

Bower Sala 08 Revisited: Lessons for Community-Based Live Projects

โครงการ ‘ศาลา 08’ กับการกลับไปเยี่ยมอีกครั้ง: บทเรียนสำหรับโครงการ ออกแบบชุมชนที่มีชีวิต

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Abstract

To fulfill their engagement agendas many schools of architecture step from the academy into the ‘real’ world and work with ‘real’ clients. These types of projects have been described as ‘live’ projects and a subsection of these can be described within the ‘design/build’ format as they work towards the production of a built outcome. Reflecting on these projects gives participating schools the confidence to continue their own initiatives and helps strengthen the value of the built outcomes within specific context locations and within participant communities.

This paper reflects on the Bower Sala project that took place in 2008 as a joint initiative between Faculty of Architecture and Planning, Thammasat University, Thailand and the Bower Studio team from Faculty of Architecture Building and Planning, the University of Melbourne, Australia working with partners not-for-profit Population and Community Development Association (PDA) and the Nong Tong Lim community in Buriram province in the ‘Isaan’ region of Thailand. A team of architecture, landscape architecture and construction students prefabricated and erected a pavilion, literally sala in Thai, in the grounds of the community clinic. This sala had a dual purpose by providing a place for people to wait to visit the clinic and as a place for occasional community gatherings. People from within the community contributed during the on-site construction phase lasting a further four days.

Carefully revisiting the Bower Sala project in 2015 helps to see the dynamics of the sala’s usage by the community residents by reviewing the modifications undertaken in the intervening years. Interviews and physical trace analysis assist to identify residents’ modification to the sala. These types of changes are to be expected within the live project model and reflect the changing needs and aspirations of the participant communities.

The paper re-establishes the value of cooperative, multidisciplinary and multicultural learning mixing the expertise and values of various stakeholders to work to a built outcome. Reaffirming the capacity of student teams to engage positively with both cultural and technical matters the paper goes on to demonstrate how reflection and reaction of projects of this scale can be a catalyst for on-going and deeper work within marginalized communities concentrating on links between technologies and specific cultural norms. The paper assists in setting improved frameworks for subsequent larger initiatives utilizing the ‘live project’ format as an innovative pedagogy for community-based design project.

Keywords

Architecture

Live Project

Design/Build

Studio Pedagogy

Community-Based Design Project.

บทคัดย่อ

โรงเรียนสถาปัตยกรรมหลายแห่งได้พยายามก้าวข้ามจากโลกวิชาการสู่โลกแห่งความจริง เพื่อเติมเต็มบทบาทด้านการมีส่วนร่วมในสังคมผ่านกระบวนการเรียนรู้แบบบูรณาการการออกแบบอย่างมีส่วนร่วมกับผู้ใช้อาคารจริง การเรียน-การสอนในรูปแบบดังกล่าวถูกเรียกว่า โครงการมีชีวิต (live projects) โดยโครงการลักษณะนี้จะดำเนินการในรูปแบบที่เรียกว่า การออกแบบ/การก่อสร้าง (design/built) เพราะผลงานออกแบบจากชั้นเรียนจะนำไปดำเนินการก่อสร้างโดยนักศึกษาที่ร่วมกับคนที่ใช้งานอาคารในอนาคต ผลสะท้อนจากการดำเนินโครงการดังกล่าวได้สร้างความมั่นใจในโครงการ ‘การออกแบบ/การก่อสร้าง’ แก่โรงเรียนสถาปัตยกรรม ที่จะดำเนินการต่อไป ทั้งยังช่วยสร้างคุณค่าให้ผลงานออกแบบที่นำมาก่อสร้างที่คำนึงถึงสถานที่และบริบทเฉพาะตามท้องถิ่นที่ทำงานร่วมกับชุมชน

บทความวิจัยนี้นำเสนอประเด็นที่สะท้อนผ่านโครงการ ‘ศาลา’ ซึ่งดำเนินการในปี พ.ศ. 2551 (2008) ในรูปแบบโครงการร่วมระหว่างคณะสถาปัตยกรรมศาสตร์และการผังเมือง มหาวิทยาลัยธรรมศาสตร์ และ วิชาปฏิบัติการ Bower Studio จากคณะสถาปัตยกรรมศาสตร์ อาคาร และการผังเมือง มหาวิทยาลัยเมลเบิร์น ประเทศออสเตรเลีย โดยทำงานร่วมกับสมาคมพัฒนาประชากรและชุมชน หน่วยงานไม่แสวงหาผลกำไร และชุมชนบ้านหนองทองลิ้ม จังหวัดบุรีรัมย์ในภูมิภาคอีสานของประเทศไทย คณะนักศึกษาด้านการออกแบบจากสาขาวิชาสถาปัตยกรรม ภูมิสถาปัตยกรรม และการก่อสร้าง ได้ทำการเตรียมชิ้นส่วนก่อสร้างสำเร็จรูป และไปก่อสร้างศาลาเอกประสงค์ให้กับชุมชนในบริเวณพื้นที่ของศูนย์อนามัยชุมชน ตัวอาคารศาลาถูกออกแบบภายใต้ 2 วัตถุประสงค์คือ เป็นศาลานั่งพักคอยสำหรับศูนย์อนามัยชุมชน และเป็นอาคารสาธารณะที่ชุมชนใช้ประโยชน์ในการจัดงานและกิจกรรมต่างๆ นักศึกษาและชาวบ้านในชุมชนได้มีส่วนร่วมในการก่อสร้างโดยใช้เวลาทั้งหมดรวม 4 วัน

การกลับไปเยี่ยมโครงการ ‘ศาลา’ อีกครั้งในปี 2558 ช่วยให้เห็นพลวัตการใช้งานโครงการโดยคนในชุมชนผ่านการปรับปรุงต่อเติมโครงการในปีที่ผ่านมา การสัมภาษณ์และการวิเคราะห์ร่องรอยการใช้งานผ่านการดูลักษณะทางกายภาพช่วยให้สามารถหารูปแบบการปรับปรุงกายภาพของโครงการได้ โดยการปรับปรุงเปลี่ยนแปลงเหล่านี้ได้ถูกคาดหวังในโครงการมีชีวิตเพื่อที่สะท้อนความต้องการที่เปลี่ยนไปของชุมชน และแรงบันดาลใจในการปรับปรุงของชุมชนที่เข้าร่วมโครงการ

บทความนี้ยังแสดงให้เห็นถึงคุณค่าที่เกิดขึ้นจากความร่วมมือ สหวิทยาการ และสหวัฒนธรรม ด้านการเรียนรู้ที่ผสมผสานความเชี่ยวชาญจากกลุ่มผู้มีส่วนได้เสียในการสร้างศาลาลงนี้ ทั้งนี้เพื่อยืนยันความสามารถของคณะนักศึกษาด้านการออกแบบที่คำนึงถึงความสำคัญทั้งทางวัฒนธรรมและทางเทคนิคการก่อสร้าง บทความนี้ยังแสดงถึงผลที่ได้จากการจัดทำโครงการในลักษณะนี้ที่สามารถเป็นตัวกระตุ้นการทำงานร่วมกับชุมชนที่ต้อโอกาส ที่เน้นให้เห็นถึงความเชื่อมโยงระหว่างเทคนิคการก่อสร้างกับบรรทัดฐานทางวัฒนธรรมเฉพาะของชุมชน การกลับไปเยี่ยมโครงการมีชีวิต ‘ศาลา 08’ ในปี พ.ศ. 2558 (2015) สามารถช่วยในการพัฒนารอบการทำงานสำหรับโครงการในลักษณะนี้ที่อาจจะมีความซับซ้อน โดยที่ยังใช้รูปแบบโครงการมีชีวิต ‘live project’ ในฐานะนวัตกรรมทางด้านการสอนเพื่อโครงการออกแบบเพื่อชุมชน

คำสำคัญ

สถาปัตยกรรม

โครงการมีชีวิต

การออกแบบ/การก่อสร้าง

การสอนในวิชาปฏิบัติการ

โครงการออกแบบเพื่อชุมชน

1. Introduction

The Bower Studio Model was initiated in early 2008 as a master's level design studio at the Faculty of Architecture, Building and Planning, the University of Melbourne, Australia. The Bower Studio began working, and continues to work with community groups in marginalized locations and circumstances but more recently directs most of its efforts into remote indigenous communities in Australia and Papua New Guinea. A catalogue of the work can be found online (www.bowerstudio.com.au).

One of the very first projects was conducted in conjunction with the architecture school at Thammasat University located in Bangkok. Both universities brought together groups of undergraduate and postgraduate level students, twenty-nine in all, from the built environment disciplines. The cohort included a majority of architecture students but also those focused on landscape architecture and construction issues and included students from these disciplines. The leadership team consisted of two academics from Australia and three from Thailand. In conjunction with the residents of the Nong Tong Lim village, and with support from the not-for-profit Population and Community Development Association, the work was completed over a single week's duration in November and December in 2008. Once the design was finalized the initial construction phase began with the three-day prefabrication of the steel trusses at the workshop in the Faculty of Architecture and Planning at Thammasat University before the team travelled to Nong Tong Lim to install the pavilion during the subsequent four days.

In 2015 – seven years after the initial program phase – two academics, one from each participating university, returned to Nong Tong Lim to conduct a review of the physical outcomes and reflect upon the pedagogical and pragmatic processes that drove the project. While much was learnt from the initial phase seven years earlier, this revisiting provided further insights into the 'live project' model that will be of value to universities conducting similar initiatives.

2. The Live Project

The live project model is not new to architectural education and most of the highly recognised universities worldwide run live projects on a regular basis within their current curriculums. These universities are attracted to the improved learning outcomes for their students plus the value of the relationships brokered with the wider community. By definition the live project is, 'a type of design project that is distinct from a typical studio project in its engagement of real clients or users, in real-time settings. Students are taken out of the studio setting, and repositioned in the 'real-world'. This external involvement tends to result in students producing something that is of value to the client/user group, which might range from ideas, feasibility reports, or research, to a completed design scheme, a construction or other intervention' (Sara, 2006).

Live projects that embrace a collaborative output beginning from the design phase through to the completion of the construction phase are commonly known as design/build projects and form an interesting, but smaller, subset within the live

project model. These projects are ambitious in their attempts to achieve a great deal within a short time frame and do so along with the community based organizations and the participating community's support frameworks.

The North American architect and academic Christopher Alexander initiated a well-recognised program at the Centre for Environmental Structure at U. C. Berkeley from 1976. During the most documented of these initiatives Alexander and thirteen students worked with five Mexican families to collectively design and construct five houses at a new subdivision at Mexicali on the border between Mexico and California. Alexander's program was instrumental in raising the proposition that people can 'self-build' their houses to suit their own aspirations guided by a 'pattern book' – in effect a catalogue of ideas appropriate for local adaptation (Alexander, et al. 1977; Alexander, 1979, 1985).

While Alexander's program was not the first live project conducted within the framework of architectural education it was the first to fully document the ideologies driving the process and the process itself. In doing so the project set a new benchmark for high quality and self-aware self-built housing. From this widely recognised precedent emerged arguably the most well respected and sustained 'design/build' program still offered at university level. The Rural Studio program is run from Auburn University in Hale County, Alabama and was initiated by Samuel Mockbee and D.K. Ruth in 1995 and has expanded under the directorship of Andrew Freear. It now includes large student cohorts designing and building a range of civic buildings that have included fire stations, animal welfare shelters and learning centers. Rural Studio is physically embedded within the communities in which it partners in America's semi-tropical south and has built sustained networks and relationships (Oppenheimer, 2002). Rural Studio also contributes to research on bespoke affordable housing with its \$20K House project and produces a steady output of prototypes over academic

years supported by a number of permanent staff (Freear et al., 2014). Many hundreds of students have participated in this program over twenty years and no other design/build program has received the accolades and publicity that the Rural Studio has achieved.

Many other architecture programs from around the world undertake innovative live projects. Some of the more sustained examples including those from Yale University, Melbourne University, TU Berlin, Tokyo University, Kansas University, ETH Zurich and the AA in London (Hill, 2014). Many more less documented and singular projects emerge from other architecture schools worldwide. Research papers, such as this one reflecting on the process as well as the outcomes, have a role in facilitating other institutions using live projects as a way to distinguish their learning and teaching programs.

3. Revisiting the Live Project

Post occupancy studies play an important role informing the designer of both the successes, and perhaps more importantly, any failures of a given project. The analysis and learning that emerge from this research invariably assist building a robust framework for further projects and enhance the capacity for sustainable and meaningful outcomes. A variety of research teams have revisited a range of key live projects and published some of the interesting accounts of the ways in which they have been adopted and adapted by the community in the years after completion.

Some key points of interest include evidence of ongoing community driven works (Fromm & Bosselmann, 1984), tensions between traditional and aspirational styles (Hassan and Plimpton, 1989) and links between technology and culture (Breen and Lehtonen, 2013). The most effective methods for undertaking post occupancy research into architectural projects involve some key tactics such as mapping, interviews and physical trace analysis (Zeisel, 1984;

Kellehear, 1993; Groat and Wang 2002). In conducting the research for this project the original project leaders visited Nong Tong Lim in September 2015, nearly seven years after the original project was completed to revisit and record the outcomes as well as reflect on the project.

4. How did the Bower Sala project come about?

The region of Isaan, in which Nong Tong Lim is located, has been undergoing a slow but steady engagement with the industrialized centers of Bangkok and abroad. Televisions expose the more isolated communities to new types of housing, particularly via the imagery within the ubiquitous soap operas, and access to transportation such as motorcycles facilitates explorations of other types of settlements. In the locality of Nong Tong Lim as a typical rural Isaan community, most of the residents are involved with rice farming, gardening and household livestock. There are 117 households hosting approximately 452 residents in the village. In the past decades, Nong Thong Lim community has incrementally been developing from a rural to a more quasi-rural settlement where public infrastructure, such as paved road, electricity and water supply, have been put in place. These influences eventually open new possibilities to Nong Thong Lim community and in doing so, redefine the aspirations of many households.

As a result the architecture of rural villages changes in both physical and cultural ways as these interlinked forces work together to redefine the village. The effects of deforestation and increased timber costs have contributed to concrete becoming the construction material of choice. This has led to households enclosing space and living behind masonry walls, often while watching television, rather than in the undercroft of a traditional timber house in close proximity with their neighbours (O'Brien & Dovey, 2006). What impact does this transition have upon the aspirations and adoption of new construction

technologies and what role does it play in reshaping the housing culture? Evidence suggests that people are concerned to maintain social ways of living with some households taking the opportunity to self-build informal open-air pavilions or salas, as a way to continue their social networks within the village setting (O'Brien & Dovey, 2006). However many new technologies are not easily transferable to reflect traditional living patterns.

Investigations into this transitional culture within rural Isaan formed the basis on which the Bower Sala program was developed. The program grappled with both the technological changes facing Isaan households and the desire to maintain the social connections that are facilitated by traditional open-air meeting spaces. This dilemma necessitated new ways to conceptualize a sala that embraces technology but also accommodates traditional spatial patterns and new aspirations. The leadership team decided to replace the timber members of the typical 'post and beam' structure of the sala with a steel frame and corrugated metal roof. This open-air pavilion mimicked the traditional sala typology commonly found in public places with a multi-tiered roof and a raised platform within whilst simultaneously looking to embrace new forms of technology.

5. Project Management

The administrative processes of the project were complex and beyond the scope of this paper which instead limits itself to the issues surrounding the pedagogical processes. The student cohort was multiracial and multidisciplinary with students coming from both Thai and Australian backgrounds as well as Sri Lankan, Singaporean, Malaysian, Indian, South American and Chinese. The students were at an advanced level in their course and undertook the project as credit towards their degrees. Fifteen students were enrolled at Melbourne University and fourteen from Thammasat University.

High expectations were placed on the capacities of the students who competed for the limited number of places in the program. The candidate was generally between 21-24 years old and the cohort had an even gender mix. Typically the students were highly skilled at graphic representation although none had any previous experience in physical construction. Preparatory work was undertaken by the two universities before the two cohorts became one with seminars raising questions of cultural awareness, housing typologies and pedagogical directives. The students from the University of Melbourne attended a series of workshop and training sessions to develop design and construction skills as well as learning safety issues before travelling to Thailand.

6. Design and documentation at Thammasat University

At Thammasat University the students from both universities began the process of exchanging their background knowledge and learning from each other. Firstly the students from Melbourne presented their research and speculative design ideas prepared whilst in Australia (see Figure 1). The presentations related to conceptual ideas of construction and construction experiences from the preparatory workshops in Melbourne.



Figure 1. Research presentations at Thammasat University.

Once the students from Melbourne had presented their conceptual ideas the students from Thammasat critiqued these ideas and used their own embedded knowledge of Thai culture to more finely tune the design ideas and place them in a more 'real' context. Some of this embedded knowledge related to day to day living patterns while other aspects included more complex and abstracted concepts with religious or aspirational themes. This was aided by the teaching staff, both Thai and Australian, who themselves had expertise with the particular Isaan culture. Managed properly these cross-cultural exchanges are a very powerful learning tool where differences between cultures are measured against the similarities between cultures. This shared learning happened within the formal classroom setting as well as in informal settings when the students shared meals and their day to day living experiences in the university dormitories. Thus the team of students from both universities began a process to build a negotiated toolkit to study their shared aspirations and experiences. This process, in turn, helped prepare the full team of students for negotiations and learning that were to occur when the team was working with the Nong Tong Lim community in Isaan.

By increasing the student's learning within and outside formal classes the primary design of the pavilion was realized through discussions between the Melbourne and Thammasat students (see Figure 2 & 3). At this stage, the final design was developed and made based on the student's understandings about construction techniques, material selection, timeframes and cultural concerns. Figure 4 shows the construction drawings of the pavilion. However by learning from Melbourne student's experiences, the full cohort of students decided to prepare extra materials for add-on works at the construction site. This stemmed from the desire to absorb, learn and design to the local culture and to accommodate the 'finer grain' needs determined with the residents from Nong Thong Lim village. This on-site study was

designed to seek flexible solutions for additional construction to the original design at the pre-construction stage off the site.



Figure 2. The collective design process.



Figure 3. Model making to finalize the design.

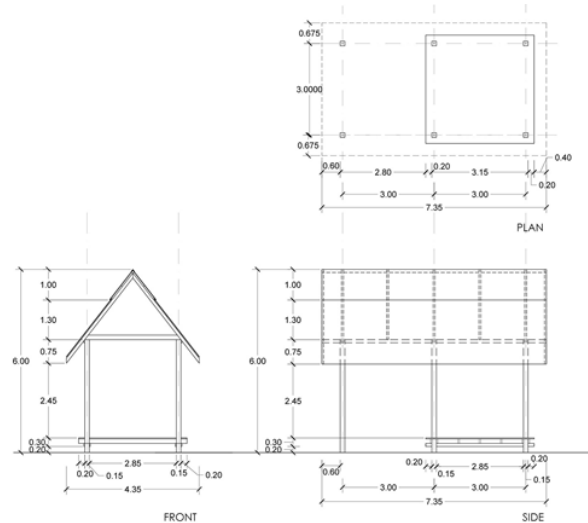


Figure 4. A construction drawing of the pavilion.



Figure 5. Prefabrication of structural steel.\



Figure 6. Transportation of prefabricated steel structures and materials.

7. Prefabrication at Thammasat

At Thammasat, the prefabrication was taken after making construction drawing and listing assemble parts. The plan was to prepare major structure of the sala including posts, beam and roof rafters (see Figure 5). Students had to learn how to manage materials and ensure that all major building parts were correctly prepared. Also, these prefabrications needed to be transported to the site so the design needed to be adapted to fit onto a truck (see Figure 6).

8. Installation at Nong Tong Lim

Once on-site at Nong Thong Lim village the schedule allowed for four days of construction. With

strict time constraints the whole construction process was designed for students to work with small groups on different tasks. The first thing to do was to confirm the location. Students went to talk to the village headman and local residents discussing on which place the sala would be best situated. The location was determined based on a primary need of waiting area for visitors of the local clinic. This was no surprise for the teaching staff who had determined the site during consultations held with the headman, clinic workers and general community many weeks earlier. This location and building orientation was designed to link between the main building of local clinic and the community co-op shop. Moreover, when having festive events, the headman wished to have a place to gather people and collectively work with others for event preparations. As an added bonus this location held aerobic exercise classes in the evening during the dry season. This location would provide not only multi-purposed space for occasional events but also support everyday community life. Figure 7 shows the student's master plan locating the sala on the lawn between the local clinic and community co-op shop.

Students with small groups were also assigned to do field research aiming to address some other needs of the villagers. The field research had come up with some ideas to address needs of the elderly and children at the community. The field research leads to ideas to consider additional elements, or 'add-ons', to the main pavilion.

One of the most important ceremonies of construction in Thailand is to erect the first major post in order to invite a spirit to protect the building (see Figure 8). Not only does this event help students to learn cultural differences, but it encourages local participation to the construction process. It is evident in the way in which local residents came to prepare banana leaf and colorful cloths as part of the ceremony and help during the construction process of the major post of the sala. Figure 9 reveals how

students created scaffolding to assemble the roof construction by using extra C-section steel beams which were later used for add-on works.

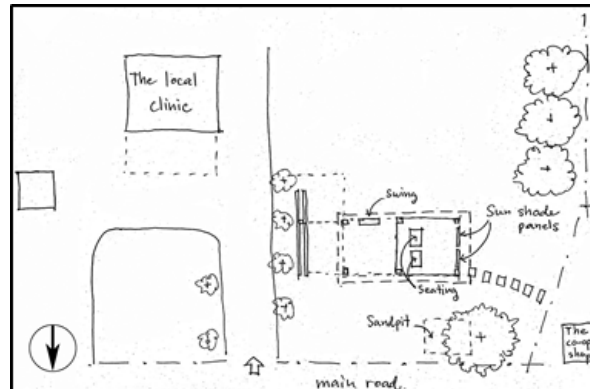


Figure 7. The 2008 Master plan of the sala and its surrounding.



Figure 8. The ceremonial erection of the first post of the sala to invite spirits to the building.



Figure 9. The scaffolding was repurposed for the add-on works.

9. Add-ons at Nong Tong Lim

When not required for construction activities smaller teams of students moved through the village in conversation with the residents and observing the living patterns. In doing so they were able to use a type of research tactic called 'trace analysis'. Trace analysis, briefly mentioned earlier in this paper, allows trained researchers to identify information about communities that do not create written data about their culture (Kellehear, 1993). The conversations between students and residents were elaborated with a series of drawings recording the living patterns. Analysis of these conversations and drawings helped the students identify a series of additional components, 'add-ons', that they believed needed to be added to the sala structure. The flexibility of the sala design easily allowed these add-ons to take place. There were five add-on works including (i) movable sunshade panels, (ii) additional seating, (iii) a swing & hammock, (iv) a structure to hold a sports net, and (v) a sandpit playground.

The desire for the additional sunshade panels was realized whilst constructing the sala. Initially the students did not know the orientation of the building and once on site they came to understand the need for additional sunshade panels. Students decided to use bamboo, a local and inexpensive material, to make the panels (Figure 10). The panels were decorated with Thai-style flower symbols. Additional seating was created for visitors of the local clinic and the elderly who come to rest at the sala (Figure 11). This idea arose when the students were using their 'trace analysis' research skills and were observing several pavilions situated in the housing areas of the community. In these observed cases seating was provided by house owners to accommodate friends and visitors. Additionally swing and hammock hooks were provided to enhance level of livability of the sala (Figure 12). For those residents interested in sports a net was attached from the pavilion and a sandpit playground was created for the young children (Figure 13).



Figure 10. Movable sun shade panels were designed to be hung on tie-beams.



Figure 11. Seating designed and built from leftover materials.



Figure 12. A swing and a hammock for young children.

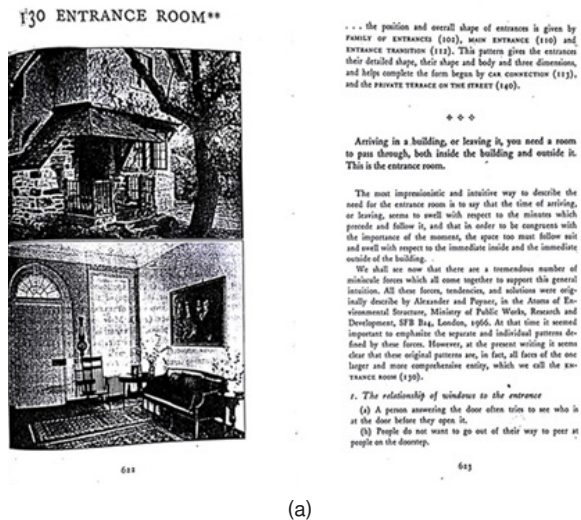


Figure 13. A net attached to two posts of the sala.

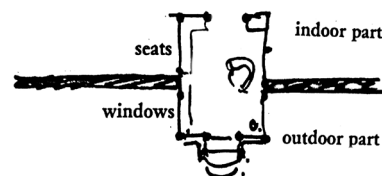
Add-ons demonstrate the student's learning as they negotiate the site, the client, the specific local living patterns and the aspirations of the community. They should not be understood as remedy for a poor initial design – rather they are an acknowledgement of the complexity of the design process and the capacity for live projects to provide more thoughtful and complete outcomes that respond more accurately to the aspirations of the participating community.

10. The project's reflection: Pattern book research and documentation at Thammasat University

At the completion of the construction phase the team returned to Thammasat to reflect on the process and use their new knowledge to produce some design speculations. In the manner of Alexander's classes at UC Berkeley (Alexander et al., 1977) groups of four students prepared pages for a 'pattern book' using the Thai context rather than Alexander's Northern American context. Student teams looked to a variety of innovative community and household based designs relevant for the needs of communities such as Nong Tong Lim. With their experiences embedded within the community the groups designed for a range of appropriate infrastructure needs and resolved their designs with reference to both cultural and technological details. Once collected and collated the student's pattern book was very interesting when compared with the book produced by Alexander's team. Many architectural patterns are similar across cultures whereas others are distinctly different. It was interesting to note that these similarities and differences are firmly embedded with both technological and cultural nuances that reinforced the Bower Sala 08 program's concentration on these two areas (Figure 15 a, b, c). Figure 14 show example pages taken from A Pattern Language by Alexander and team. Figure 14 and 15 show how different between American and Thai cultures, manifesting in two types of entrance rooms.



BUILDINGS



Give that part of the entrance which sticks out into the street or garden a physical character which, as far as possible, make it one of the family of entrances along the street—FAMILY OF ENTRANCES (102); where it is appropriate, make it a porch—GALLERY SURROUND (166); and include a bench or seat, where people can watch the world go by or wait for someone—FRONT DOOR BENCH (242). As for the indoor part of the entrance room, above all, make sure that it is filled with light from two or even three sides, so that the first impression of the building is of light—TAPESTRY OF LIGHT AND DARK (135), LIGHT ON TWO SIDES OF EVERY ROOM (159). Put windows in the door itself—SOLID DOORS WITH GLASS (237). Put in BUILT-IN SEATS (202) and make the room part of the SEQUENCE OF SITTING SPACES (142); provide a WAIST-HIGH SHELF (201) for packages. And finally, for the overall shape of the entrance room and its construction, begin with THE SHAPE OF INDOOR SPACE (191)...

(b)

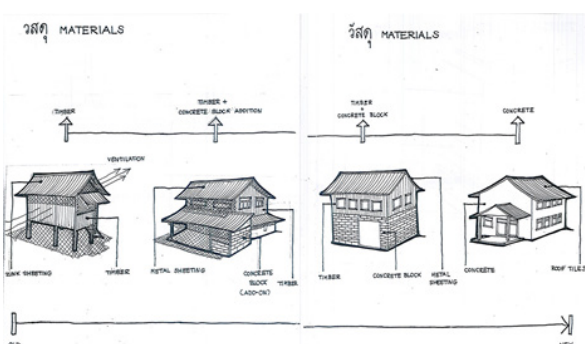
Figure 14. Example pages taken from A Pattern Language: Towns, Buildings, Construction. by Alexander, C., Ishikawa, S., & Silverstein, M. (1977)

(a) The pattern 130 entrance room in A Pattern Language

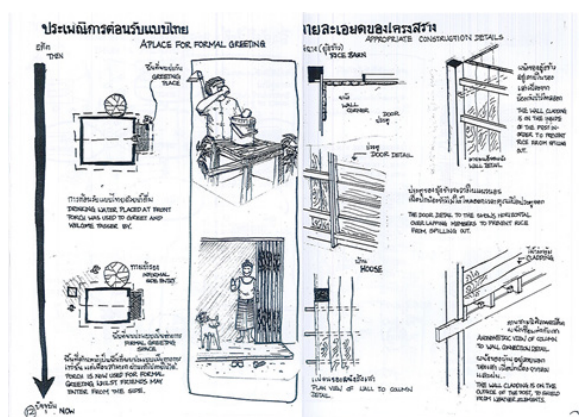
(b) An example page showing a sketch of entrance room



(a)



(b)



(c)

Figure 15. Example pages taken from the students' pattern books

- (a) The cover page of one of the pattern books
- (b) Observations of rural Thai houses
- (c) Cultural patterns, construction techniques and details

It can be seen that the pattern books produced by students from both institutions are the reflection of learning outcomes which designers from different cultures can collect some design essences and learn from each other in order to be aware of some certain design components when designing live project in a particular context in the future.



(a)



(b)

Figure 16. With the just completed sala in 2008 (a) and revisited in 2015 (b).

11. Revisiting the sala

In September 2015, almost seven years after completion, David O'Brien and Boonanan Natakun revisited the sala at the Nong Tong Lim health clinic. From the first glimpse the sala was easily recognized for its high-pitched roof on the front lawn of the local clinic and looked strikingly similar as it was seven years earlier. Figure 16 a & b show photographs of the sala in 2008 and 2015.

However a closer inspection revealed that series of changes had taken place in the intervening years and required investigation. A survey of the sala coupled with a physical trace analysis was conducted to provide some indication of the ways it was 'working' in a physical sense as well as proving some idea of the patterns of use. Furthermore a series of interviews with the community leader, two clinic staff, community

leader and three nearby residents helped drive the oral accounts of the sala's role in the community. It must be noted that the clinic staff working at Nong Tong Lim during the time when the sala was erected in 2008 have since moved to work at other clinics and hence the interviews conducted in 2015 were undertaken with the new clinic staff. However, with assistance from the community leader and local residents living nearby the researchers were able to record the incremental changes made to the sala over time. In addition, oral accounts from all interviewees were backed up by a catalogue of photos taken periodically over the intervening years to record activities located at the sala. Due to a range of logistical issues the 2015 review was unable to include any input from the students from Thammasat or Melbourne University.

The most disappointing outcome of the review was that the quality of the sala's paint has not been good and fine layer of surface rust is evident over the steel members staining the original blue/grey color to brown. Figure 16(b) also shows that the add-on works from the 2008 construction have not lasted the test of time. The movable sunshade panels, non-fixed seating and sports net have been removed. This should not be surprising, particularly in the case of the sunshades and net, as they were built from non-durable materials and were not expected to last over the long-term. The sandpit had not been replenished with fresh sand although the structure was still standing strong. However the swing remained as it had been built in 2008 (Figure 17) and continues to be the preferred place to sit for many visitors.

The focus group interviews with clinic staff, community headman and residents were conducted on the site. Discussions revealed that the sala has been a popular addition to the community and used for both formal and informal community gatherings. It is common for people waiting for clinic appointments, or waiting for family visiting the clinic, to wait at the sala. The sala is also used for the members of the community exercise program as well as the

preparation and performance space for many of the community festive events taken on the adjacent lawn (Figure 18 & 19). The elderly gather in the early morning to undertake their exercise regime. Regardless of age or gender many social groups use the sala in ways that help maintain the social interactions among the villagers.

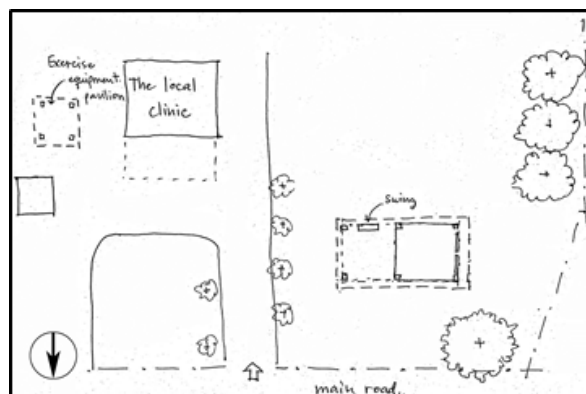


Figure 17. The 2015 Master plan of the sala and its surrounding



Source. Image courtesy of the local clinic

Figure 18. The sala used for community health check-up provided by the local clinic.



Source. Image courtesy of the local clinic

Figure 19. The sala used for community assembly.

The headman explained that parents pick their children up from school and leave them to play at the sala before coming back again to take them home in a semi-formalized arrangement. Local authorities sometimes use the sala as a formal meeting place and scheduled community based activities, small performances and festivities are popular too.

The reasons for the modifications to the sala were explained during the interviews. First, the movable parts of the sala such as seating and sunshade panels were taken away by the villagers for other purposes. It was interesting to hear the story from the clinic staff about why the post for the sport's netting was taken away. Five years after completion the clinic received exercise equipment. Without a place to protect the equipment the community headman decided to repurpose the posts, plus other materials left behind in 2008, and use them to frame a small pavilion for the exercise equipment (Figure 20).



Source. Image courtesy of the local clinic.

Figure 20. The exercise pavilion constructed with repurposed and left over materials from Bower Sala 08.

Further interviews with the community headman and residents also indicate that the villagers perceive the steel structure as a strong and long lasting structure although not a common choice of construction material due to the high costs. Hence steel structures are seen to be more suitable and common in industrial buildings rather than houses but should steel become more affordable it would

have a role to play as a framing system. Steel roofing, rather than framing, has become more common in the village and is praised for its availability, strength and robustness.

12. Learning outcomes

This example of a live project has exhibited a range of authentic learning outcomes for the students involved and has also delivered significant value to the teaching staff, NGO participants and the hosting community.

The students from both universities had shown significant enthusiasm towards navigating and addressing the complex cultural and technical issues involved. With this enthusiasm came a deeper commitment to the learning process and a deeper understanding of the issues involved. This was enhanced by the student's own comprehension of the complexities that arise with the uncertainties and negotiations taking place in community based projects.

Working towards completing the sala the team navigated across disciplines (architecture/construction/landscape architecture), cultures (Thai/Isaan/Australian/plus others), languages (Thai/English/plus the language of drawing and model making), locations (urban/rural), with each individual shaping their contribution and extending their own experiences and aspirations.

From this came a more complex understanding of the evolving needs and aspirations of the Nong Tong Lim community and the process that formalized these with the production of a built outcome. Links between the needs/aspirations of the community with the technological/form shaping aspects drove the intellectual challenges faced by the team, which in turn shaped the learning outcomes. This happens in a fluid, non-hierarchical manner, which places the students in a more responsive and responsible role than they would take on in a more conventional classroom based program.

13. Lessons from the revisit and for future live projects

The live project at Nong Tong Lim has established the crucial role the students play in developing relationships with the client community group. With these relationships comes the capacity for the team to more fully respond to the aspirations of the community. It was important for this 'finer grained' consultation to have a place within the build phase of the project. Hence there was ample opportunity for additional components, the add-ons, to be identified, designed and realized alongside the core part of the project.

As discussed earlier in the paper the design phase occurred in two parts with the student teams adding additional features once they had been embedded in the community for some time. This additional seating, landscaping and play spaces for the community to enjoy came about after the engagement between the students and the community and followed on from the formal and informal conversations, analysis of everyday living patterns and an appreciation of the site and local climate. The value of designing and building additional features after the core construction phase allowed the team to more closely tailor each project to the community's needs. This two-step process, with the first phase building a predetermined outcome followed immediately by a series of modest 'add-on' components has been a key feature of later Bower Studio projects. From this experience in Nong Tong Lim we have learnt the need to make these add-ons more robust and the importance of having an adequately resourced maintenance team to take responsibility for upkeep over time.

After revisiting the sala, seven years after construction, it is clear that the major structure of the sala has remained the same and the functional uses, as anticipated in 2008, remain the same. Local responses towards the steel structure, as opposed

to the ubiquitous timber and concrete buildings throughout Isaan, remain positive and the relevance of steel as a robust 'modern' material stands true. On the other hand, it is not surprising that some parts of the add-ons have changed over time due to the lower levels of robustness of these items

The repurposing of the steel posts and the use of the leftover steel to construct an additional pavilion for the exercise equipment should be looked on as another of the project's success stories. An empowered community, such as Nong Tong Lim, is able to use partnerships encompassing various stakeholders to extend its own capacity beyond the immediate project outcomes. Reusing and repurposing materials as new needs come to light is a positive outcome and the researchers are excited that the community was able to take advantage of these left over materials and see them as opportunities to build new infrastructure without the support of external agencies. The leaders of the project have agreed that we shall always endeavor to ensure that such opportunities continue to remain a key part of the live projects offered by the Bower Studio into the future and aim to leave around 30% of the total materials required for future use.

The open-ended structure of the project has pedagogical purpose. The students take on responsibilities beyond those in classroom settings and are provided with a framework to which they experience authentic learning strategies and the confidence to use this learning to develop real world outcomes. Not only does this encourage excellence in learning but it also encourages excellence and innovation in teaching.

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