

WHY?

The Centre has been running for over ten years and provides much needed supplementary education to local children and adults. Now a cornerstone of the community the centre is used on a daily basis, as a place to meet, play, learn or work. Built on a cramped site accessed by a small dirt track, the original single storey structure sat awkward and uninviting; its central position reducing play space and offering only poorly ventilated and dimly lit rooms throughout. With so many daily users, the Centre struggled to function effectively and required a re-think in design and layout.

HOW?

Using an innovative method of casting concrete in lightweight fabric moulds, Orkidstudio and innovative engineers, StructureMode, have teamed up with a team of Khmer women in Sihanoukville, Cambodia, to rebuild a community centre in the city's urban heart.

WHAT?

The new Centre provides four large teaching spaces, a computer room, administrative and service spaces, and a colourful soap-production room built within the shell of an existing building on the site. In order to encourage local families to send their children to the Centre rather than forcing them to work from a young age, this soap-production facility offers poor women a chance to learn a new skill and generate an income.



THE PROCESS OF CONSTRUCTION AS A TOOL FOR COMMUNITY EMPOWERMENT

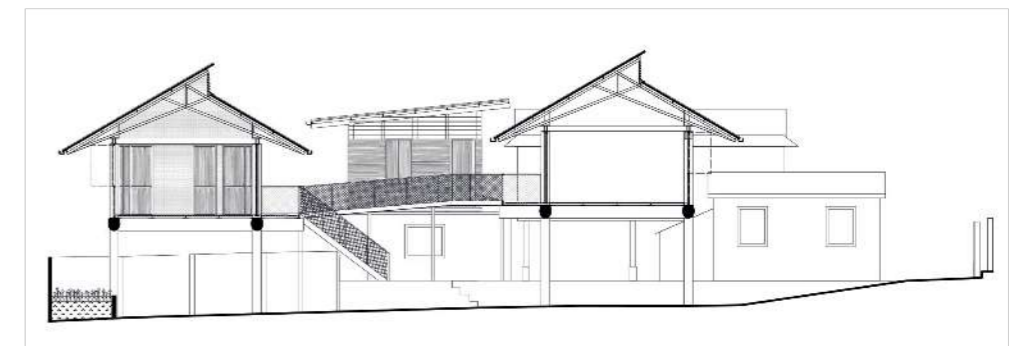
HC PRINCIPLE No. 1. Cooperate for fair and sustainable development initiatives in active collaboration with disadvantaged people or communities. This process shall follow principles of human solidarity, non-discrimination and will be aimed at promoting their self-sufficiency.

We strongly believe in the process of building as a tool for empowering communities. Five weeks before we started building the Bomnong L'or Centre, our team went to Sihanoukville to involve the future users of the Centre into the design process.

Amongst several activities for the children, teachers and users of the Centre, we explored the challenges the community faced with the existing building, following with some design feedback sessions. The proposal was well received and, more importantly, we left Sihanoukville having built a strong relationship with the community, something essential as the project progressed through the construction phases.

The construction process was also a key opportunity to promote equality and empower the community towards self-sufficiency. Our local team had a 50% women participation, and the construction method included fabric-cast concrete; which combined local gender-assigned trades in tailoring (female) and concrete (male).

Further, in order to encourage local families to send their children to the Centre rather than forcing them to work from a young age, the new Centre includes a soap-production facility which offers poor women a chance to learn a new skill and generate an income.





HC PRINCIPLE No. 5. Facilitate the use of appropriate technologies, materials and labour adequate to local values, to the cultural specificity and responsive to the natural environment.

The new building lifts all learning and teaching spaces immediately up to first floor level, clearing the full site area which is then articulated by a twisting and turning landscape, creating a range of spaces for different ages to interact and play. This raised typology mimics the traditional Khmer stilt house, typically constructed from timber, but in this case from fabric-cast concrete.

In recent decades, driven by civil war, Cambodia has seen a rapid and shocking decline in rainforest cover and its forestry industry remains largely uncontrolled even today. The use of fabric-cast concrete enabled a significant reduction in timber use on site, with only a lightweight sub-frame required to hold the fabric in position.

Cut and stitched from a durable geo-textile, this innovative method was researched and tested by StructureMode; modelling the fabric to predict how it would stretch when concrete was poured inside and producing patterns for the local tailors to follow.



HC PRINCIPLE No. 10. Defend, promote and enable access to adequate and dignified habitat for all as a 'Fundamental Human Right'.

The Centre has been running for over ten years and provides much needed supplementary education to local children and adults. Built on a cramped site accessed by a small dirt track, the original single storey structure sat awkward and uninviting, with reduced play space and poorly ventilated, dimly lit rooms. With so many daily users, the Centre struggled to function effectively and required a re-think in design and layout.

The new Centre provides four large teaching spaces, a computer room, administrative and service spaces, and a colourful soap-production room built within the shell of an existing building.

Oriented on the site to harness the seasonal winds that rush inland off the Gulf of Thailand, the Centre's split, offset roof draws air through the teaching spaces below whilst boasting large eaves designed to prevent any sunlight reaching the walls. At the gable ends, where space is limited by the site boundary, narrow, highly ventilated store rooms are used as a buffer from solar gains. By adopting an entirely passive climatic strategy, the building aims to stand as an example of good and affordable design, combining both traditional and modern techniques and seeking to establish a new Cambodian building typology.