

Living with art: green + art + architecture

Shalini Ganendra Fine Art @ Gallery Residence

Architect: T. R. Hamzah & Yeang
Drawings courtesy of T. R. Hamzah & Yeang
Photography by Chan Huey Hoong

Commentary by Dr. Veronica Ng

Driving through the suburbia, one ponders into a little architectural 'gem', the Shalini Ganendra Fine Art @ Gallery Residence (SGFA), a pristine grey architecture which is tucked neatly and intimately within the quaint and serene residential enclave of Section 16, Petaling Jaya. Using the metaphor of a 'gem', this piece of architecture is a two-storey gallery residence with a total built up area of 633.4sqm, portraying the spirit and character of 'a work of art highly prized for its beauty or perfection'.

Although small in scale, the SGFA is indeed an architecture that epitomizes the notion of 'living with art', a phrase which suggests the importance of drawing strong connections between people, art and space. For Datin Shalini Ganendra, an art lover and owner of SGFA, these three disparate yet connected notions form a unified whole exemplified through the architecture of the SGFA. These connections are made manifest through the architecture by way of emphasizing three important keywords: green; art; and, architecture.

Living with art = green + art + architecture

'Living with art'

What does it mean to live with art? What does it mean to be green? These questions form the basis of this article. Through an interview with Datin Shalini Ganendra, this article captures how green architecture became an anchor to voice SGFA's commitment to art, and the transitions of the 3 year-old gallery residence in relating to the notion of 'living with art'.

Affordable green architecture as a voice of SGFA

SGFA began as a gallery in Shalini's personal residence thirteen years ago. Three years ago, Shalini recognized the need for a platform, a public space that could match and represent the voice and spirit of SGFA that carries through its distinctive commitment to innovation and accessibility of art.

A significant aspect of the phrase 'living with art' is based on the very fundamental word, 'accessibility': great art and good design



Ecological design features

The Wind Chimney: Vertical Wind Shaft:

The project has an innovative 'wind chimney' similar to the ventilating chimneys used in the Middle-East, but not used before in Malaysia. The shaft has 360 degree openings at top to catch wind from all directions and is internally partitioned to channel the wind down the shaft, with directed flow into the spaces below. The extent of wind flow is manually controlled by operable glass louvers at the base of the shaft. The 'wind chimney' is designed to function as a down-draft shaft to channel the wind from the upper parts of the site at the roof level channelling the external wind down the shaft to the gallery spaces below to provide comfort cooling and natural ventilation. The wind chimney's openings' orientations were initially configured based on the prevailing wind directions from a general windrose for the locality. Following preliminary CFD (Computational Fluid Dynamics) simulations of the prototype partitioned chimney design by a team from the IUM (International Islamic University Malaysia) under Professor Shireen Khan, an enhanced, site specific, shaft design was developed. Temperature analysis & airflow distribution data were calculated from the air velocity analysis. The results of these simulations and models were used to re-design the wind chimney and to enhance its performance as a ventilating device. Post construction measurements have been carried out to verify the effectiveness of the device.

Landscape

The building's footprint is kept to a minimum to provide greater land area for planting. The greenery generally reduces the heat island effect on the site and maximizes the potential for shading of the site. Table-1 below illustrates the area covered by native vegetation on the site. This exceeds the GBI criteria for indigenous planting to cover 25% or more of the total development area.

Table-1

Description	Area (sq.ft)	Area (sq.m)
Building foot print area	3,713.5 sq.ft	345.0 sq.m
Landscape area	4,589.7 sq.ft	426.4 sq.m
Percentage	55.3% of landscape area	

The building's vertical landscape design also creates a direct connection between internal spaces and the external landscaping by a continuous planter box that extends from the 1st floor balcony into the vegetation at ground level.

are made accessible to public, and more holistically an accessible form of great architecture. With accessibility comes affordability. Translating it through architecture, the design brief for SGFA called for an affordable green space—one that is low maintenance, one that compliments the artworks, and one that qualifies as a work of art in itself. *Affordable green* architecture became an anchor that manifests the philosophy of SGFA.

The immediate response was to engage award-winning and internationally renowned architect Dato' Dr. Ken Yeang, for his environmentally comprehensive and authentic ecological approach. Yeang is an early pioneer of ecological design. And for Shalini, Yeang is a creator, one who experiments with architecture as a creative at the same time efficient design.

'Good' design is a piece of work which is aesthetically innovative and balanced, with efficient functionality. In Shalini Ganendra's words,

'The architecture of SGFA is innovative, accessible and smart. ... The architect, Dato' Dr. Ken Yeang and his team, have crafted a space that lends itself ideally to showing creative work and as a living space. The transition between exhibition and living is seamless—which is our objective—to make the building a work of art to experience by living and by visiting.'

With the decision to create a public platform for SGFA came the commitment to making that platform innovative, visionary and reflective of what the gallery has come to represent—to be a thoughtful entity, offering great creativity, with substance and at great value. Hence, came the theme 'green, or more specifically 'affordable green', in its most inclusive and non-cliché sense. The clients' brief was to provide a building that spoke of their commitment to good design, innovation, green principles and value suited to the programmes of cultural, exhibition and residential purposes. The notion of living with art also includes the patina of time—the building should age gracefully.

With such premise for design, the architect, Dr. Ken Yeang, designed an experimental building where comfort cooling is provided by a downdraft vertical shaft ('wind chimney'). Other ecologically design features included landscaping of indigenous planting, bioswales as sustainable drainage devices, cross ventilation, indirect daylighting, sun shading, and the use of environmentally benigned materials.

Bioswales

Bioswales are sustainable drainage devices used here to remove silt and pollution from surface water run-offs and to return surface water back into the ground to recharge the groundwater and to enable the rainfall that falls on the land to remain on the land and not drain away. This swaled drainage course has gently sloped sides that are typically covered with vegetation. There are four bioswales located at the corners of the site. A connected sub-soil drainage system is located at the courtyard, at the front driveway and at the entrance porch to expedite the absorption of rain water back into the local aquifer.

Cross Ventilation

In addition to the innovative wind chimney, the Ganendra Gallery Residence maximizes cross ventilation by having openings at both sides of the gallery, at both the ground and first floor levels. Partial stack ventilation is incorporated at these spaces via low and high openings in the external walls inlets, designed to be as low as possible to provide airflow at occupant levels. The building's shallow floor plan facilitates natural ventilation in all areas, with windows and doors located on opposite walls to encourage cross ventilation.

Indirect Day Lighting

Daylight to the building enters through windows, doors openings, skylights with sun shades. The daylight factor is the ratio of indoor light level measured on the working plane to the outdoor light level during overcast conditions with no direct sun. For a daylight space, the daylight level is generally uniform with no significant contrast for better visual comfort.

Sun Shading Devices

Shading devices are critical due to the intense solar radiation of the tropical sun. All openings and glass windows are shaded using a combination of horizontal and vertical sun shades. For non-glass windows and sliding doors, insect netting is used in place of clear glass. Other sun shade features include a deep roof overhang at the 1st floor of the balcony and large overhanging balcony at ground floor and a roof porch at the main entrance area. These shading features also serve to reduce glare to the internal space.

Energy Efficiency Performance

The walls are hollow bricks with double sand bricks for the west facing external walls. The external finish of the building is light grey cement render. This light colour further reduces heat gain by reflecting solar radiation. The majority of the building's windows have minimal openings with insect netting or float glass windows. The main sliding door openings have grills with insect netting to enhance natural ventilation and reduce solar heat gain at all times. All window openings and doors have vertical or horizontal concrete

sunshading slabs that extend 450mm from the wall. Since the greatest amount of heat enters low rise buildings through the roof, 80% of the roof is covered with Onduline roofing material (made from cellulose bitumen) with roof insulation.

Hybridization of gallery + residence

SGFA as a gallery has always been in a residential setting to effectively present the idea of living with art—which was the platform that the gallery was found on. A public space that continued to marry the ‘wellness’ of living and exhibiting was a must.

SGFA is a gallery residence that provides a platform for showcasing an elective range of art and design exhibitions—creating a contemporary arena for contemporary art. It accommodates living and work spaces for artists and management who live in and maintain the building. The building’s public spaces are for exhibitions, lectures and social purposes. These spaces use clear wall spaces for hanging artwork, benefitting from natural light, and a high ceiling volume. Other spaces include; an office and study room, an artist’s studio, storage rooms for art storage, a small open kitchen and wet kitchen, utility room, clothes-drying area, bathrooms, and bedrooms. The semi outdoor patio with a built-in bar opens into a courtyard which will serve as backdrop for installation art. There is a segmented area for sculpture and the front garden doubles as a parking are. A first floor balcony faces the courtyard.

Architecture as a manifestation of people-centric poetic art

Emphasis is given to affordable great architecture, as much as affordable art. Shalini envisioned the architecture of SGFA as a piece of poetic art for the appreciation of the mass. The building essentially functions as a multi-purpose exhibition and cultural space for exhibiting artworks in which the primary gallery areas have an open plan layout as flexible exhibition spaces. The down-draft wind chimney is located within the main gallery, which in itself, offers an interesting and experiential space for visitors and artists.

At the same time, it was intended as an architecture that relates to the human scale and proportion. The humane and intimate scale and proportion of space allows the visitors to interact with the art exhibits as well as the architectural space and form. As one walks into the gallery, the space is intimate, as you move through, the space folds and unfolds itself. At no point one should feel overwhelmed.

Organic growth and the sense of time

The building in itself is a living art, as the 2 years of occupancy has been a participatory approach for Shalini. When asked about the efficiency of the wind chimney, Shalini said, ‘We have fine-tuned its performance by ensuring that at any given time, the vertical vent alignment is open to only on one floor to ensure maximum

output. The building internally is cooler at all times, than outdoors, due to the wind chimney, orientation and double brick walls. The chimney itself is so wonderfully dramatic to go into—a great space for some gifted artist to set free.

The vertical landscape which took the ideas of merging interior and exterior works wonderfully to offer visual interest and cooling enhancement. Over the 2 years, the flora system on xeriscaping principles was been developed, so that at the balcony level. The plants require little to no water, and include a nice array of indigenous herds.

Over the three years, the voice of SGFA through its architecture has been recognized through its accolades of award and publications. The 'value' of SGFA in both its spirit and architecture was awarded a PAM Architects Excellence Award in 2011. Also, SGFA is the second project to receive a final certification from Green Building Index (GBI) under the RNC category and sixth project overall. It has been published in design magazines such as Domain (Bluic.), Bazaar, Wallpaper (Thailand). SGFA is indeed a testament to its commitment for innovation and accessibility, one that manifests the spirit of SGFA, and the spirit of the smart art and architecture. +

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Landscape Architect	T. R. Hamzah & Yeang Eco Systems Sdn. Bhd.
Structural Engineers	Minconsult Sdn. Bhd
M&E Engineers	Minconsult Sdn. Bhd
GBI Accreditation Consultant	Minconsult Sdn. Bhd
Main Contractor	Hiap Leck Construction & Trading (M) Sdn. Bhd
CFD Performance Simulation	EAG Consulting Sdn. Bhd