



EVERY PIECE MATTERS

Sa rika ka ev Commune (Phnom Penh), Cambodia

RAW Impact (Raising Awareness Worldwide) is an Australian NGO working in Cambodia based in Phnom Penh. The RAW Impact organization seeks to 'Raise Awareness Worldwide' by creating powerful change through sustainable projects in Cambodia.

Context

With the rapid expansion of Phnom Penh outlying villages are being engulfed as suburbs of the city. Many of these villages on the outskirts of the city are slums whose occupants do not own the land they live on. The government policy is to relocate these slum dwellers as part of any redevelopment of the city surrounds. In the village of Ta Skor, RAW has built a school, individual housing and developed agricultural projects for the community to date. The encroaching city development would see these people relocated far from where they currently live, work and educate their children.

RAW fundraised to acquire land near to the school and have collaborated with University of New South Wales (UNSW) Master of Architecture students along with UNSW Solar and Renewable Energy Engineering students to design and build a prototype self-sufficient community using sustainable and affordable bamboo as the principal building material.



EVERY PIECE MATTERS

RAW IMPACT

Sustainable Bamboo Housing Cambodia

Raw Impact in collaboration with University of New South Wales Master of Architecture team: Coordinator Dr. Diana Alic, and students Hayden Co'Bum, Susan Koo, Wan Ashraf Md Shamsuddin, Benjamin Allen, Oriana Garcia and Heng Yan Chao.
University of New South Wales Solar Engineering team: Coordinators Dr. Anna Bruce / Alistair Coulstock, and students.

Casey Brown Architecture, Cave Urban and Murtagh Bond Structural Engineers





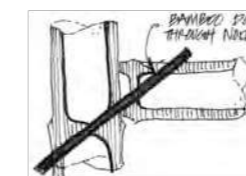
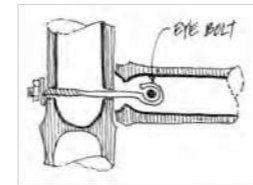
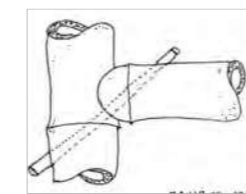
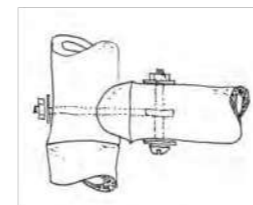
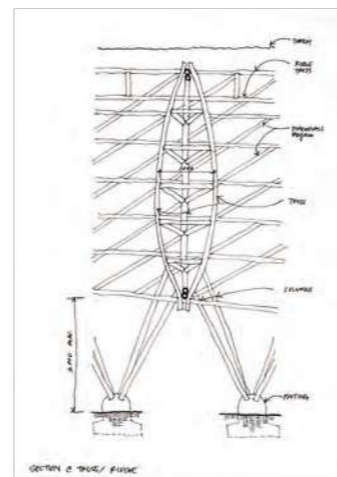
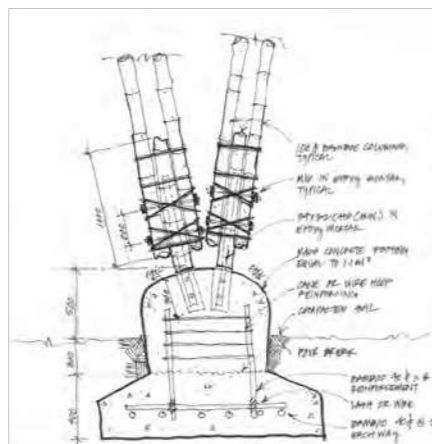
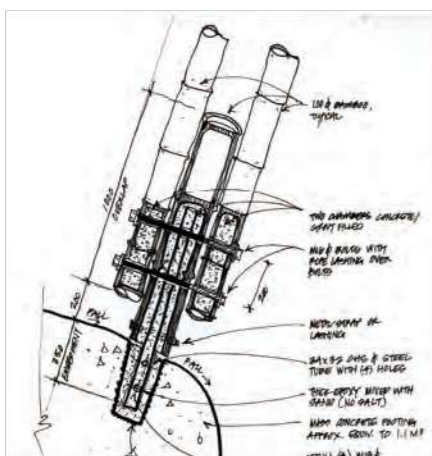
The 'Every Piece Matters' prototype development consists of housing, sanitation and agricultural/aquacultural projects creating a self-sustaining community which is resilient to the impending growth of the city nearby. The residential portion will house 10-15 of the very poorest families from Ta Skor village in their own multilevel bamboo houses. The community is to have its own water supply, sanitation, energy supply and provide sustainable agricultural/aquaculture livelihoods for the families.

Methodology
The project has been built by teams of volunteers from high schools, universities and corporate businesses in hands-on 'building workshops'. These teams consisted of up to 40 volunteers at any one time, who worked under the supervision of Cambodian locals and RAW building professionals.

Site
The site for the 'Every Piece Matters' project is in the flood zone of the nearby Mekong River, with 150m road frontage and a 15-40m depth of block characterized by a large man-made hole some 3 metres deep with a stream along one boundary.

Aim
The aim is to develop this economically sustainable prototype community in a holistic way using bamboo including housing, workshops, and community centre so it can be replicated for the remaining 100 families in Ta Skor village and serve as a model for future developments in Cambodia.

HASSETT CHARIER PRINCIPLES
5. Facilitate the use of appropriate technologies, materials and labour adequate to local values, to be culturally specific and responsive to the natural environment;





Cambodia is a country with the third highest rate of deforestation in the world, and utilizing sustainable building materials, such as bamboo, are critical to the future of its remaining forests. Bamboo can be harvested within 3 years of planting, has the tensile strength of steel, releasing 30% more oxygen into the environment and absorbing more carbon dioxide compared to other plants. Additionally, Cambodia has several endemic varieties suitable for construction.

However, traditionally in Cambodia bamboo has been seen as a 'poor man's timber', due to its limited durability and longevity. Correctly treated and protected from flood and rain by good building design, bamboo becomes an outstanding building material highly appropriate for the tropical climate, limited labour skills and is an affordable building material. 'Every Piece Matters' brings together exemplary bamboo building practice to create houses which are affordable, uniquely identifiable and sympathetic to Cambodian Buddhist culture. Additionally families living in the community are educated about bamboo construction, so they are able to repair their own houses and use bamboo in future building projects.

6. Share knowledge, promote discussion, and awareness, and collaborate in the advancement of the 'social production of habitat';

The project is a collaboration of many dedicated individuals and institutions from Cambodia and Australia working towards creating a sustainable, resilient Cambodian community by addressing critical social, health and economic issues. RAW Impact brings together teams of multi-disciplinary volunteers, many with backgrounds in architecture, design, sustainability and engineering from

MASTERPLAN

MASTERPLAN LEGEND

- 1. TA SKOR VILLAGE
- 2. HOUSES
- 3. COMMUNITY BUILDING
- 4. WORKSHED
- 5. GOATSHED
- 6. MATURE FISH POND
- 7. GROWING FISH POND
- 8. YOUNG FISH POND
- 9. FINGERLING POND
- 10. SITE ACCESS
- 11. CROPS
- 12. BORE WATER WELL



SITE SECTION



around the world, successfully promoting awareness and creating a meaningful international dialogue around complex Cambodian social issues and issues of the built environment in a developing country.

At the University of New South Wales (UNSW), Australia, students studying social agency in the Master of Architecture course have been working with students studying solar and renewable energy engineering to develop the design for the 'Every Piece Matters' community prototype for RAW Impact. To realise this project, RAW has organized teams of volunteers to travel to Cambodia and work with Cambodian locals to impart specialized skills and knowledge, allowing for the sustainable ongoing development of this site.

10. Defend, promote and enable access to adequate and dignified habitat for all as a 'fundamental Human Right'

'Every Piece Matters' anticipates the future to achieve a lasting solution for the families of the village. Phnom Penh is one of Asia's fastest growing cities, and the impact of the displacement of rural communities is a real concern. This project aims to create a prototype solution appropriate to the country, culture and environment of Cambodia. In doing so, RAW Impact aims to avoid the displacement of whole communities, and the associated issues of poverty such as debt slavery and child trafficking. By providing livelihoods, the community is able to become self-sustaining, and the cycle of poverty can be broken. The concept of habitat for RAW is not just houses but encompasses the holistic approach to better the lives of the community. By linking the expertise of international professionals to the problems of a developing country RAW can present a meaningful solution capable of duplication.

