



**THE POTENTIAL OF VERTICAL GREENERY AS
PUBLIC ART IN MALAYSIAN URBAN CONTEXT**

BY

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To my ever first Love, my best of friend, strongest backbone,

Tn. Haji Abu Bakar Lebai Mat

For his unconditional love, his wise wisdom, his tender advice, his unshaken faith in me and his patience...because he always understood.

Words just can't describe how much I long those out of this world smile, those stories and those laughs we shared.

I am just your little girl that miss you dearly Abah

Al Fatihah....

ABSTRACT

This study focuses on three research dimensions, namely vertical greenery (VG), public art (PA) and the implementation of VG as PA in the Malaysian urban context. VG is greenery where plants can be grown on, up, or against internal or external walls of buildings or as freestanding structures. PA is a structure or a form that contains an artistic expression, placed in a freely accessible public space for people to view. An urban area is in need of more greenery in its surroundings. One way to increase greenery is by implementing VG. However, its usage must be explored creatively to ensure its survivability in Malaysia. PA, on the other hand is generally used in Malaysia to decorate public spaces and to fill empty urban spaces. This scenario contradicts with the ultimate objective of public art as an artistic expression that can be used by the public. Hence, there is a need to improve the selection and appearance of PA. Most research on VG focuses on environmental and technical aspects whilst the creative methods to approach VG are seldom researched, especially in Malaysia. As such, this problem offers an opportunity to integrate VG with public art in urban spaces. A place with a combination of art and aesthetics with environmental principles would become a new urban art that extend VG's survivability in the future. This study therefore aims to explore the potentials and approach of the implementation of vertical greenery as public art in the Malaysian urban context. Three objectives are formulated: (i), To study the significance of vertical greenery, public art and the possibilities of vertical greenery's implementation as public art, (ii) To identify the Malaysian public's perspective on the implementation of vertical greenery as public art, and (iii) To propose design consideration guidelines for the implementation of vertical greenery as public art in the Malaysian urban context. A review of literature was carried out to explore research dimensions related to the topics. A mixed-method research was conducted using three main data collection methods; (i) field inventory of 15 selected reference sites, (ii) semi-structured interview with experts in the field of VG and PA, and (iii) online survey with the Malaysian public. The collected data were analysed using descriptive and content analysis. Field inventory of the 15 reference sites observed that the existing VG on the sites have shown great potential to be appreciated as PA. Furthermore, all five experts were in agreement with the idea and believe that VG has high potential to be approached as PA. There are five main reasons for this; to sustainably capitalise on the abundance of natural resources in Malaysia, to be a leader in VG for South East Asia (SEA) region, to support the nation's green aspiration, for sustainability and to have an artistic green wall. In addition, results from online surveys conducted with members of the public (n=117) yield positive outcomes. These surveys consisted responses on the public's familiarity with the terminologies (i.e. VG and PA), awareness of VG in an urban environment, and the potentials of VG to become a PA. Henceforth, the design consideration guideline to implement VG as PA in the Malaysian urban context is proposed in this study. The guideline is generated based on four main aspects, namely social, environmental, physical and economic. In essence, the results imply that VG has extended beyond the environmental benefits to include the ability to function as an art form for urban dwellers. This will ensure its survivability in the future, not merely as being a trend that will fade away.

ملخص البحث

تركز هذه الدراسة على ثلاثة محاور بحثية رئيسية، هي المساحات الخضراء الرأسية، و الفن العام، و تنفيذ هذه المساحات الخضراء الرأسية باعتبارها فنا عاما في سياق المناطق (الحضرية) المدنية في ماليزيا. فالمساحات الخضراء الرأسية هي المساحات الخضراء التي يمكن ان تنمو بها النباتات على أو بمواجهة الجدران الداخلية والخارجية للمباني أو على شكل هياكل قائمة بحد ذاتها. فالفن العام هو بناء، أو نموذج يحتوي على تعبير فني، يوضع في الأماكن العامة، بحيث يتمكن الناس من الوصول إليها بحرية لمشاهدتها. إن المناطق الحضرية بحاجة للمزيد من المساحات الخضراء في المناطق المحيطة بها. لذا فإن أحد أفضل الطرق لزيادة المساحات الخضراء تكون من خلال تنفيذ المساحات الخضراء الرأسية. ومع ذلك، فإنه لا بد من استكشاف استخداماتها وبشكل خلاق لضمان بقائها حية في ماليزيا. في حين أن الفن العام، عادة ما يتم استخدامه في ماليزيا من أجل تزيين الأماكن العامة، وملء المساحات الفارغة في الأماكن الحضرية الفارغة. وهذا السيناريو يتناقض بشكل واضح مع الهدف الأسمى للفن العام والمتمثل بوصفه تعبيرا فنيا يمكن استخدامه من قبل عامة الناس. وبالتالي، فهناك حاجة ماسة لتحسين عملية اختيار وظهور الفن العام. إن معظم بحوث المساحات الخضراء الرأسية تركز على الجانب البيئي والتقني، في حين أن الأساليب المبتكرة التي تتناول المساحات الخضراء الرأسية تعتبر بحوثا نادرة، وخاصة في ماليزيا. وعلى هذا الأساس، فإن هذه الإشكالية توفر الفرصة المناسبة لدمج المساحات الخضراء الرأسية كجزء من الفن العام في الفراغات الحضرية. إن المكان الذي يجوي مزيجا من الفن والجماليات مع المبادئ البيئية قد يصبح فناً حضرياً جديداً من شأنه أن يساعد على انتشار رمزية المساحات الخضراء الرأسية، وبقائها في المستقبل. ولذلك، تهدف هذه الدراسة إلى استكشاف إمكانيات وأساليب تنفيذ المساحات الخضراء الرأسية باعتبارها فنا عاما في السياق الحضري الماليزي. لقد تم صياغة ثلاثة أهداف وهي: (أ) لدراسة مغزى المساحات الخضراء الرأسية، والفن العام وإمكانيات تنفيذ المساحات الخضراء العمودية باعتبارها فناً جمالياً عاماً، (ب) لتحديد المنظور العام الماليزي المتعلق بتنفيذ المساحات الخضراء العمودية باعتبارها فناً جمالياً عاماً، و (ج) لعرض مقترح تصميم مبادئ توجيهية اعتبارية لتنفيذ المساحات الخضراء الرأسية فنا عاما في السياق الحضري الماليزي. لقد تم استعراض الدراسات السابقة من أجل استكشاف أبعاد البحوث ذات العلاقة بالموضوع. وقد تم تبني الأسلوب المختلط في هذه الدراسة حيث تم استخدام ثلاثة أدوات رئيسية لجمع البيانات وهي ؛ (أ) أسلوب المجال الجردى ل 15 موقعا مرجعيا مختاراً، (ب) مقابلات شبه منظمة مع خبراء في مجال المساحات الخضراء الرأسية والفن

العام، و (ج) استطلاع آراء بعض الجمهور الماليزي على الانترنت . وقد تم تحليل مجموعات البيانات باستخدام التحليل الوصفي والمحتوى في المجال الجردى ل 15 موقعا مرجعيا مختاراً لوحظ أن المساحات الخضراء العمودية القائمة على المواقع قد أظهرت إمكانية كبيرة لتكون موضع تقدير كفن عمومي. إلى جانب ذلك فقد أظهر الخبراء الخمسة موافقتهم للفكرة واعتقدوا أن المساحات الخضراء الرأسية لديها إمكانيات عالية لتكون منهجا وتصل كالفن العام. هناك خمسة أسباب رئيسية لذلك وهي؛ لاستخدام وفرة الموارد الطبيعية الماليزية، لتكون رائدة في المساحات الخضراء الرأسية لمنطقة جنوب شرق آسيا، و لدعم الطموح الأممي الأخضر، من أجل تحقيق الاستدامة وأن يكون لها جدار أخضر فني. إضافة لذلك، فنتائج استطلاع الانترنت مع الجمهور أظهر أن (ن = 117) كنتائج إيجابية. ولقد كونت تصوراً لرد فعل الجمهور لما ألفه من مصطلحات مثل (المساحات الخضراء الرأسية و الفن العام)، إدراك أهمية المساحات الخضراء الرأسية في سياق المناطق الحضرية، وإمكانية أن تكون المساحات الخضراء الرأسية فناً عمومياً. من الآن فصاعداً، فإنه على دليل التصميم أن يعتبر تنفيذ المساحات الخضراء الرأسية كفن عام في سياق المناطق الحضرية كما هو مقترح في هذه الدراسة. لقد تم إنشاء الدليل على أساس أربعة جوانب رئيسية، وهي الاجتماعية، والبيئية، والمادية، والاقتصادية. تدل النتائج في جوهرها على أن المساحات الخضراء الرأسية قد امتدت لما وراء الفوائد البيئية لتتخذ شكلا فنيا للشعوب في المدينة. وهذا يضمن لها البقاء في المستقبل، وليس مجرد كونها اتجاهها سوف يتلاشى بالمستقبل.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Science (Built Environment).

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DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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LIST OF ABBREVIATION

BW	: Biofacade wall
CAM	: Crassulacen Acid Metabolism
CFS	: Center for Foundation Studies
CGC	: Credit Guarantee Corporation Malaysia Berhad
DBKL	: Dewan Bandaraya Kuala Lumpur
EA	: environmental art
EEA	: European Environment Agency
EPP	: Entry Point Projects
ETP	: National Economic Transformation Programme
FLORIA	: Putrajaya Flower and Garden Festival
GBI	: Green Building Index
GF	: Green facade
GKL/KL	: Greater Kuala Lumpur/Klang Valley
GRHC	: Green Roofs for Healthy City
GS	: Green scaffolding
GSW	: Green space wall
GTFS	: Green Technology Financing Scheme
GW	: Green wall
ILAM	: Institute of Landscape Architects Malaysia
ITD	: Idaho Transportation Department
IUKL	: Infrastructure University Kuala Lumpur
IF	: integrated fencing