



# Restorative Green Outdoor Environments at Hospital

Shureen Faris Abdul Shukor & Noorizan Mohamed

## INTRODUCTION

Today, designers and especially landscape architects attempt to design outdoor hospital environments by taking into consideration the fact that one heals more quickly in a supportive atmosphere, environments that ameliorate stress and provides opportunities for positive escape from clinical settings (Ulrich et al., 2004). There is a substantial research evidence which indicates that having a view of or being in nature or green outdoor environments has a positive influence on the physical and mental wellbeing of users where patients can have a relaxing influence and reduce stress levels (e.g., Hendrich et al., 2008; Mroczek et al., 2005; Nilsson et al., 2011). In a current study by Faris et al., (2012) indicates that a hospital with outdoor environment surrounded by greenery were the most preferred by the users.

Many different theories are used, and together they build up the theoretical framework that we today rely upon. The Prospect-Refuge Theory (Appleton, 1975) claims that positive feelings are gained from adaptive functions of preferences regarding certain landscape characteristics. The studies which deal with the restorative, health-related effects and the human benefits derived from contact with nature consistently refer to the Biophilia hypothesis (Wilson, 1984) which suggests that humans tend to respond positively to nature. The Psycho-Evolutionary Theory (Ulrich et al., 1991) claims that emotional responses are instant and unconsciously triggered and have a major influence on attention and behavior (ibid). Attention Restoration Theory (ART) (Kaplan, 1995) characterizes psychological components that support a restorative environment which may help people to recover from depleted directed attention capacity.

## Project brief / client requirement

The project is located at Serdang Hospital. The hospital is a government-funded multi-specialty hospital located in the district of Sepang in the state of Selangor, Malaysia. This hospital is located near Putrajaya, the Malaysian federal government administrative centre. The location of the hospital borders the South Klang Valley Expressway (SKVE) to the east and the medical faculty of Universiti Putra Malaysia to the west. Serdang Hospital, which

commenced operation on December 15, 2005, was built with the purpose of serving the roughly 570,000 population of Serdang, Putrajaya, Kajang and Bangi. It has a total area of 129,000 square metres and has 620 beds. Other unique features of this hospital include rooftop garden totaling 5 acres. The hospital is surrounded by a park measuring 45 acres (180,000 m<sup>2</sup>).

## BACKGROUND

The course objective is firstly to solve design problems at small-scale sites through the application of the proper design process. Another objective of the course is to train students to present their design ideas professionally. The course covers medium-scaled landscape projects with the main focus is to solve complex site planning problems focusing at institution areas, public parks or resorts.

A site visit was carried out at the Serdang Hospital where the students visited the site and also did interview with staff and users of the hospital concerning the green outdoor environment there. After the site visit, inventory and analysis plans were produced as a group effort. This was later followed by the synthesis plan, idea and conceptual plan where the students were required to produce these individually. Lastly, a Master Plan was proposed and later plans for selected detail area was also presented.

## DESIGN SOLUTION

Four artefacts were selected as case studies under this topic.

### The Life-link Datum

by Iskandar Al Khalifah bin. Mohd Razali

The student, Iskandar Al Khalifah bin. Mohd Razali used the concept called 'Rejuvenating, Healing and Recovery'. The design focus of the project lies in the idea where the whole planning of the outdoor environment were interconnected in the similarity of the design elements in creating unity in the design. The student was very bold in proposing ideas to create an outdoor environment to represent the image of an urban hospital.

### Athermic Ambience

by Mona Lizza Mohd Kassim

The student, Mona Liza Kassim used the concept "Athermic Ambience" stresses on providing low heat environment, cooling and harmonious to senses, therapy and healing strategy, as well as being close to nature. The design maximizes the usage of forest species vegetation for softscape while enhancing the hardscape pattern and form that mimic natural element such as the Malva nut.

### Kandisky Restorative Ambience

by Nur Afikah Idrus

The designer's idea is promoting revitalisation of the Hospital Serdang towards restorative environment approach. The infinite experience of Kardinsky philosophy is captured in a landscape design for the Serdang Hospital. With the inspiration from the Kardinsky philosophy, the designer was able to enhance experience of restorative environment at the Serdang Hospital. As a whole, the scheme is evidently signifies the impression of 'restorative through Kardinsky experience' as intended. However the design can be enhanced by in-depth exploration of planting and sculptural design.

### Soul with Nature

by Leng Li Thing

Ling Li Thing intends to transform outdoor spaces as healing landscape in Serdang Hospital. Her idea conceptualized the hospital communities to work and recuperate in green and natural ambience. The design concept; 'Soul of Nature' incorporating tropical shady trees palms, shrubs and ground covers as green connectors for the designed spaces. Li Thing also looked at the negative spaces among the structural building as functional spaces and creatively turned these areas as Mini Gardens, Fans Garden, Leisure Garden, Wetland Garden and Sculpture Garden.

## DISCUSSION / FUTURE STUDY

As a whole, the students have shown the ability to design and present their ideas for a restorative green outdoor environment for a hospital. They managed to grasp the understanding of how a well-designed green outdoor environment with bold concept and themes could provide restorative environments to reduce the stress of hospital users. The design of multiple uses of spaces such as public areas, semi private and private areas offer choices for the users in selecting types of areas they want to be in. However, plants selections prove to be the weakness

here as the selection in having plants with that could be hazardous to patients with respiratory problems or tress that could attract insects and ants. The understanding of related theories should be fully understood in order to understand the users and thus produced designs which are practical and usable. The total idea of restorative or healing green outdoor environments should be applied in the selection of the softscape and also the use of materials throughout the project.

## References

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Ulrich R.S., Zimring C., Quan X., Joseph A., & Choudhary R. (2004). *The role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity*. Concord, The Center for Health Design:CA, 21-23.

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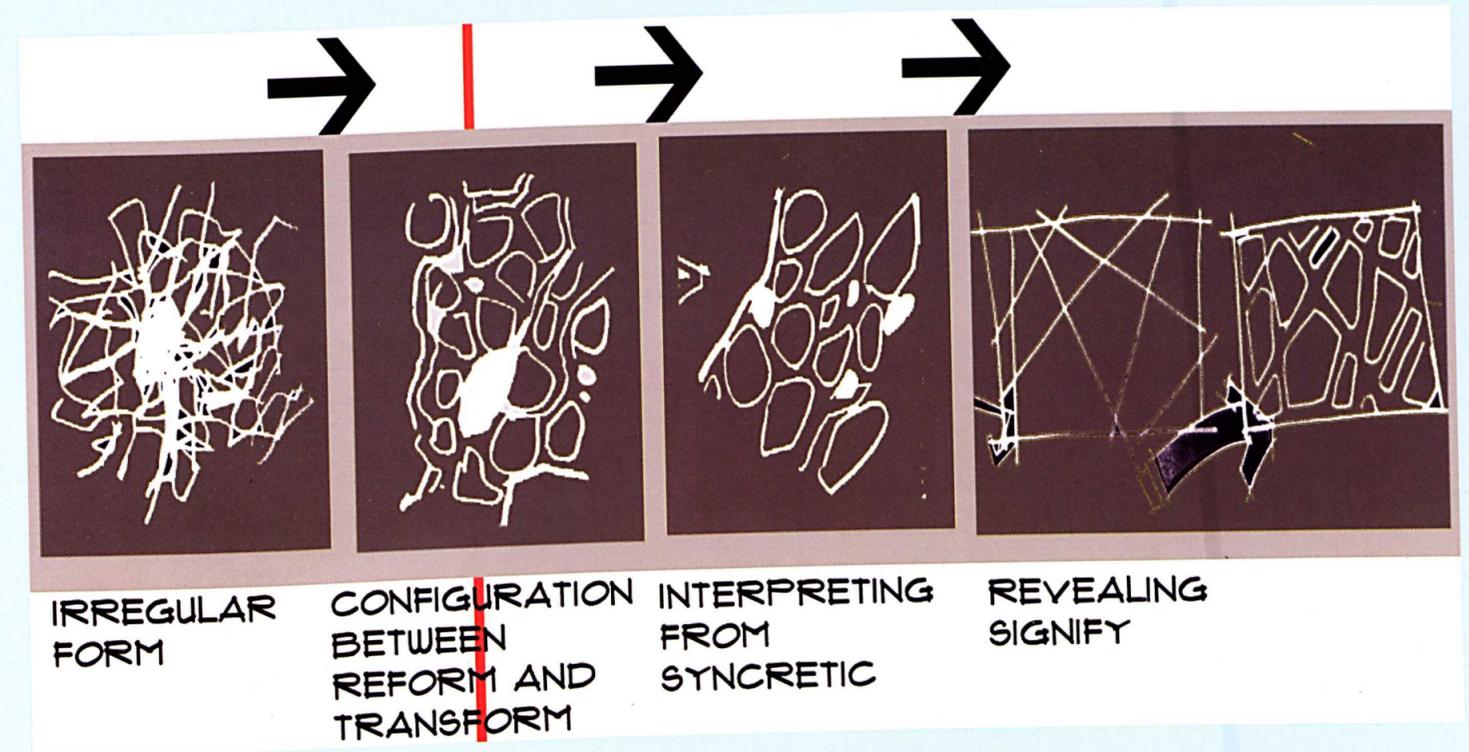
# Jury Review

Sapura Mohamad

An impressive design sketches which are advantageous as an eye-catcher, which strengthen a mediocre proposal. Array of good graphic creates these art pieces and recommended for display and exhibition to a wider audience.

Norhalizah Hanifah

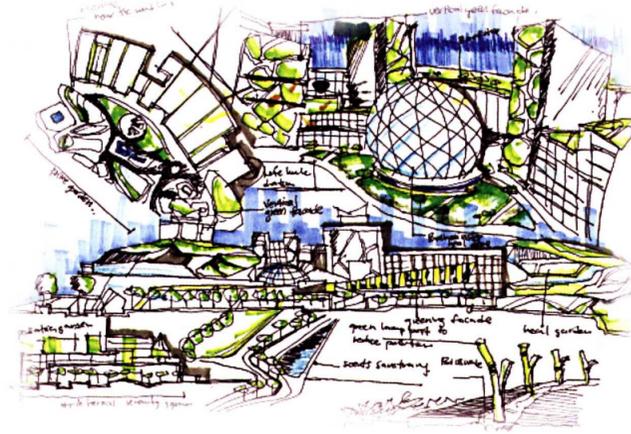
A big applause to the students for their wonderful graphic drawings and sketches. The proposed design follows through design process, and one can easily understand it's design idea and justification. Issues/problems raised are detailed out and resolved thus provide the best proposal possible solutions to achieve the desired design goals and concept. The master plan has sufficient details to explain and convey clearly the design intent. The final question to one of the actual problems of the existing site which is 'insufficient parking' is yet to be considered and resolved.



# The Life-Link Datum

Shureen Faris Abdul Shukor, Noorizan Mohamed & Mohd Yazid Mohd Yunos

The project was to design the outdoor environments with restorative quality at the Serdang Hospital. The main thrusts behind the Life-Link Datum concept is 'Rejuvenating, Healing and Recovery'. The planting concept involves creating green avenues which include the paths and walkways. Fragrant plants with vibrant colours could provide stimulations were proposed for the site. The intention is to highlight the image of Serdang Hospital as an urban and modern hospital while at the same time fulfils the needs of the users. The strength of the project lies in the idea where the whole planning of the outdoor environment were interconnected and creates unity in the design. Each level was given different considerations and provides different gardens with healing and restorative qualities. The design proposal could improve further by putting more attention to appropriate plants selection. Due diligence and care required to avoid are plants and flowers containing spores which are easily blown away, risking patients with breathing difficulties. Additionally, plants which easily attract insects and ants. The blow up plan could be more detailed to show the hardscape and material used whilst explaining how the outdoor spaces function.



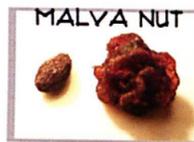
# Athermic Ambience

Noorizan Mohamed, Shureen Faris Abdul Shukor & Mohd Yazid Mohd Yunos

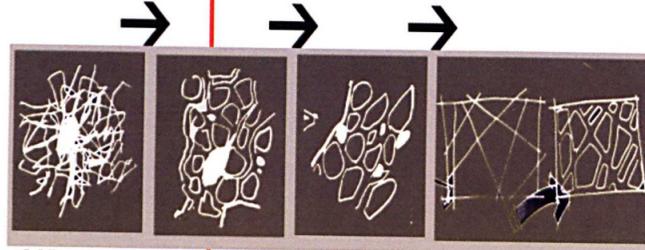
The design of forest recreational park in the hospital environment is transpired by the lack of green spaces surrounding the majority of hospitals in the nation, and Hospital Serdang is no exception. Greeneries are proven to have therapeutic effects and magical power in healing to human beings besides helping to provide thermal comfort to users. The concept "Athermic Ambience" stresses on providing low heat environment, cooling and harmonious to senses, therapy and healing strategy as well as being close to nature. The design maximizes the usage of forest species vegetation for softscape while enhancing the hardscape pattern and form that mimic natural element such as the Malva nut. Despite such thoughtful ideas, the design could improve with more understanding of forest biodiversity for justifying the selection of appropriate plants used. An in-depth study on the characteristics and requirements of forest species for design selection would be definitely useful.

## design concept "ATHERMIC AMBIANCE"

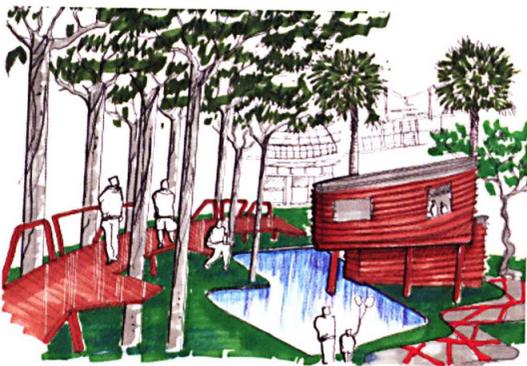
- LESS HEAT ENVIRONMENT
- COOL AND HARMONY IN SENSES
- CLOSE TO NATURE
- THERAPY AND HEALING CONCEPTS



**MALVA NUT**  
TO REMOVE HEAT FROM THE LUNG, TO CURE SORE THROAT, TO COUNTERACT TOXICITY, AND TO MOISTEN THE BOWELS. SPECIFIC SYMPTOMS TREATED INCLUDE: HOARSENESS OF VOICE, DRY COUGH OR PRODUCTIVE COUGH WITH YELLOW STICKY SPUTUM, SORE, DRY THROAT DUE TO HEAT IN THE LUNG AND CONSTIPATION WITH HEADACHE AND BLOODSHOT EYES.



IRREGULAR FORM    CONFIGURATION BETWEEN REFORM AND TRANSFORM    INTERPRETING FROM SYNCRETIC    REVEALING SIGNIFY



section y - y  
SCALE 1:500

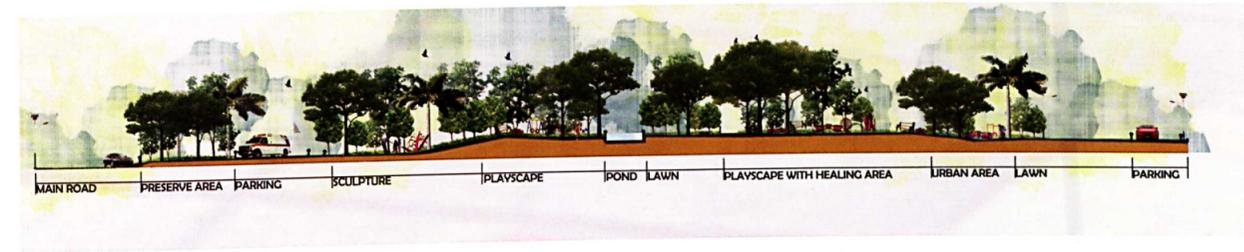
Monalizza Binti Mohd Kassim

# Kandinsky Restorative Ambience

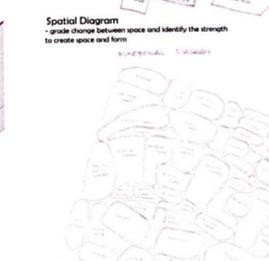
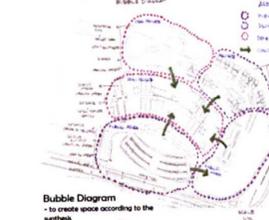
Mohd Yazid Mohd Yunos, Nor Atiah Ismail, Shureen Fais Abdul Shukor & Noorizan Mohamed



The designer's idea is promoting revitalisation of the Hospital Serdang using restorative approach. In general, Nur Afikah has excellently determined issues in existing Hospital Serdang before suggesting the concept of restorative hospital. The infinite experience of Kandinsky painting philosophy is captured in a restorative design for the Hospital Serdang. The form of the structure and pattern symbolise the energetic composition of Kandinsky's philosophy. With the new inspiration and explanation from the Kandinsky philosophy, the designer enhances the experience of restorative environment in the Hospital Serdang. The incorporation of structures, sculptural, water features and planting are well harmonised with each other. Articulated elements of the form and structure are visible to passerby and thus her design encourages further exploration. In addition, the designer has created an undulation of scales resulting in rhythmic, repetitive and harmony that disperse the whole design through interactive linkages and planting design. Taken as a whole, the scheme evidently signifies the impression of 'restoration through Kandinsky experience'. The design can be further enhanced through thoroughly exploration of planting and sculptural design.



## CONCEPTUAL PLAN



## PLANTING CONCEPT



- By Zoning :**  
 Zone A : Round shape, shady tree  
 Zone B : Vertical garden, climber  
 Zone C : Columnar, hedge  
 Zone D : Buffer, edible plant  
 Zone E : Buffer, canopy
- PLANTING PALLETTE**
- Eugenia Polyantha
  - Gardenia Cornuta
  - Fragrance
  - Rhaphi
  - Turera Africola
  - Zamia
  - Musa Fera
  - Khaya Senegalensis

## HARDSCAPE CONCEPT

- Urban character
  - Simple
  - Functional
- Fountain
  - Bollard
  - Sculpture 'Kandinsky's character'
  - Benches
  - Signage
  - Wall Light

# Soul with Nature

Nor Atiah Ismail, Mohd Yazid Mohd Yunos, Shureen Faris Abd Shukor, Noorizan Mohamed & Mohd Kher Hussien

Ling Li Thing intends to transform outdoor spaces as healing landscape in Serdang Hospital. Her idea conceptualized the hospital communities to work and recuperate in green and natural ambience. The design concept, 'Soul of Nature', incorporates tropical shady trees palms, shrubs and ground covers as green connectors for the designed spaces. Li Thing also looked at the negative spaces among the structural building as functional spaces and creatively turned these areas as Mini Gardens,

Fans Garden, Leisure Garden, Wetland Garden and Sculpture Garden. Various types of gardens are created surrounding the hospital area for changing the hospital's sorrow setting into a vibrant and promising healing environment for its users. Nevertheless, Li Thing who is an expressionist student could do better by enhancing 'space identity' for each garden she created. More details showing the characteristics of healing components in her design could support her exciting landscape design.



Leng Li Thing