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FRUGAL INVENTIVENESS

Award-winning timber construction deep in the Borneo jungle

The building speaks strongly of a frugal inventiveness well known to Australasian farmers and those living in isolated places, but it sits on a hilltop in the Malaysian forest. Shelter @ Rainforest by Sydney architects Marra + Yeh received high honours in the prestigious British AR House 2012 Awards.

Ken Yeh (pictured above) is proudly Australian, with the frankness to match. But he was actually born in Malaysia, a region where he and partner Carol Marra are achieving considerable success with lightweight, sustainable designs that accommodate local cultures, climate and customs.

timber+DESIGN caught up with Yeh at the recent MTC Global WoodMart show in Kuala Lumpur where he spoke about the award-winning ‘Shelter’ in a remote part of Sabah.

Above: Shelter @ Rainforest is influenced by the vernacular longhouses of the area with their frugal timber construction

He also raised concerns about skill shortages, and developers who exploit local craftsmen.

Shelter was built for a forestry company managing 100,000 ha of Borneo forest under a sustainable reforestation system. The zero-energy house provides accommodation for the manager and guests of the company. A collaboration between architecture, forestry,

botany and anthropology, the design is based on a modular system, using local materials and small timber sections to overcome the difficulties of a remote location, lack of infrastructure and few skilled builders.

“The design has been influenced by the vernacular longhouses of the area with their frugal timber construction, and by Thoreau’s Walden Pond with its message of simple living and self-sufficiency,” says Yeh. The house is low-cost, autonomous (with solar electricity,

biogas units and rainwater collection) and passively environmental.

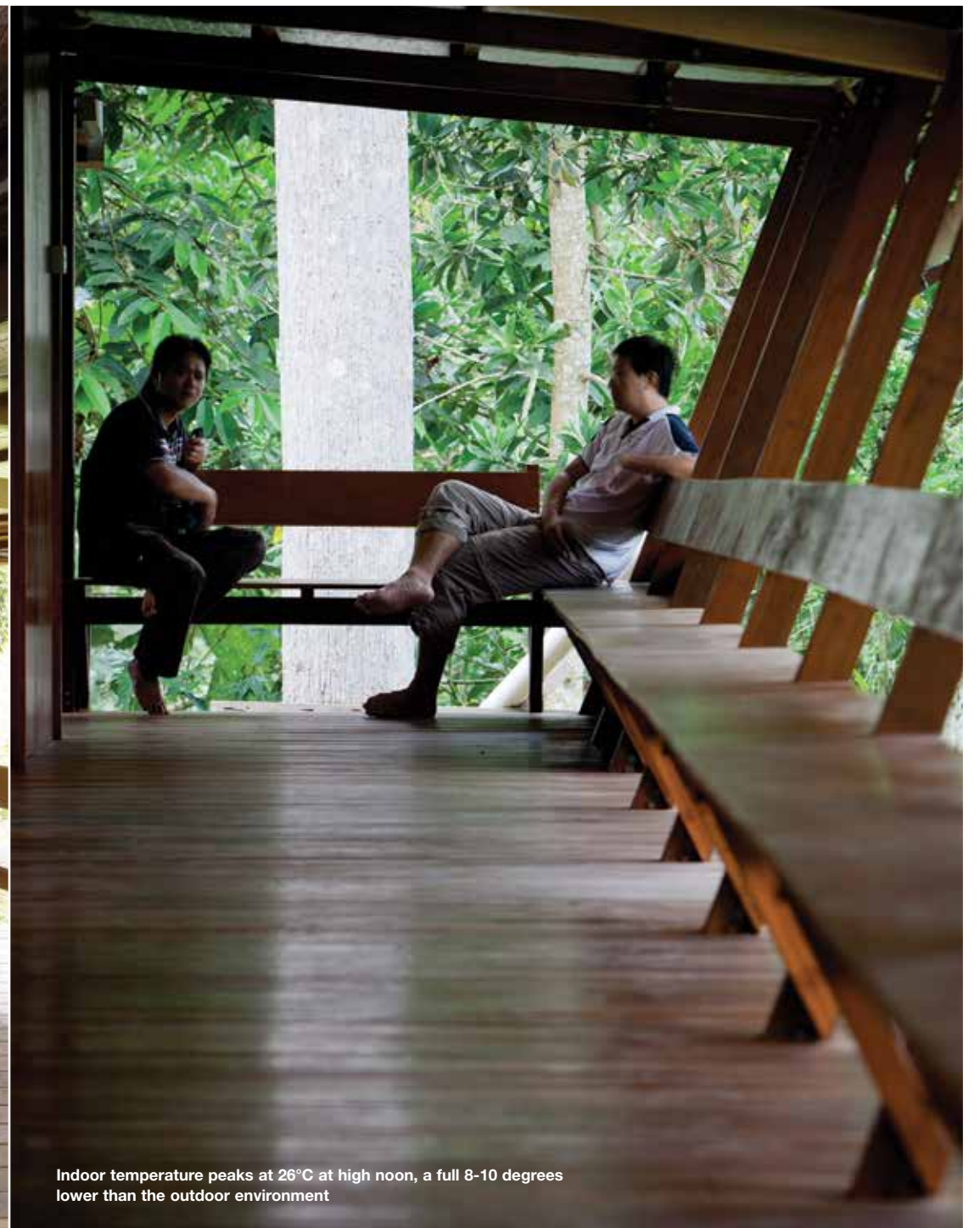
Despite the tropical latitude the indoor temperature peaks at 26°C at high noon, a full 8-10 degrees lower than the outdoor environment.

Local materials

The architecture combines local materials and labour with a high degree of structural



Using mainly local batu timber, the design is modular and addressing the reality of scarce resources and difficult logistics



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engineering knowledge and modern jointing techniques.

The design is modular and uses only two small timber sections – 100 x 50 mm and 50 x 50 mm – addressing the reality of scarce resources and difficult logistics. The one-level house caters for a family and its guests, living side by side and sharing the long verandah, where conversation is the only form of entertainment.

“It is also a symbol of craft, care and environmental stewardship; an example of what can transpire when design thinking meets difficult circumstances,” says Yeh, whose commitment to sustainable design is passionately felt.

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For this and similar projects, Yeh insists the timber is milled from the concession area they are working in. “I go into the jungle a lot to understand the ecology of the area in terms of flora and fauna, as well as the indigenous cultures that exist onsite.

“My team includes a botanist, anthropologist and an ecotourism planner. By understanding the jungle, I can create environments that are sensitive and fit correctly into the landscape. We do a lot of upfront work and this ethos has served us well in our projects.”

He shares international concerns about the impact of diminishing carpentry and related skills on timber construction (see *The Balance of Power*, *timber+DESIGN 3rd Quarter 2012*). “The skills are disappearing everywhere. I was recently in Nara, Japan and an architect friend was lamenting the disappearance of craftsmen and the lack of ‘take up’ by the next generation. If my friend in Japan laments this in one of the most cultural and traditional societies in the world, it is obviously far worse in other countries where there is no protection of these fragile culture-bearing people amidst the juggernaut of globalisation.”

He also accuses some Malaysian developers of taking advantage of the regional craftsmen’s ethos of generosity. “The [developers] bait

them with large projects and ask them to start work and procure materials, only to ditch them when their projects – often badly conceptualised and managed – fail. I have seen this in dozens of craftsmen’s workshops. The story sounds like a broken record to me these days.”

Truths expressed

When we asked Yeh to explain his passion for timber, and designing and building with wood, he deferred to the American environmental activist Wendell Berry. “After two decades of practising seriously as an architect there are some truths I express in my work. But I rely on the expression of poets and writers, like the following words from Berry,

whose use of language far exceeds mine to express those truths:

“We are going to have to see that if we want our forests to last, then we must make wood products that last, for our forests are more threatened by shoddy workmanship than by clear cutting or by fire. Good workmanship – that is, careful, considerate and loving work – requires us to think considerably of the whole process, natural and cultural, involved in the making of wooden artifacts, because the good worker does not share the industrial contempt for ‘raw material’.

“The good worker loves the board before it becomes a table, loves the tree before it yields the board, loves the forest before it gives up the tree. The good worker understands that

a badly made artifact is both an insult to its user and a danger to its source. We could say, then, that good forestry begins with the respectful husbanding of the forest that we call stewardship and ends with well-made tables and chairs and houses; just as good agriculture begins with stewardship of the fields and ends with good meals.’ ■

PROJECT Shelter @ Rainforest, Sabah
 ARCHITECT Marra + Yeh, Sydney
 WOOD PRODUCTS Selangan batu hardwood (selectively sourced from nearby forest)
 PHOTOGRAPHY Brett Boardman
 AWARDS Architectural Review House Awards (UK) commendation