

SHADOW GARDEN PAVILION

PavilionNOW 2016

September 8, 2016 – April 18, 2017

A Shalini Ganendra Fine Art Design & Capacity Building Project





LIM JOE ONN
11 AUG 2016

PavilionNOW: Our continuing vision

SGFA's PavilionNOW involves a commission that creatively explores concept, space, materiality, contemporary and vernacular, whilst recognising local architecture and design talent. This year's *Shadow Garden*, designed by award winning Ar. Eleena Jamil, applauds the use of treated, Malaysian hardwoods and tanggam, a traditional building method. The structure combines art installation with architectural identity.

The SGFA PavilionNOW brief is simple. Design and build, within six months, a creation for and in the residential space of SGFA's Gallery Residence. Use of locally made, grown or re-use materials is encouraged. The design itself must be distinctive, relevant, economic and functional. The installation becomes a part of the SGFA collection.

The Project process is documented in detail from inception to completion with the hope that this reference will edify and inspire far beyond the here and long after the now. Many cultural stakeholders are involved: gallery, architects, academia, students, industry and audience. After the close of this year's module, we hope that the Shadow Garden Pavilion will find a permanent home to continue providing pleasure and impact. A number of supporting programs have been developed for the PavilionNOW 2016 including: a Vision Culture Lecture; Art Hug workshops; Tours and Exhibitions.

PavilionNOW's community engagement is immensely gratifying because of meaningful multidisciplinary and cultural encounters. Eleena Jamil Architects showed great commitment to realising their vision, leading every installation session with fine eye and tenacity. The invaluable support of Taylor's School of Architecture and The Malaysian Timber Council shows the reach of quality collaboration. The Malaysian Institute of Architects' (PAM) endorsement indicates the growing recognition of multi-disciplinary considerations in art, architecture and design.

After all, Shalini Ganendra Fine Art started as and continues to be an independent art space committed to the ethos of *living with art* – which essentially means, bringing beauty and sustainability in thoughtful and distinctive ways to our lives.

We thank our quality Supporters, who shared our creative vision with invaluable contributions that realised the promise and enduring reality of PavilionNOW 2016 - *Shadow Garden Pavilion*.

DATIN SHALINI GANENDRA

Supported by:



ELEENA JAMIL
architect



TAYLOR'S SCHOOL OF
ARCHITECTURE •
BUILDING • DESIGN



DIVERSECITY 2016
Kuala Lumpur International Arts Festival

thinkCITY
REJUVENATING THE CITY TOGETHER

PavilionNOW 2016: Collaboration

The relationship drawn through art, architecture and education offers an alternative collaborative learning experience for architecture students. The act of making and the awareness and celebration of local materials such as timber, emphasises the sensibilities and sensitivities inherent in architecture learning.

Dr. VERONICA NG

2016 PavilionNOW - THE SHADOW GARDEN PAVILION

The Shadow Garden pavilion is a temporary installation that sits in an intimate courtyard at Shalini Ganendra Fine Art's Gallery Residence. The structure explores the relationship between nature and building.

A system of pressed galvanised steel shutters connected to planter boxes by ropes and pulleys are hung from a simple timber structure. The act of opening and closing the shutters moves the plants in steel boxes up and down, transforming the space within and around it with ever changing shadow play. The shutters in operation evoke the idea of artificial sun shade in buildings, whereas the plants, a natural one - both very common, yet important devices for keeping spaces cool in the tropics.

The installation also explores old building methods and the use of local materials in their most basic state. The main structure, for example, uses locally sourced wood in the form of rectangular timber sections that are mainly joined together using traditional woodworking methods called '*tanggam*'. The metal elements are coated in zinc using a common process called galvanising, which can be described as one of the most basic ways to keep metal from rusting.

Ar. ELEENA JAMIL

The Malaysian Timber Council

CEO's Foreword – PavillionNOW 2016

The Malaysian Timber Council (MTC) is immensely proud to collaborate with Shalini Ganendra Fine Art (SGFA) on the recent edition of its PavilionNOW project.

As the nation's marketing arm for timber and timber-based products, MTC does not only concentrate its efforts on overseas markets but also plays a pivotal role in promoting the use of timber locally.

Teaming up with an art gallery such as SGFA on its PavilionNOW 2016 project provides a solid and creative platform for MTC to highlight timber's versatility through fine arts and the multi-disciplinary.

SGFA as an art gallery should be commended for taking this inspirational move of encouraging the use of timber in this year's project themed "Shadow Garden Pavilion" which incorporates the use of Malaysian hardwoods Merbau and Red Balau.

SGFA deserves every ounce of praise lavished upon it for nurturing the artistic spirit as it goes a step further to highlight traditional construction methods such as "tanggam".

I hope more art galleries as well as other design-based institutions will follow in SGFA's footsteps.

In time, we can take this great timber producing nation of ours to dazzling heights not only with magnificent timber structures but also sculptured designs that will become instrumental in setting the benchmark of quality in the art of timber construction.

Finally, I would like to take this opportunity to wish SGFA the very best in all its artistic pursuits.

Thank you.

DATUK DR ABDUL RAHIM NIK, FASc
Chief Executive Officer
Malaysian Timber Council

Eleena Jamil, Architect

Eleena Jamil is the principal of Eleena Jamil Architect (EJA), an architectural practice based in Kuala Lumpur, Malaysia. Eleena trained at the Welsh School for Architecture in Cardiff, United Kingdom where she obtained her BSc and BArch degrees. She later joined the teaching faculty at the Welsh School as a teaching assistant while completing her MPhil and PhD postgraduate research.

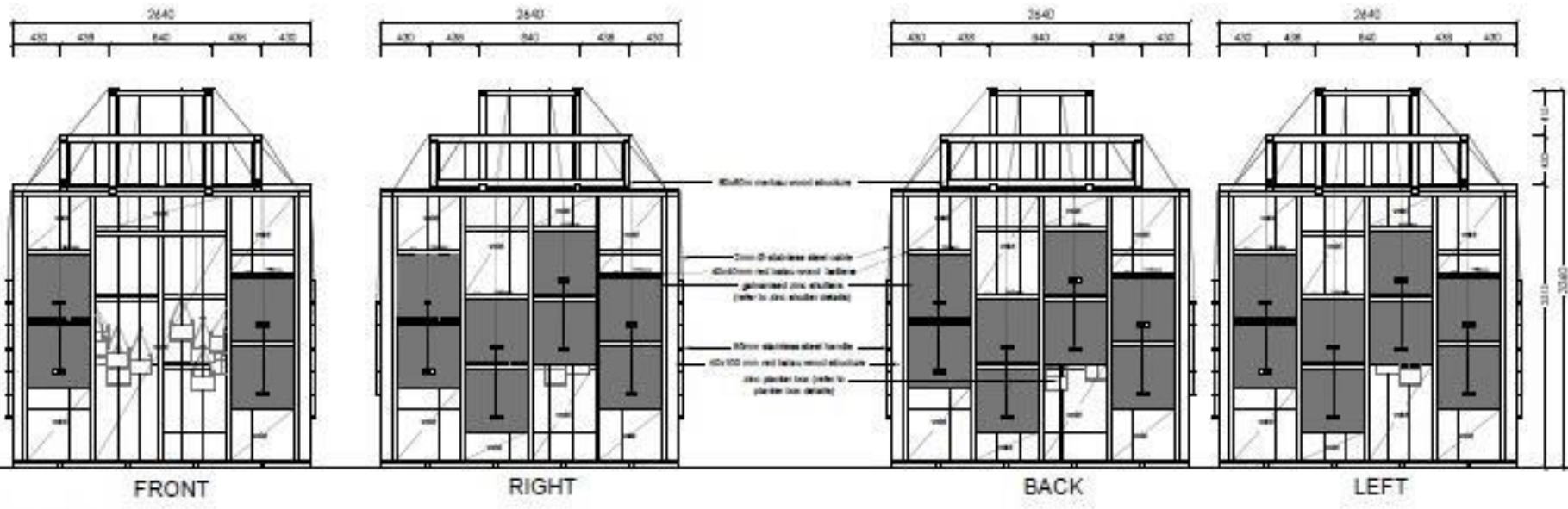
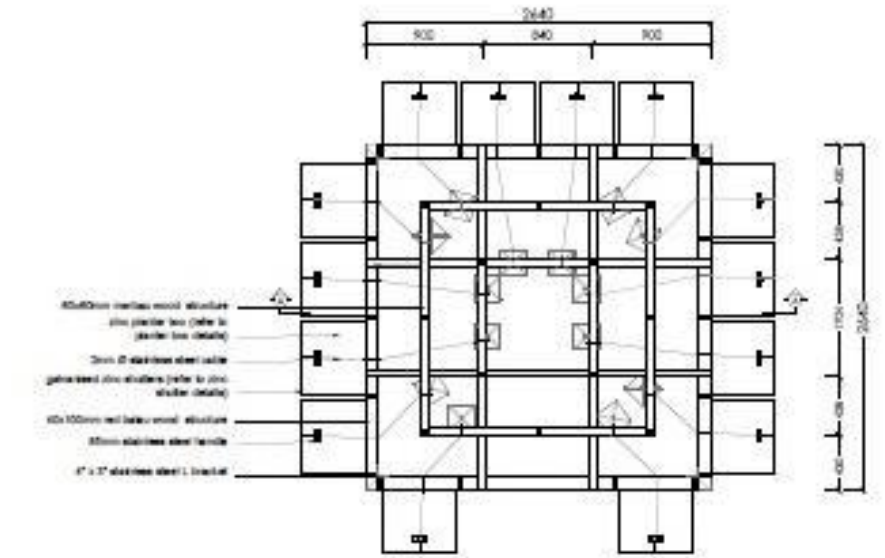
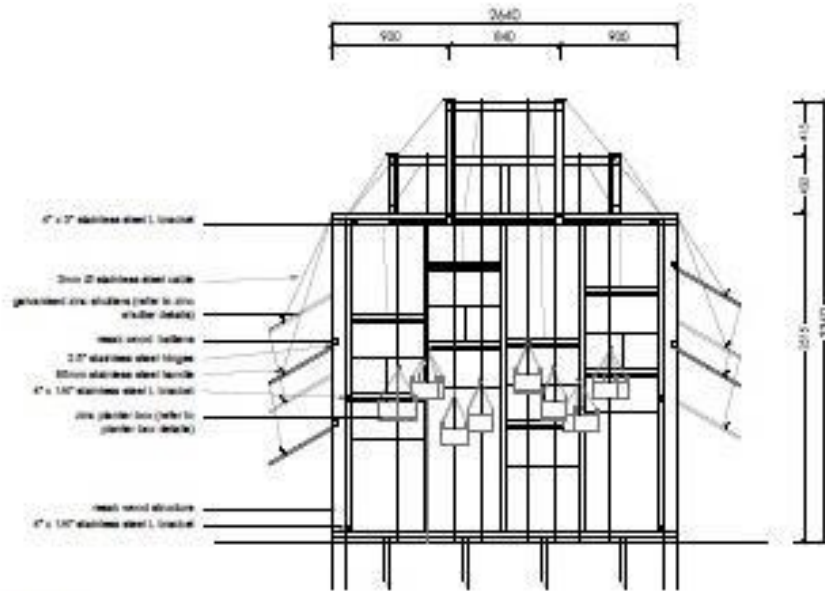
Working within the context of South-East Asia, Eleena's work has been founded on research into specific social and climatic imperatives of each brief within a broader cultural framework. The success of her approach can be measured by a portfolio of work that has been widely published and has garnered numerous awards and accolades.

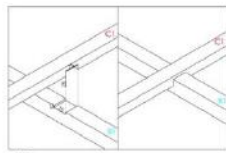
Her *Millennium School Project* received a presidential citation in the Philippines and her current projects such as the *Bamboo Playhouse* and *The Spiral Pedestrian and Cycle Link* in Kuala Lumpur has been shortlisted at World Architecture Festival 2015.

She has also won a number of international competitions and has exhibited at the Cooper Hewitt Museum and United Nations Headquarters in New York, Aedes in Berlin and at the Venice Biennale 2014.

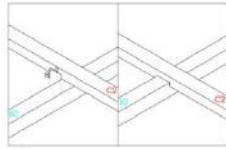


Architect's Elevations

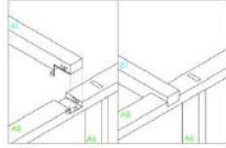




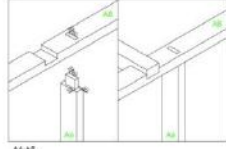
B1-C1
tanggam lekap-paling
cross lap joint



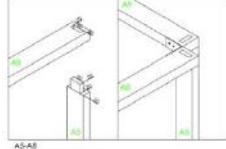
B2-C2
tanggam lekap-paling
cross lap joint



A1-B1
tanggam lekap f
lap joint



A1-A1
tanggam lubang + pulling
mortise + tenon

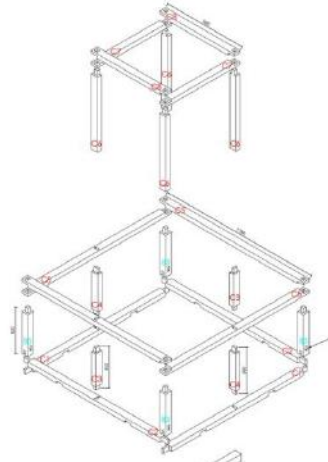


A2-A2
tanggam lubang + pulling
mortise + tenon

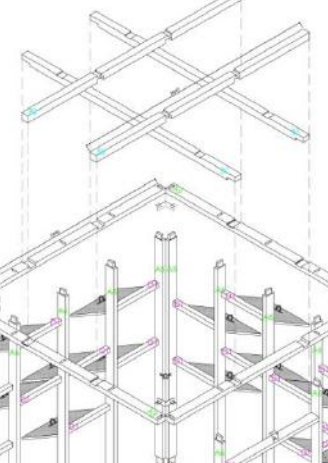
**WOOD JOINERY
(TANGGAM) DETAILS
SCALE 1 : 10**

TYPE A MEMBER - 75 X 75 MM		
LENGTH	QUANTITY	CODER
2425MM	2	A6-A7, A10
2475MM	18	A5, A6
2425MM	2	A7, A3, A3, A3
1925MM	1	A7
TYPE B MEMBER - 75 X 75 MM		
3025MM	4	B1
2425MM	4	B1, B2
TYPE C MEMBER - 75 X 75 MM		
400MM	2	C1
300MM	2	C4
800MM	4	C2
1000MM	4	C7, C8
1780MM	8	C1, C2, C3
TYPE D MEMBER - 50 X 50 MM		
360MM	38	D1
RESAK SHEETS - 15MM THK		
50 X 170	56	E4
170 X 190	28	E5
200 X 200	56	E1, E2
200 X 270	56	E3

A - 75 X 75MM
B - 75 X 75MM
C - 50 X 75MM
D - 50 X 50MM



JOINTS FIXED TOGETHER WITH
TREATED STRUCTURE WOOD GLUE

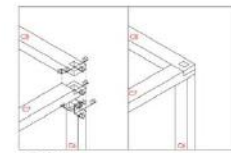


4 X 3" STAINLESS STEEL L BRACKET
48 X 3" WOOD SCREWS

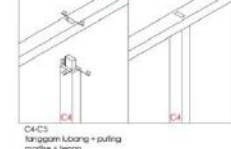
BLEACH WOOD TREATED
WITH TIGER BRAND
ANTI TERMIT (CLEAR FINISH)

4 X 1 1/4" STAINLESS STEEL
L BRACKET
16 X 3" WOOD SCREWS

4 X 8 MM (Ø) X 100MM (Ø) X
80MM (L) ROUND ANCHOR



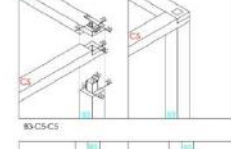
C5-C7, C8
tanggam lubang + pulling
mortise + tenon



C4-C5
tanggam lubang + pulling
mortise + tenon



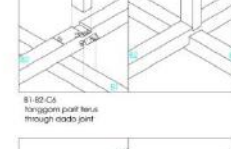
C4-C1
tanggam lubang + pulling
mortise + tenon



B3-C5, C3
tanggam rengang
corner blade joint



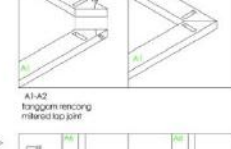
B3-C2, C1
tanggam rengang
corner blade joint



B1-E2, C5
tanggam paku kayu
mortise + tenon



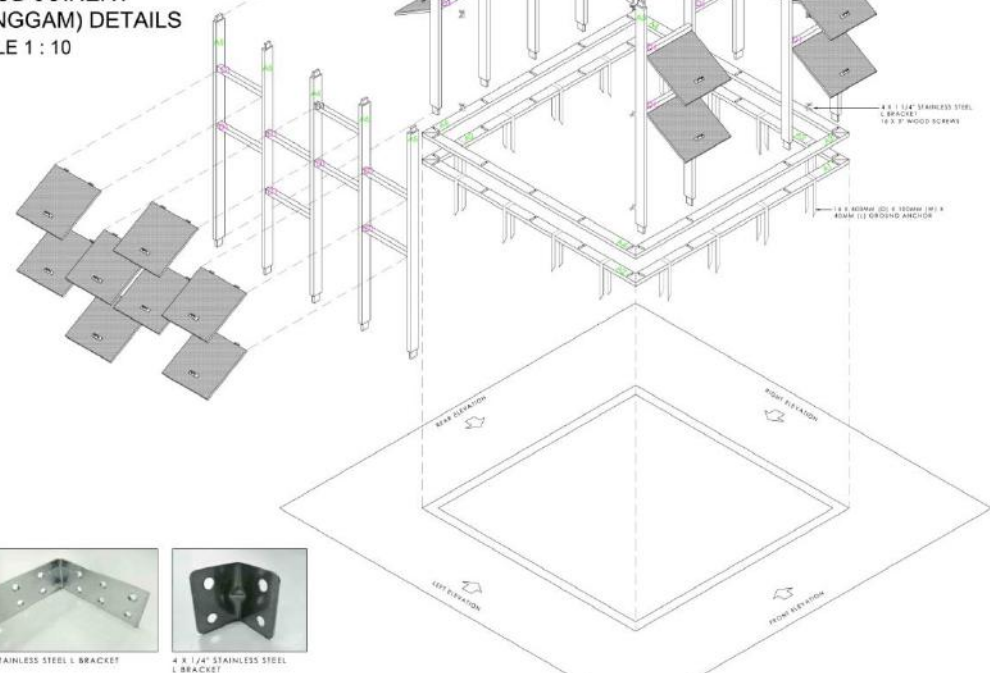
B3-A3, B1
tanggam lekap f
lap joint



A1-A2
tanggam rengang
malaris top joint



A6-A3, A1
tanggam lubang + pulling
mortise + tenon



**AXONOMETRIC DRAWING
SCALE 1 : 20**



4 X 3" STAINLESS STEEL L BRACKET



4 X 1 1/4" STAINLESS STEEL L BRACKET

**METAL FIXINGS
NOT TO SCALE**

“Everything went smoothly! At first most of us found the wood kind of intimidating because it is heavy and very hard. But after learning the proper techniques from our workshop master, everyone did a good job at making these joints.

It’s fun and interesting at the same time, because in general architecture students don’t have the chance to try these kind of projects during our course.”

- **Ameer Farhan**, Taylor’s University School of Architecture and Design

Project Progress – BRIEFING



With incredible energy, interest and response, the PavilionNOW briefing brought the members of team to the Wood Workshop to be briefed on Safety, Machinery, and General Techniques.



Project Progress - Tools and Materials

Deceptively simple in view – but requiring hard work and patience to master.



“Preparing the wood was pretty hands-on. It was a really different experience to creating the smaller scale models we’re used to. You get to create something real and longer term, which gives you a sense of satisfaction. We also get to understand more about how you utilize the workshop.”



Project Progress @ Taylor's University Wood Working Studio



"PavilionNOW was the first time that I used the woodworking machines in a meaningful way. It was a great experience and even though a few mistakes were made I think it's up to the standard and I'm proud of the work."



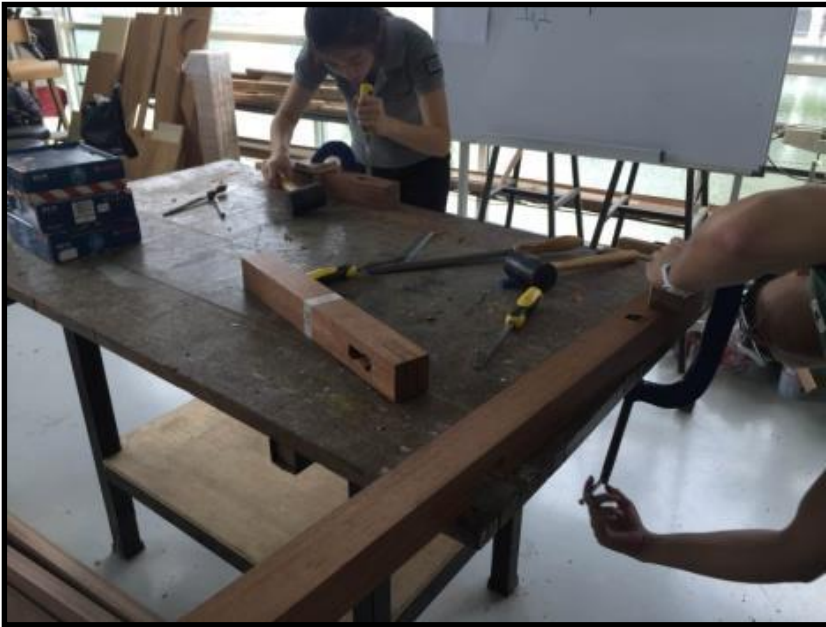
Project Progress @ Taylor's University Wood Working Studio

"This is my first time experience building anything! It's fun to be able to do a hands-on project and get your hands dirty, where we can experience things that you can't in the classroom."

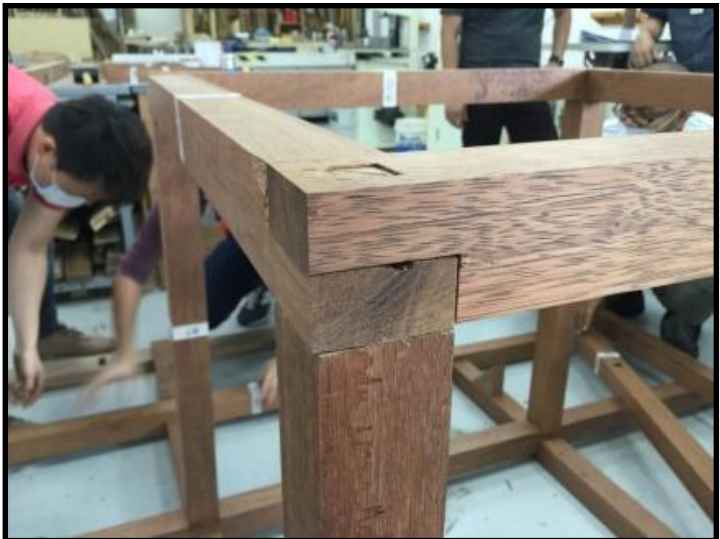
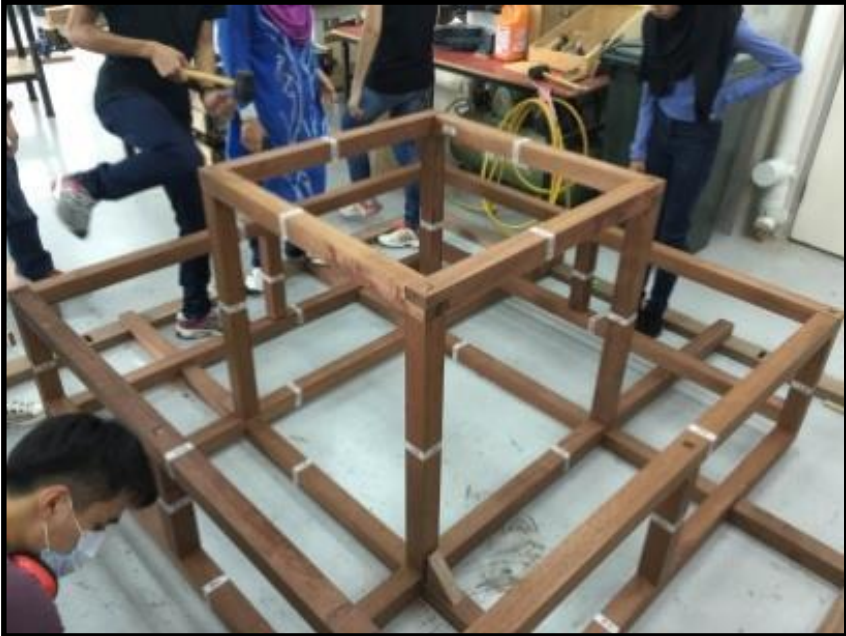


Project Progress @ Taylor's University Wood Working Studio

Preparing for the use of and application of the Tanggam (no nails) technique required exactness and delicate, but firm handling. The pavilion has to be structurally solid, so measurements and cuts have to be accurate.



Project Progress



On site building begins

August 17 – 25, 2016



"Before the project I didn't know how to work carpentry material or about traditional Malay joinery. Now I do!"



On site build

August 17 – September 5, 2016



“A lot of people think that architects only work in the office, but it’s necessary for architects to develop their skill and understanding of construction through hands on work. PavilionNOW has afforded us this opportunity.”











Shadow Garden - Landscaping Details



Herbs/Ulams for Shadow Garden Pavilion



Herbs/Ulams for Shadow Garden Pavilion

The Shadow Garden Pavilion incorporates important landscaping elements, starting with a kitchen garden. The twelve hanging planters contain various herbs (“ulam”) used in traditional Malaysian cooking.



The chili padi (*Capsicum annuum*) plant comes in many varieties. This specimen is most commonly known as the “Bird’s eye chili”, or “Thai chili”. The bird's eye chili is small, but is quite hot (piquant). It measures around 100,000–225,000 Scoville units (used to test the intensity of foods), making it many times more spicy than a jalapeno.



Mint (*Mentha spicata*) - locally called Pudina- The leaves have a warm, fresh, aromatic, sweet flavor with a cool aftertaste, and are used in teas, breath freshening beverages, mouth rinses, cocktails, jellies, syrups, candies, ice creams, chewing-gums It’s also a traditioanal European cure for upset stomachs!



Telang (*Clitoria ternatea*) is famed for its delicate cobalt blue flowers, from which an indigo dye can be extracted. It is this that gives the characteristic blue colour to Nasi Kerabu. In Thailand, Telang has given birth to a syrupy blue drink called nam dok anchan, which is sometimes consumed with a drop of sweet lime juice to increase acidity and turn the juice into pink-purple



Kesum (*Persicaria odorata*) is also known by the name "Vietnamese coriander" in Western countries. It is probably the most widely used herb in Malaysian cuisine, and is the primary flavourant of laksa. It is recognized that Kesum has the highest antioxidant activity compared to ginger and turmeric, rendering its consumption very beneficial to reduce risk of cancer, hypertension and heart disease.



Pegaga (*Centalla asiatica*) is a traditional ulam used in Malaysian salads and dhals. It is also used to make a cooling drink by infusing the herbs in water for a short period.



Thai Basil (*Ocimum basilicum*) is locally called Selasih. Its flavour has been described as anis- and liquorice-like and slightly spicy. It has delicate purple and pink flowers, and lends its distinct flavour to both Thai green and red curries.

Malaysian Timbers

Exporting to over 160 countries worldwide and providing jobs to around 200,000 workers, Malaysia's timber industry is the third most important generator of international revenue for the commodities sector -the government targets to achieve an earning of RM53 billion from the export of timber by 2020. The last two decades have seen the progress of the timber industry diversifying into value-added timber products.

In order to reduce the pressure on natural forests as a source of raw materials, the National Timber Industry Policy, supported by the Malaysian Government has set a goal of establishing 375,000 ha of forest plantation by 2020. Every 25,000 ha of mature forest plantation is expected to produce 5 million m³ of timber. The first plantation projects, located in Kelantan, Pahang, and Selangor in Peninsular Malaysia and Sarawak, are due to mature in 2021.

Shadow Garden's Red Balau and Merbau Timbers

- The Shadow Garden Pavilion was constructed from two Malaysian hardwood timbers - Red Balau and Merbau.
- **Merbau** is classified as a Heavy Hardwood with a density of 515 – 1,040 kg/m³. The timber is durable under exposed conditions. It has attractive growth ring figure and deep colour. It is suitable for interior finishing, panelling, flooring, cabinet making as well as decorative items.
- **Red Balau** is classified as a Heavy Hardwood with a density of 800 – 880 kg/m³. The timber is moderately durable under exposed condition and is suitable for heavy construction under cover, furniture, flooring, door and window frames.



Merbau



Red Balau

Sustainability in the Timber Industry

A variety of bodies work to ensure sustainability in the timber industry, the Ministry of Plantation Industries and Commodities and the Ministry of Natural Resources and Environment amongst others. All of the states in Malaysia implement the National Forestry Policy, which provides for the maintenance of Permanent Reserved Forests, and sets annual allowable cutting limits.

3.88 million hectares of forest area has been certified under the Malaysian Timber Certification Scheme, the most of any country with tropical forest. Over 30 countries currently import sustainably certified Malaysian timber. This has led to the endorsement from the Programme for the Endorsement of Forest Certification (PEFC); since then a host of other countries such as Japan, China, India and Indonesia have been inspired to pursue forest management certifications.

Sustainable forest management:

Malaysia has been practising Sustainable Forest Management (SFM) since 1901. The Selective Management System (SMS) practised in Malaysia has evolved to optimise an economic cut, the sustainability of the forests and minimum cost for forest development.

Selective Management System (SMS) involves certain practices that are followed to ensure the following objectives are achieved:

1. Efficient and economic harvesting, utilization, reforestation and sustained yield; and
2. Biologically, ecologically and environmentally sustainable forest development.

The SMS requires the following steps:

1. There must be a proper pre-felling forest inventory carried out by Forestry Department staff. This is where trees that are big enough and suitable to be felled will clearly marked.
2. Good trees that produce seeds, also called 'mother trees', are also clearly marked as these must never be felled.
3. After logging, a post-felling inventory is carried out by Forestry Department staff to determine the status of the forest stand.
4. Appropriate silvicultural treatments will be applied in the process of rehabilitating the logged-over forest area. This will help forests regenerate and return to their former state of eco-balance more quickly.
5. It may require another 25-30 years before that particular forest compartment could be harvested again. By this time, having had enough sunlight from the opening of the forest canopy, the smaller trees will have grown big enough for felling and the whole cycle could be repeated. This is how the forests are maintained as a perpetual source of timber and other forest products.

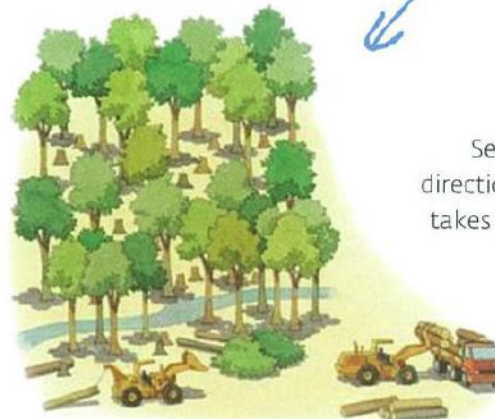
SELECTIVE MANAGEMENT SYSTEM (SMS) UNDER THE SUSTAINABLE FOREST MANAGEMENT PRACTICE



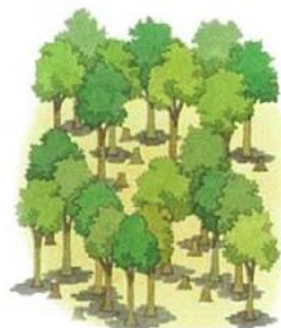
Forest harvesting is based on Sustainable Forest Management practices



Pre-felling inventory. The number and size of trees are recorded



Selective harvesting using directional felling to reduce impact takes place according to national allowances*



Post-felling inventory. If necessary silvicultural treatment is applied



Regenerated forest after 25 – 30 years

* National allowances: 32 residual trees of above 30cm diameter at breast height (dbh) to form the next crop.
Minimum cutting limit: dipterocarps - 55cm dbh, non-dipterocarps - 45cm dbh.

For further information, please go to www.forestry.gov.my.



PavilionNOW 2016 Team

With thanks and congratulations to the Shadow Garden Pavilion Team:

Project Coordinator & Developer: Shalini Ganendra Fine Art:

Datin Shalini Ganendra, William Forrester, Bea Hannay -Young and Eleonore de Sterio

Eleena Jamil Architect:

Eleena Jamil, Nurhidayah Ab Razak and Yusri Amri Yusoff

Taylor's University:

Overall Project Supervisor:

Associate Professor Dr. Veronica Ng

Project Supervisors for Fabrication and On-Site Installation:

Mr. Mohamed Rizal Mohamed (Lead)

Ar. Sateerah Hassan

Mr. Mohd Adib Ramli

Mr. Azim Sulaiman

Amos Tan Chi Yi

Bridget Tan Su Ting

Khor Yen Min

Cheah Hoong Fei

Low Yong Ging

Huynh Minh Nhat Dinh

Foo Shi Ko

Nge Jia Chen

Caleb Soh Er Wen

Chang Zhi Chung

Te Li Theng

Nurin Abdullah

Tristan Yu

Lim JoeOnn

Lee Czen Shing

Ng Yi Yang

Peh Ker Neng

Ameer Farhan Ramlan

Benjamin Jia Yeow

Foo Wei Min

Chia Sue Hwa

Nor Syarianna Neo

Chu Szi Wei

Chok Jia Jun

Poh Zi Yang

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