

Sports hall for school in Thailand has bamboo construction

14 August 2017, by Nancy Owano



An idea worth saving—an ambitious bamboo structure serving as a large sports hall with open, natural ventilation, strong enough to withstand nasty weather and boasting zero carbon footprint.

The project team are known for their use of sustainable materials for villas, offices, homes and schools. The Panyaden International School is in Thailand and the Chiangmai Life Architects are behind the new sports hall.

What does that actually mean, zero [carbon footprint](#)? Reports said the [bamboo](#) absorbed more carbon than what was emitted during treatment, transport, and construction.

David Malone, associate editor, *Building Design+Construction*, talked about the requirements for a larger assembly space, an indoor sports facility, and a space that could keep students from getting wet in the rainy season and keep them cool on hot summer days.

"As the climate is mainly hot or wet, it became important as the school grew to provide for a sheltered [sports](#) arena. Thus the Panyaden International School Sports Hall was conceived," said the designers and builders.

ArchDaily also talked about the task in front of them. "The brief was to build a hall that should be big enough to hold the projected capacity of 300 students, but still smoothly integrates with the previous earthen and bamboo buildings of the school as well as the natural hilly landscape of the [area](#)."

No toxic chemicals were involved in the bamboo treatment process, *Arch Daily* said.

The structure was created from bamboo. Bamboo trusses were built on the floor. A crane lifted them into place. How they worked it out: "Two engineers calculated the [loads](#), tensions, and shear forces in order to design and build the structure," Malone said.

One impressive feature of their work has been efficient use of space. *ArchDaily*: Along with various courts there is a [stage](#) that can be lifted automatically. "The backdrop of the stage is the front wall of a storage room for sports and drama equipment. On both long sides balconies provide space for parents and other visitors to observe sporting events or shows."

Another talking point has been the architects' use of bamboo. CLA treats all the bamboo used in their buildings with natural Borax [salts](#).

In doing so, might CLA be telling us something about the future in sustainable architecture?

Talking about structures and materials such as adobe, wattle & daub and rammed earth walls, rammed earth floors, bamboo roofs, bamboo structures and bamboo pavilions, they said, "For

many these materials have the stigma of being 'poor people's materials' or outdated, 'dirty' materials. For us these materials rather haven't been updated with 21st century knowledge, design, [research](#) and marketing. The mainstream was made to believe that concrete solves all problems. We don't think so."

The [life](#) span of the bamboo hall is expected to be at least 50 years, said *ArchDaily*.

Nick Lavars, *New Atlas*, said bamboo, as a material for use in construction, did have some strengths—including flexibility and it [grows](#) "incredibly quickly. It can also be harvested without killing the plant, which means that it regenerates a lot faster than wood."

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