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THIS PICTURE
PUBLIC GARDEN WITH GREEN GRASS
AS THE GROUND COVER AND ONE
BUCCIA TREE BECOMES THE MAIN VIEW
FOR THE LARGER PART OF THE HOUSE.

RIGHT
BY INCORPORATING THE SUSTAINABLE
ENVIRONMENTAL DESIGNS FEATURE
INTO THE DESIGN, THE RESULT IS GREEN
MINIMALIST HOUSE.



PRIVATE HOUSE IN KUALA LUMPUR

House With Minimal Material

TEXT E. G. ARINI IMAGES CAXTON CHOW

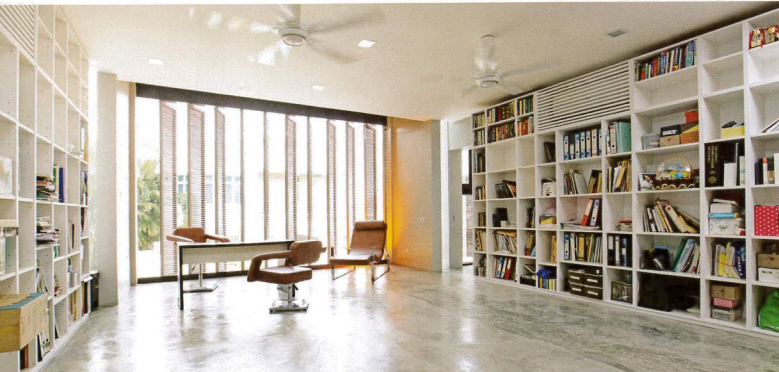
The bungalow in Bukit Gita Bayu, Kuala Lumpur was the Silver award winner from My Dream Home 2011 competition in the Green Home category. The architect's passive green design includes the minimization of material usage.

Sepasang massa berbentuk kubus tampak berdiri bersisian dikelilingi hamparan rumput. Pada salah satunya, menjulur sepasang balok yang kemudian ditopang oleh sepasang kolom. Warna abu-abu semen dengan pola *grid* dan garis-garis horizontal khas arsitektur moderen minimalis, kental membungkus tampilan luar bangunan.

Rumah tinggal dengan fasad *simple* ini merupakan karya Michael Ching dari CH & I Architecture. Desainnya dinilai luar biasa, berselera bagus, unik dan ramah lingkungan sehingga memenangkan penghargaan My Dream Home 2011. My Dream Home sendiri

A pair of cubical masses stand side by side on a spread of green grass and from one of them juts out a pair of blocks supported by another pair of columns. Typical of the modern, minimalist architecture style, a grey tone of cement combined with a grid pattern and horizontal lines is abundantly featured on the exterior of the building.

Showcasing a simple façade, the home is the work of Michael Ching of CH & I Architecture who won My Dream Home 2011 award for residential design. My Dream Home is an annual contest held by Haven, a garden and interior magazine published by The Edge,



adalah kontes tahunan yang diadakan majalah taman dan interior Haven terbitan The Edge bekerja sama dengan Pertubuhan Akitek Malaysia (PAM) dan Institut Perakabentuk Dalamana Malaysia (IPDM).

Sang arsitek merancang bangunan berdasar keinginan klien yang memang menyukai gaya arsitektur minimalis yang bersih dan menyatakannya dengan elemen-elemen desain berkelanjutan yang ramah lingkungan. "Hasilnya adalah bangunan berarsitektur minimalis yang hijau," Michael Ching menerangkan.

Memasuki hunian 3 lantai melalui *entrance* di samping *carport*, *water feature* menyambut. Lalu, melangkah ke *foyer* terdapat tangga turun menuju lantai *lower ground* tempat ruang duduk, *pantry*, ruang makan dan teras berada. *Foyer* juga memiliki tangga naik menuju *ground floor* dengan ruang-ruang privat seperti kamar tidur utama, kamar-kamar tidur anak dan ruang keluarga. Naik lagi ke lantai 1, terdapat ruang baca merangkap ruang kerja.

Jika jeli mengamati, material yang digunakan di sini tidak seramai material yang biasa dipakai pada rumah-rumah pada umumnya.

in collaboration with the Malaysian Architect Association (PAM) and Malaysian Institute of Interior Designers (IPDM).

Following the brief of the client who has a fondness for clean, minimalist architecture, the architect designed the house incorporating sustainable environmental design features. "The result is a green building with a minimalist architecture," explains Michael Ching.

A water feature welcomes us as we enter the three-story abode through the entrance, placed adjacent to the carport. Going further inside, the foyer houses a staircase that leads towards the lower ground where the sitting room, pantry, dining room and terrace are located. Inside the foyer, there is also a different flight of stairs that goes up to access more private rooms such as the main bedroom, children bedrooms and family room, all of which are positioned on the ground floor. One level higher, on the first floor is a sitting room that doubles as a workstation.

On closer inspection, the kinds of material used here are fewer in number compared to other houses. In fact, only four types of material were used according to the architect, those being timber, glass, concrete



Totalnya hanya ada 4 macam saja, itupun menurut pengakuan sang arsitek merupakan material-material lokal seperti kayu, kaca, beton dan semen. Kayu untuk melapis sebagian lantai sedangkan kaca untuk jendela-jendela. "Kami menggunakan *recycle color skim coat* pada dinding," Michael mengungkapkan.

Recycle color skim coat merupakan teknik *finishing* pada dinding menggunakan acian semen halus yang dibiarkan apa adanya. Dengan tidak menambahkan lagi lapisan cat pada dinding, berarti mengurangi pencemaran dalam rumah akibat zat-zat berbahaya seperti VOCs (*Volatile Organic Compounds*) yang umum terkandung dalam cat. Menurut Michael, ini salah satu upaya pendekatan pasif dari desain hijau yang diadopsinya pada desain rumah.

Pendekatan pasif lainnya, dilakukan dengan menerapkan konsep "*Small is Beautiful*". Ruang-ruangnya hanya dibuat berdasarkan kebutuhan penghuni, sehingga meminimalkan area yang terbangun. Dari lahan seluas

and cement, all locally sourced. The timber is used mostly to cover the floors while glass is applied to the windows. "We used recycle color skim coats on the walls," adds Michael. Recycle color skim coat is a finishing technique applied to the wall using a fine cement plastering, resulting in a smooth surface, as an alternative to paint. Without any additional coat of paint on the walls, pollution inside the house from harmful substances such as VOC (Volatile Organic Compound), a material commonly found in paint, is eliminated. According to Michael, this is one of the passive approaches that he took to create a green design for the house.

Implementing the concept of 'Small is Beautiful' the passive approach we used meant that rooms were only built to suit the needs of the occupants, thus minimizing the build-up area. The total site measuring 1,347 sqm has more than 50% allocated to green spaces. There are three kinds of green areas in the house: roof garden, private garden and public garden.

ABOVE:
LIVING ROOM FLOOR COVERED BY THE WOOD STRIPS MAKES THE ROOM ATMOSPHERE FEELS SO WARM.

OPPOSITE PAGE
TOP: POLISHED CONCRETE FLOOR IS BEING USED FOR THE DOUBLE FUNCTIONS ROOM-STUDY AND READING ROOM.

BOTTOM: THE TRANSPARENT GLASS WALL MADE THE GARDEN AND POOL VIEW VISIBLE FROM THE DINING ROOM AND PANTRY.



ABOVE ALL MATERIALS THAT ARE USED THROUGHOUT THE HOUSE: WOOD AND CONCRETE ON THE TOP OF THE FLOOR, RECYCLE COLOR SKIN COAT ON THE WALL, AND THE GLASS WINDOW, APPEAR IN THIS MASTER BATHROOM.

1.347 m², lebih dari 50%-nya bisa didedikasikan untuk taman. Ada 3 macam taman yang mengisi ruang luar rumah: *roof garden*, taman privat dan taman publik.

Roof garden di lantai 1 yang selantai dengan ruang baca merangkap ruang kerja, berupa *rock garden* yang dilengkapi dengan jalur untuk refleksiologi. Taman privat yang bersebelahan dengan dapur ditanami berbagai tanaman buah-buahan lokal. Taman publik yang difungsikan untuk beragam fungsi, hanya dihijaukan dengan hamparan rumput dan diisi satu pohon saja, yaitu pohon Bucida.

Taman publik sendiri menjadi *background* sekaligus *view* bagi ruang-ruang utama rumah yang ditata memanjang di sini. Hal ini menyebabkan orientasi arah sisi panjang bangunan menghadap timur-barat. Karenanya, Michael meminimalkan bukaan baik di sisi timur dan barat pada bangunan untuk mengurangi panas yang masuk.

Di sisi timur bangunan, ia membuat koridor di sepanjang kamar-kamar tidur yang menjadi *buffer* supaya panas tak langsung mengenai dinding kamar. Di sisi sebaliknya yaitu barat, dipasang *double timber louvers sunscreen* untuk meredam panas. Kolam renang *single lap* selebar 2,4 m juga ditempatkan di sisi ini sebagai pendingin bangunan dari terik matahari sore.

Kolam renang ini bersebelahan dengan teras luar yang jadi tempat favorit sang pemilik rumah. Di sini, ia kerap melewatkan waktunya untuk bersantai sambil menikmati keriangannya anak-anaknya bermain di taman ataupun kolam. Melihat kepuasan dan keceriaan penghuni rumah, harus dikatakan bahwa rancangan sang arsitek berhasil baik. Pantas bila desain yang dibuat mendapatkan pula penghargaan. 1

The roof garden is located on the first floor, along with the reading-working space, and a private rock garden fitted with a reflexology area. The private garden, located adjacent to the kitchen, is used to grow a variety of local fruit. Another green area, the public garden serves as an area to hold functions so that only carpet grass and a single Bucida tree are planted here.

The public garden creates a background and a relaxing view for the main rooms within the house. This creates an East-West orientation for the length of the building, which compelled Michael to minimize window openings in the east and west in order to reduce excessive glare from the sun.

On the east side of the building he built a corridor along the length of the bedrooms. This acts as a buffer to protect the walls from incoming rays of the sun. On the opposite side, in the west, double timber louver sunscreens were installed to reduce heat. A 2.4 metres wide, single lap swimming pool is located on the same side to further cool down the building from the western sun.

The swimming pool sits beside the outer terrace, the owner's favorite place in the house. Here he often spends the time to relax and enjoy the happy sounds of his children playing in the garden or by the poolside. It is safe to say that the architect has achieved what he was tasked to do by the contented and joyful expression on the face of family members. The award for the house design was the perfect icing on the cake. 1



GROUND FLOOR PLAN

- 1. Car Porch
- 2. Entrance Foyer
- 3. Master Bedroom
- 4. Master Bathroom
- 5. Bedroom
- 6. Family Hall
- 7. Balcony



LOWER GROUND FLOOR PLAN

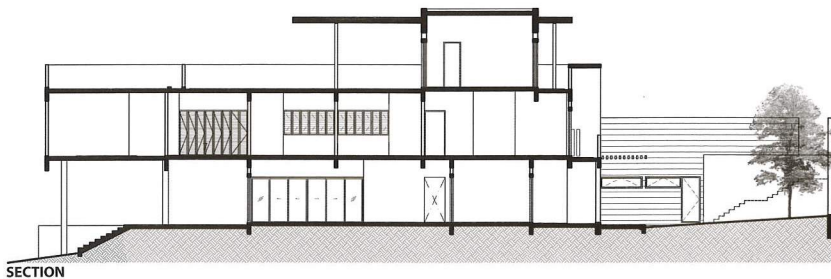
- 8. Living
- 9. Dining
- 10. Swimming Pool
- 11. Wet Kitchen
- 12. Guest Bedroom
- 13. Powder Room
- 14. Terrace
- 15. Public Garden
- 17. Private Garden



FIRST FLOOR PLAN

PROJECT DATA

- Project Name : House without Finishes
- Location : Bukit Gita Bayu
- Site Area : 1,347 sqm
- Gross Floor Area : 558 sqm
- Net Floor Are : 446 sqm
- Client/Owner : Raymond Wong
- Architecture Consultant : CH& Architecture Sdn Bhd
- Principal Designer : Michael Ching



SECTION



CH & I ARCHITECTURE

Budget-Friendly, Green Solution

The modern minimalist home in Bukit Gita Bayu designed by Michael Ching of CH & I Architecture adopts many green architectural principles. In the end, the design approach taken by the architect also cut down on construction costs. As he talks to Esti Galuh Arini of Indonesia Design, Michael Ching shares his tricks.

MAIN FEATURE - PRIVATE HOUSE IN KUALA LUMPUR

Kadang menerapkan prinsip arsitektur hijau justru membuat biaya jadi lebih mahal. Bagaimana Anda mengakali hingga jadi sebaliknya? Kami memilih menggunakan material lokal dan itupun hanya 4 macam saja. Kaca untuk jendela dan kayu untuk melapis sebagian lantai. Sebagian besar lantai hanya berupa beton yang dipoles halus saja. Dinding juga dibiarkan polos tanpa cat, hanya menggunakan recycle color skim coat saja. Dari sini saja sudah banyak biaya material yang bisa dihemat.

Apakah cukup hanya dengan menyeleksi dan meminimalkan penggunaan material?

Tidak hanya ini memang. Kami juga berusaha tidak merusak lingkungan dengan tidak banyak merubah kontur tanah dan meminimalkan cut and fill sehingga tak banyak biaya yang kami keluarkan untuk ini. Pekerjaan menggali tanah hanya kami lakukan saat hendak membuat pondasi. Tanah urugnya, kami gunakan untuk menaikkan level tanah sesuai kebutuhan desain bangunan.

Building coverage-nya?

Area yang terbangun juga kami minimalkan hanya dengan membangun ruang-ruang berdasarkan kebutuhan pemilik saja. Ruang-ruangnya kami atur sedemikian rupa sehingga sirkulasi dalam bangunan juga efektif dan minimal. Sirkulasinya hanya koridor menuju kamar tidur utama saja dan tangga, yang ruang bawahnya pun dimanfaatkan untuk powder room. Jadi, total luas lantainya hanya 558 m² dan luas lantai yang menutup lahan hanya 446 m² saja. Area hijau yang kami dapat pun juga jadi lebih luas. Dengan ini, biaya konstruksi juga bisa ditekan.

Apakah penghematan biaya hanya pada saat proses konstruksi?

Penghematan biaya juga kami lakukan untuk operasional setelah rumah terbangun dari desain yang kami rancang. Sebagai contoh, pembuatan roof garden pada atap bangunan merupakan upaya untuk mengurangi panas yang masuk lewat atap. Pembuatan kolam di sisi barat juga untuk mendinginkan sisi barat bangunan dan meredakan panas saat sore. Ini merupakan upaya untuk meminimalkan penggunaan pendingin udara sehingga biaya listrik bisa dihemat. ❶

Sometimes applying the green architecture principles means additional costs in construction. How did you avoid that?

We chose to stick with local materials, and kept the number minimum—we only used four kinds of materials for the house. Glass for the windows and timber to cover the floors. Most of the floors use polished concrete to replace floor finishes. Walls were left bare, without paint and instead we used recycled color skim coat. By doing this we managed to save quite a lot of material cost.

Was it enough to minimize costs by just selecting and reducing the number of materials used?

Not really. We also tried to avoid damaging the environment by trying not to change too much of the existing contour of the site and minimize cut and fill process. This also eliminated construction costs. The only cut process we did was for foundation. The excess earth was used to level the site according to the design.

What about the building coverage?

We also minimized the build-up area by only constructing rooms as needed by the occupants. We arranged the spaces in such a way to ensure effective and minimal circulation around the house. The only circulation in the house is in the staircase and the corridor that leads to the main bedroom. Under the staircase a powder room is built to use up all available spaces. The total floor area of the house is only 558 sqm and the footprint is 446 sqm. This way the green area in the house could be made bigger and thus construction costs were lessened.

Did the cutting down on costs only happened during the construction process?

We also slashed the budget for the operational cost of the finished house by following the design that we drafted. For instance, the roof garden at the top of the building functions to minimize heat gain through the roof. The positioning of a swimming pool in the west is also an effort to cool down the west side of the building and absorb the heat of the afternoon sun. These minimize electricity load for cooling, which makes for a lower electricity bill. ❶

