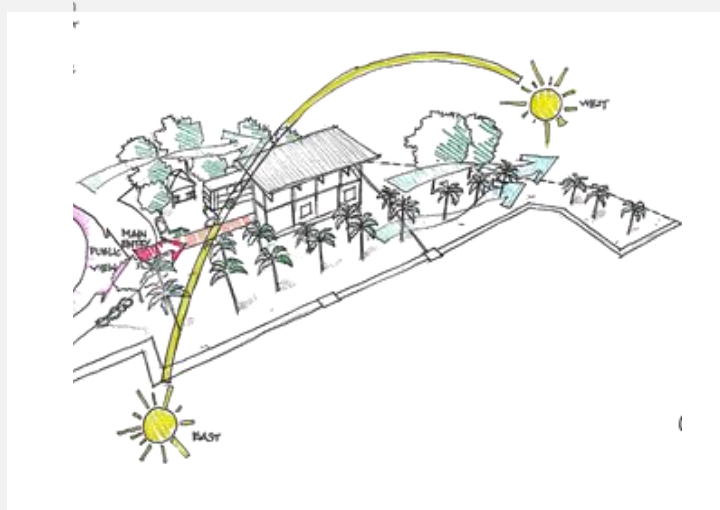


Figure 17: Sun Path Study of Laman KAED
 (Source: Authors, 2025)

In terms of usage and potential, Laman KAED is primarily employed as a spillover area for informal discussions, student activities, and circulation, yet its spatial and environmental qualities suggest broader opportunities. A comprehensive site analysis indicates that the space could be transformed into a dynamic micro-community hub by addressing current weaknesses, such as limited seating, shading, and functional diversity. Through careful planning and design, the site may evolve into a living laboratory for sustainability and creativity, aligning with KAED's academic vision while enhancing the overall student experience. This positions Laman KAED not only as a transitional courtyard but as an integral element of the Kulliyah's identity, contributing to IIUM's aspiration of holistic, sustainable, and experiential learning environments.



Figure 18: Laman KAED's Seatings
 (Source: Authors, 2025)



Figure 19: Laman KAED's Decking
 (Source: Authors, 2025)

SWOT ANALYSIS

Table 1: SWOT Analysis

Categories	Description
Strength	The site has a natural gradient terrain suitable for landscaping, allowing ease of pedestrian movement.
Weakness	Current cultural uses are scattered with no structured events to consistently highlight KAED culture.
Opportunity	The site's rich plant biodiversity and calming environment can create an educational nature park.
Threat	The nearby drainage, while currently not a problem, could produce odours if maintenance declines during certain weather conditions.

DESIGN CONCEPT REVIVING SOULS

The concept of Reviving Souls reimagines Laman KAED as a lively and sustainable space that transforms an underutilized site into a hub for learning, creativity, and community engagement. Rooted in the idea of renewal, this concept emphasizes reinstating the space's fundamental functions such as facilitating interaction, nurturing creativity, and supporting academic and social learning. It seeks to reconnect people with the site, restore its memory and social value, and harmonize the presence of nature within the KAED environment.

The design objectives highlight reconnecting users through layered spatial experiences, generating a sustainable source of income for KAED, and restoring the space's functionality for daily usability. To achieve this, the spatial strategy focuses on revival through temporal adaptability, where multifunctional structures cater to diverse activities; regenerative elements, such as a rainwater-fed greenhouse, ensure ecological resilience; and material transformation turns raw, unused surfaces into inviting and functional platforms.

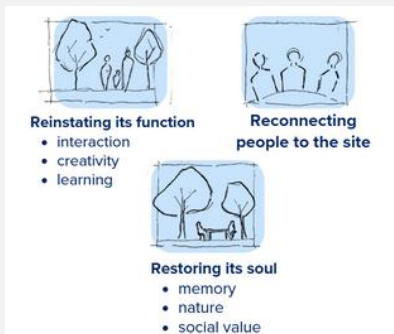


Figure 20: Core Ideas
 (Source: Authors, 2025)



Figure 21: Design Objectives
 (Source: Authors, 2025)

Stylistically, the project adopts an industrial-biophilic approach, integrating exposed structural elements with natural features. Passive water systems, strategic planting, and structural integration embody a design language that bridges human activity and environmental awareness. These interventions allow the site to evolve as both a practical and symbolic place of gathering, grounded in Islamic values. The essence of Revive resonates with the verse from Surah Al-Baqarah (2:261) emphasizes the concept's spirit of growth, generosity, and multiplication of benefits, where a modest intervention blossoms into manifold outcomes that is academic excellence, community strength, and spiritual enrichment.

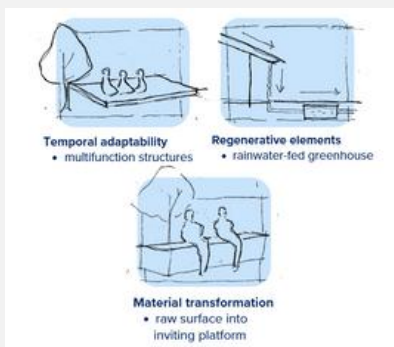


Figure 22: Spatial Strategy as Revival
 (Source: Authors, 2025)

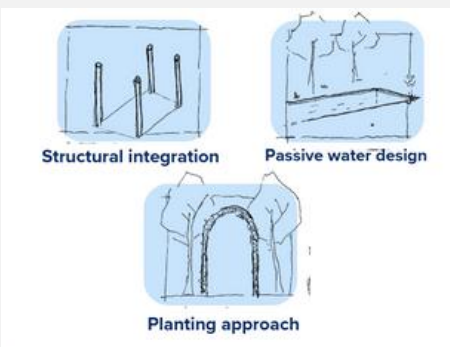


Figure 23: Industrial Biophilic Styling
 (Source: Authors, 2025)

DESIGN DEVELOPMENT

1) ZONING AND BUBBLE DIAGRAM

The zoning divides the site into the pocket garden, multipurpose area, commercial zone, and parking for clear functional separation. Each zone is placed to maximize accessibility and minimize conflict between uses. The bubble diagram develops this further by adding activity nodes such as seating, kiosks, bicycle parking, and water features. All nodes are connected with clear circulation routes to create a smooth and engaging user flow.

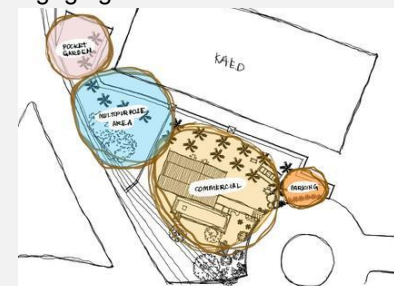


Figure 24: Laman KAED's Zoning
 (Source: Authors, 2025)

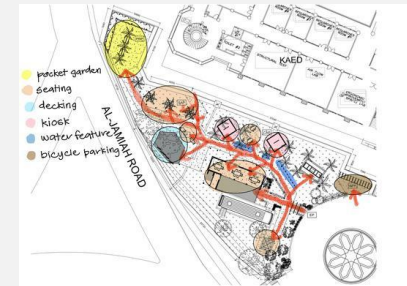


Figure 25: Laman KAED's Bubble Diagram
 (Source: Authors, 2025)

2) GRIDLINE AND SPACE PLANNING

A gridline system is introduced to provide structure and proportion to the layout. It organizes pathways, seating, and kiosks into a balanced rhythm across the site. Space planning ensures the multipurpose area remains central with other functions arranged around it. This stage creates a practical and flexible plan that can adapt to different activities.

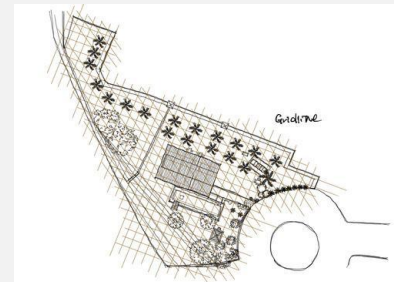


Figure 26: Laman KAED's Gridline
 (Source: Authors, 2025)

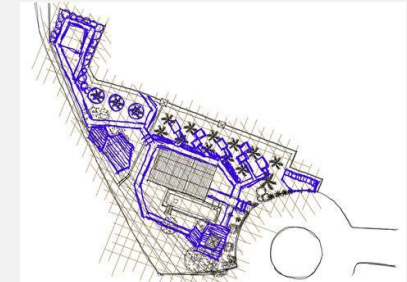


Figure 27: Laman KAED's Space Planning
 (Source: Authors, 2025)

3) FINAL DESIGN

The final design combines zoning, bubble diagrams, and gridlines into a cohesive layout. Circulation is clear and connects the entrance, commercial spaces, multipurpose hub, and pocket garden seamlessly. Landscape and water features are distributed to create comfort, harmony, and visual interest. The result is a sustainable and inclusive design that supports both daily use and community events.

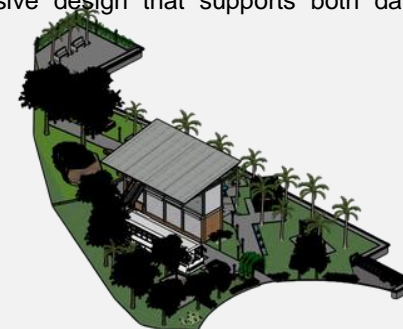


Figure 28: Laman KAED's Final Design
 (Source: Authors, 2025)

8.0 DESIGN FINALISATION

This concept of Reviving Souls in these student spaces revolves around fostering a collaborative and inspiring environment where ideas can thrive. These spaces are intentionally designed to cater to various activities that support idea generation, such as self-study, group discussions, and moments of rest. Additionally, they allow students to engage with and appreciate the work of others, further fueling creativity. By accommodating diverse interests and needs, the spaces create a dynamic ecosystem that encourages students to connect with ideas and each other, ultimately enhancing their academic and personal growth.



Figure 29: Exterior perspective of Laman Kaed



Figure 30: Exterior perspective of Laman Kaed



Figure 31: Exterior perspective of Laman Kaed



Figure 32: View of Kiosks at Commercial Area



Figure 33: View of Stage at Multipurpose Area



Figure 34: View of Seating at Multipurpose Area



Figure 35: View of Pocket Garden



Figure 36: View of Arches at Entrance



Figure 37: Bird's-eye perspective view

Figure 29 to 37 shows the perspective views of the Laman KAED
(Source: Author)

TECHNICAL DRAWINGS

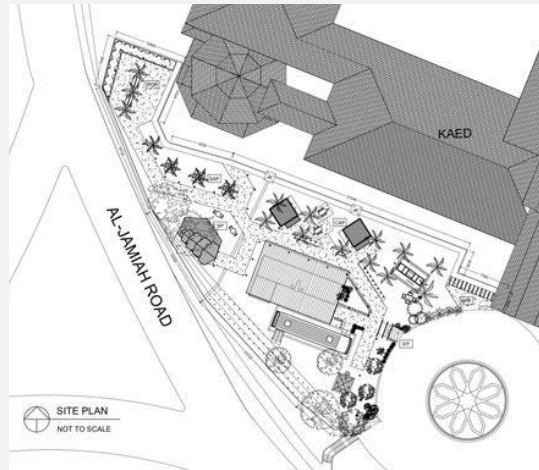


Figure 38 : Site Plan

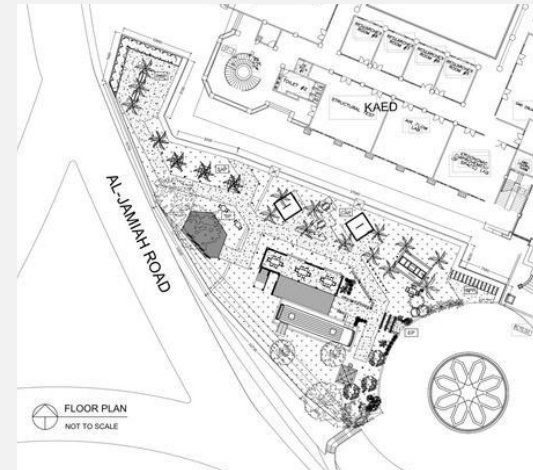


Figure 39 : Floor Plan



Figure 40 : Front Elevation

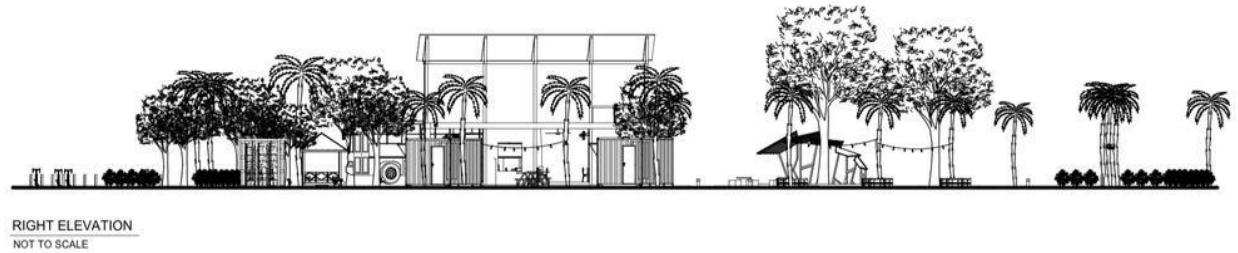


Figure 41 : Right Elevation



Figure 42 : Rear Elevation



Figure 43 : Left Elevation

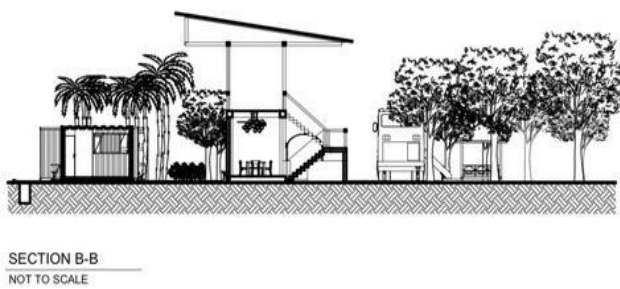


Figure 44 : Section B-B

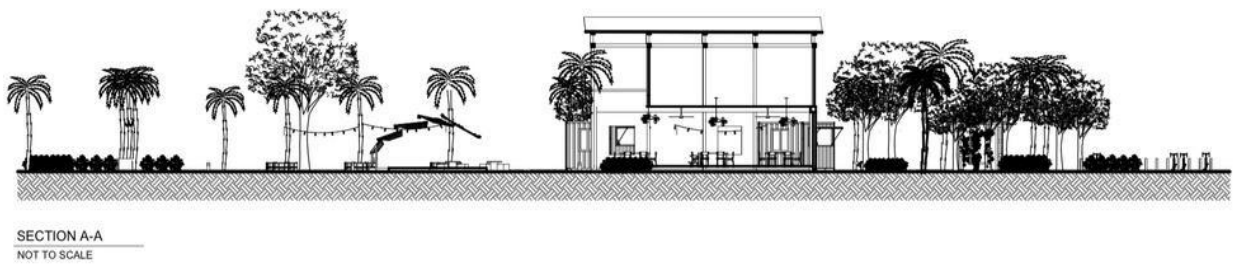


Figure 45 : Section A-A

Figure 38 to 45: The Rendered Drawings for Laman Kaed
(Source: Authors)

CONCLUSION

Revive redefines Laman KAED as a purposeful, dynamic, and sustainable space that restores both the physical and symbolic value of the site. Rooted in principles of renewal and community, it harmonizes ecological resilience with academic and social engagement. By integrating passive systems, multifunctional structures, and biophilic design, the space evolves into a living environment that adapts to changing needs while nurturing creativity, interaction, and well-being. Anchored in Islamic values and inspired by the spirit of growth from Surah Al-Baqarah (2:261), Revive aspires to multiply its benefits academically, socially, and spiritually, creating a long-lasting impact on the KAED community and beyond.

ACKNOWLEDGEMENT

This project has been a transformative experience for the members of Group 5, Bayu Bentala Corp. We are eager to apply the insights we've gained and the relationships we've built in future projects, aiming to achieve outstanding results. We extend our sincere appreciation to the lecturers of BAQS 2300 Integrated Multi-Disciplinary Project, 2025, at the Kulliyyah of Architecture and Environmental Design (KAED), IIUM, for their continuous guidance, constructive feedback, and encouragement throughout the process, and to all other contributing parties and institutions for their significant role in making this project a success.

DEPARTMENT	COURSE FACILITATORS
QUANTITY SURVEYING	ASSISTANT PROFESSOR SR. DR. MASIDAH ABDUL MAJID (COURSE COORDINATOR)
	ASSOCIATE PROFESSOR IR. DR. MOHD. FAIRULLAZI AYOB
	ASSISTANT PROFESSOR SR DR. ROZIHA CHE HARON
ARCHITECTURE	PROFESSOR DATO' SRI AR. DR. ASIAH ABDUL RAHIM
	ASSISTANT PROFESSOR DR. SUFIAN HAMAT
	SR. NUR ULFAH AWATIF UMAIRAH ALIAS
APPLIED ART & DESIGN	ASSISTANT PROFESSOR DR. RAJA INTAN SUHAYLAH RAJA ABDUL RAHMAN
	ASSISTANT PROFESSOR DR. SITI NOORFAIRUS CHE ABDULLAH
	ASSISTANT PROFESSOR TS. DR. ARITA HANIM AWANG

Table 2: Lecturers' list

GROUP 5			
1	MUHAMMAD HAFIZ BIN MUHAMMAD ALI OTHMAN	2313457	ARCH
2	UMAIMAH AQILAH BINTI JIHADI JAZMI	2313488	ARCH
3	ADRIANA ADAWIYAH BINTI ACHDIYAT	2313504	ARCH
4	MUHAMMAD ALIF BIN MOHD HISHAM	2313569	ARCH
5	NURUL AINA BINTI ABDULLAH	2313608	ARCH
6	NIK RUWAIDAH BINTI NIK MOHD NIZAM	2313640	ARCH
7	AMIR FAIZ BIN AHMAD FADZIL SUMBANDY	2311765	AQS
8	MUHAMMAD HAFAZLIE BIN HASAN	2311791	AQS
9	WAN ALIYA NADZIFAH BINTI WAN KAMARUZAMAN	2311984	AQS
10	DEWI NAF'AN QUZANDRIA BINTI KAMAL	2312028	AQS
11	AYSHA BINTI MUSTAFA	2312092	AQS
12	HASYA DINA BINTI NUZRA EFENDI	2312146	AQS
13	SITI HAJAR IRIS BINTI SAHID	2312602	AQS
14	ILHAM TSAQIEF BIN SANUSI	2214801	AAD
15	DAMIA BATRIYIA BINTI MOHD RAFI	2215098	AAD
16	MUHAMMAD AMIR NASRULLAH BIN ZABIDI	2215407	AAD
17	MUHAMMAD AMMAR BIN MOHD NOR HIDAYAT	2215593	AAD
18	MISHA WARDINA BINTI MAIZAMSHAH	2214174	AAD

Table 3: Students' list

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