Miaoxia Village – building a sustainable community

Peter Hasdell
PolyU UoA 38
2019
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1 Descriptor

1.1 Description
1.2 Non-traditional description
1.3 Research summary

Completed Miaoxia Community Guesthouse (background) 2018 and Community Kitchen (foreground) 2016.
The research, initiated and led by Peter Hasdell (as Insitu -Project), spanned four years and involved 7 researchers, over 100 participants, from 4 universities, including 7 workshops and 2 internships.

The collaborative project with designers and social scientists revitalizing a rural community in Miaoxia Sichuan China used a combined action research and participatory design approach. The project involved extensive research and in-depth engagement with villagers.

This resulted in a body of work comprising 6 co-designed and constructed works (community kitchen, guesthouse, community waste treatment, square, community guesthouse, social enterprise and garden), 2 social enterprises, 3 book chapters, conferences, 4 colloquia and 5 exhibitions.

Further generating projects:

- 9 Villages
- 16 Designs
- 11 Projects
- 5 Years
- 800 Villagers

Keywords

- Participatory Design
- Action Research
- Social Enterprise
- Social Innovation
- Social Design
- Sustainable Rural Development
- Socio-material Assembly

Community Kitchen

Community Guesthouse

Social Enterprise
Miaoxia village research involved collaboration between the disciplines of Social Sciences and Design. The combined social design methodology used Action Research to create new ‘software’ (social enterprises, new community groups) and Participatory Design to create new ‘hardware’ (new buildings, improved infrastructure) through extensive and protracted engagement with the rural community in Sichuan.

The research aligned social and design change towards sustainable development and increased resilience in the community. The key research focus was how collaborative approaches can positively impact long-term rural development, generating resources, capacities and capabilities as local knowledge ecologies and tools of social innovation. In-depth engagement with villagers involving co-design / participatory design processes led to the implementation of 6 new community facilities and amenities and the parallel development of villager-run social enterprises (cooperatives) to manage and benefit from these. Benefits from these enterprises are shared supporting community health, education and wellness. The work combines non-traditional outcomes (design, exhibitions, craft based research) with traditional research outputs.

Funded by Keswick Foundation and School of Design, the research was conducted in two separate stages: 2015-2017, 2017-present.
### 1.3 Research summary

**Tangible benefits:** Construction of community kitchen, community guesthouse, community septic tank, community garden, public-square and related social enterprises generated over 2000 new visitors and Rmb90000 in cooperative income and shared benefit schemes.

**Intangible benefits:** Increased community cohesion, greater resilience and sustainability.

**Research participants:** 7 researchers, over 100 villagers, 4 specialist consultants, 60 design and social work students, 20 volunteers.

**Research outputs:** Includes 6 designs (design and construction), 3 chapters, 6 journal articles, 5 conferences, 4 exhibitions.

**Research methodology:** Development of a cross-disciplinary research approach between Design and the Social Sciences, enables design-as-agency to be geared towards sustainable change. This overlaps knowledge fields of social design and social innovation.

**Research applicability:** Similar projects in 9 other Chinese villages resulting in 11 completed community design projects benefiting over 2000 villagers. Further expressions of interest from community, research, conservation, and NGO groups.

**Research network:** Involving 4 regional universities, 2 international universities and further expressions of interest.

**Knowledge transfer:** Includes 13 workshops, 2 internships, 3 service learning initiatives, successfully attracted 3 funded PhD students including 2 HK PhD Fellowships (Chief Supervisor).
2 Research Questions & Context

2.1 Research Questions
2.2 Research Context
2.1 Research Questions

Key Research Questions include:

A. To explore how collaborative localised in-situ (bottom up) approaches can positively impact sustainable rural development through real life engagement.

B. To test the applicability of a cross-disciplinary (Design and the Social Sciences) dual research methodology approach using action research and participatory design approaches as a basis for design agency.

C. To investigate how local resources, capacities and capabilities become tools of social innovation in the initiation of embedded environmental, social and economic change.

D. To seek ways of fostering long term project innovation and stewardship.
2.2 Research Context

The research context of rural development in China and specifically in Miaoxia in Sichuan has the following key issues:

**Rural Economic Migration**
Sichuan largest outward migration to coastal provinces since the Opening Up Period started in the 1980s: upto 23% of province population had migrated at one point.

**Hollowed out villages**
Emptying out of villages and decline in subsistence farming due to changing rural policies: over 625,000 official villages in China and 2.3 million estimated villages in total with a combined population of 600 million, with an estimated 60% of these suffering from hollowing out (migration, changing economic circumstances and changing government policies).

**Rural economy disparity**
Opening Up Period policies benefits urban development over rural development: urban income over 6 times that of rural in 2015.

**Left Behind Children**
Above factors have resulted in 60 million left behind children, many looked after by grandparents, 80% are under 14 by 2015.

**Aging rural population**
Few able bodied working age people in some villages leads to disappearing skills and culture: 16% of population over 65 by 2011 is expected to rise to 25% by 2040.
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Research Output

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3.1 Research Output Overview

The research context of rural development in China and specifically in Miaoxia in Sichuan has the following key issues:

**Community Kitchen** (2016)
Facility and related social enterprise resulting in traditional and non-traditional outputs.

**Community Guesthouse** (2018)
Facility (comprising of a multi-function building, plus 3 ancillary parts) and related social enterprise resulting in traditional and non-traditional outputs.

Overview of social enterprise impacts.

Database and archiving and skill training / transfer.

**Research Application** (2016 - present)
Application of research approach in 9 other villages resulting in 11 community design projects benefiting over 2000 villagers.
Research Output

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3.2 Research Output: Community Kitchen

Community Kitchen (2015-16) comprises of:

- **Participatory Process:** designed and constructed community kitchen building and integrated cooperative social enterprise and community benefit system, engaging over 100 participants (research methodology and design as research).

- **Research artefact:** Community kitchen: 145m² total area, kitchen, community space, outdoor deck; and adjoining herb garden.

- **Knowledge transfer activities:** include 2 academic workshops, 2 colloquia / symposia.

- **Traditional outputs:** 4 conferences, 2 journals, 1 book chapter.

- **Non-traditional outputs:** 4 exhibitions.
3.2 Research Output : Community Kitchen

A. Completed Community Kitchen. Community engagement commenced in March 2015, the participatory design / action research process for the development of the kitchen design and the social enterprise completed by August 2015. Participatory construction with villages occurred between July and November 2015, inauguration occurred in Jan 2016.

The social enterprise began operation in September 2015. This is the first wood (renewable local resource) building constructed in the village for over 50 years. The carpentry skills and interest in this forgotten skill were re-activated in this process.
3.2 Research Output: Community Kitchen

3.2a. Participatory Process:

A. Community Kitchen participatory design presentation meeting with villagers. A total of 7 meetings / stages were conducted. Each iteration resulted in design changes and further community discussion.

B. Material preparation, engagement of local carpenters for construction.

C. Community participation in construction of Community Kitchen, using local skills and craftsmanship.

D. Community engagement prior to completion, initial testing of kitchen facility and initiation of Kitchen Cooperative social enterprise consisting of 7 village women.
3.2 Research Output: Community Kitchen

3.2a. Participatory Process:

Community Kitchen participatory design and construction process with village life and workshops video 2016 (duration 2 minutes)

https://www.youtube.com/watch?v=WFZryO4pJa
3.2 Research Output: Community Kitchen

3.2b. Research artefacts:

A. Community Kitchen design completed, photo taken Jan 2016.

B. Community Kitchen cooperative group (social enterprise) consisting of 7 village women preparing local specialities. Around 15% of the profits from the community kitchen are distributed to Miaoxia community benefit schemes including health fund, education fund, aging fund and community development fund. To date the kitchen has catered for over 2200 visitors.

C. Community participation in construction of Community Kitchen garden growing local herbs.

D. Initiation of community health service involving monthly visits by a doctor, October 2015. Pictured here is a discussion on general health issues for the elderly. Prior to completion of the Community Kitchen, there were no suitable spaces for this in the village. The facility is used for a wide diversity of community related activities including education, village meetings, hosting visitors, as a tea room, workshops and more.
3.2 Research Output: Community Kitchen

3.2c. Knowledge transfer activities examples:

A. Community Kitchen design workshop #1 on local craftsmanship in collaboration with local craftspersons. Workshop participants were 20 students from HK and SZ, in 2015.

B. Community Kitchen exhibition workshop, exhibition and symposium between SD and APSS in School of Design, HK Poly U. Invited social workers and villagers participated as well as designers and social workers. November to Jan 2015-16.

C. Community Kitchen design workshop #2 on bamboo fabrication 2016 run by SD and involving local experts.

D. Villagers initiated workshop starting in 2016, villagers began to run their own workshops to visiting groups and school kids on crafts and local traditions.
3.2 Research Output: Community Kitchen

3.2d. Traditional output examples:


C. “Seven reflections on making in Miaoxia Traditional Craft Workshop 2016”, Shenzhen University Student Innovative Development Project, Shenzhen University School of Architecture and Urban Planning, Shenzhen.


See Section 7: Dissemination
3.2 Research Output: Community Kitchen

3.2e. Non-traditional output examples:

A. Miao Xia Village events: introduction of regular cinema in the public square since 2015.

B. Community Kitchen exhibition workshop, exhibition in School of Design, HK Poly U. Invited social workers and villagers participated as well as designers and social workers. Students from three different HK schools assisted in construction and preparation of the exhibition. Exhibition consists of participatory process, models and videos. November to Jan 2015-16.

C. “Styx” making workshop as part of Makerfaire in 2015 with participants from 3 HK design schools making a triangular frame system with traditional Chinese construction techniques. Exhibited in SD in September 2015


See Section 7: Dissemination
### 3 Research Output

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Community Guesthouse collective septic tank construction (2017), Miaoxia Village - building a sustainable community
3.3 Research Output: Community Guesthouse

Community Guesthouse (2017-18) comprises of:

3.3a Participatory Process: designed and constructed building and integrated cooperative social enterprise and community benefit system, over 50 participants (research methodology and design as research).

3.3b Research artefact: Guesthouse 350m2, 20 bed 6 room facility, community space, office, study room, workshop space, sanitary amenities; adjoins new public courtyard. New community septic tank manages guesthouse and nearby houses waste. Feeding treated waste to new ecological orchard.

3.3c Knowledge transfer activities: 2 academic workshops, 4 internships, 2 colloquia.

3.3d Traditional outputs: 1 conference, 3 journal articles, 2 book chapters.

3.3e Non-traditional outputs, awards and external recognition: 2 exhibitions, Azure Award 2018, external press Lonely Planet.
A. Completed Community Guesthouse. Community engagement commenced in March 2017, the participatory design / action research process for the development of the kitchen design and the social enterprise design completed by August 2017. Participatory construction with villages occurred between July and November 2017, inauguration occurred in December 2017, followed by training and setting up of the social enterprise by March 2019.
3.3a. Research Output: Community Guesthouse 2017-19

A. Existing village house converted to guesthouse
B. New construction with meeting rooms, social workers room / office, children’s study room, bathroom and laundry amenities
C. Community Septic Tank (underground)
D. Community fruit tree garden fertilised by community septic tank
E. Guesthouse courtyard and gathering area
3.3 Research Output: Community Guesthouse

3.3a. Participatory Process:

A. Miaoxia Community Guesthouse iterative participatory design process, this is revision, as part of an intensive 2 week design workshop in the village involving 5 researchers, 4 interns and 20 socialwork and design/architecture students from 4 universities June 2017

B. Miaoxia Community Guesthouse participatory design revision meeting in Miaoxia June 2017

C. Miaoxia Community Guesthouse public presentation and participatory design meeting in Miaoxia June 2017
3.3 Research Output: Community Guesthouse

3.3a. Participatory Process:

A. Miaoxia Community Guesthouse participatory construction process (interns, researchers and social workers) July 2017

B. Miaoxia Community Guesthouse construction process July 2017

C. Miaoxia Community Guesthouse construction process July 2017

D. Miaoxia Community Guesthouse construction process July 2017
3.3 Research Output: Community Guesthouse

3.3a. Participatory Process:

A. Miaoxia Community Guesthouse participatory construction process (interns, researchers and social workers shown) July 2017

B. Miaoxia Community Guesthouse roof construction process July 2017

C. Miaoxia Community Guesthouse floor construction. July 2017

D. Miaoxia Community Guesthouse internal wall construction. July 2017
3.3 Research Output: Community Guesthouse

3.3a. Participatory Process:

A. Miaoxia Community Guesthouse stop-frame video of participatory construction process: frame raising: 12 hours real time involving carpenters, villagers, social workers, researchers, interns. July – August 2017 (duration 1.50 minutes)

B. Miaoxia Community Guesthouse video of frame raising. July – August 2017 (duration 0.45 minutes)
3.3 Research Output: Community Septic Tank and Eco-garden:

3.3a. Participatory Process:

A. Miaoxia Community Guesthouse septic tank construction process September 2017

B. Miaoxia Community Guesthouse septic tank construction process September 2017

C. Miaoxia Community Guesthouse construction of the orchard garden. The orchard is fertilised from treated waste water through irrigation channels, 2018.

D. Miaoxia Community Guesthouse villager construction of orchard garden. The orchard is fertilised from treated waste water through irrigation channels, 2018.
3.3 Research Output: Community Guesthouse

3.3b. Research artefact:

A. Miaoxia Community Guesthouse view of reading / study room and bridges (upper) and bath / shower amenities (lower)

B. Miaoxia Community Guesthouse courtyard space

C. Miaoxia Community Guesthouse View of office space and meeting rooms
3.3 Research Output: Community Eco-garden

3.3b. Research artefact:

A. Miaoxia Community Guesthouse courtyard (shown unfinished)

B. Miaoxia Community Guesthouse garden and community septic tank underneath garden. The community septic tank serves six surrounding houses and the guesthouse.

C. Miaoxia Community Guesthouse orchard garden. The orchard is fertilised from treated waste water through irrigation channels.

D. Miaoxia Community Guesthouse view of guesthouse and septic tank under paved area.
3.3 Research Output: Community Guesthouse

3.3c. Knowledge transfer activities:

A. Miaoxia Community Guesthouse childrens library and study room

B. Miaoxia Community Guesthouse visiting NGO elderly group, knowledge and experience sharing

C. Miaoxia workshop #4 Spatial narrative film workshop for social work and design students summer 2017, focused on storytelling and village mythologies


3.3 Research Output: Community Guesthouse

3.3d. Traditional outputs:

https://www.cubicjournal.org/wp/issue-1-design-social/

B. Making and the physical parameters of design, in *Architects as Makers, Design Material and Fabrication*, eds Leung C., Chan E., HKDI, Architecture Projects Review #02, Hong Kong.


See Section 7: Dissemination
3.3 Research Output: Community Guesthouse

3.3e. Non-traditional outputs, awards and external recognition:


See Section 7: Dissemination
3 Research Output

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## 3.4 Research Output: Social Enterprise (2016, 2018)

### 3.4a Research Outputs: Social Enterprise

A. Social Enterprise overview of events, types and revenue generation and the contributions of these. Note this covers both the Community Kitchen and the Community Guesthouse.

For the Community Kitchen the Social Enterprise consists of 7 village women.

For the Community Guesthouse there are 4 sub-groups that manage cleaning, washing, making beds, and management.

Both Social Enterprises contribute around 15-20% on average of operational profits to social benefit services. These services are community managed and include funds for Health, Ageing, Education and Village Development.

<table>
<thead>
<tr>
<th>Event / item</th>
<th>Amount</th>
<th>Number of people</th>
<th>Description</th>
</tr>
</thead>
</table>
| Training sessions             | 8      | 164              | • Community Kitchen construction (2 sessions)  
• Community Kitchen operation (2 sessions)  
• Community Guesthouse construction (4 sessions)  
• Training content includes construction, kitchen operation, landscaping, enterprise development, craft-making, sustainable waste management, furniture making and others, maintenance, building insulation, building and landscape surveying |
| Educational workshops         | 10     | 140              | • Workshops in Miaoxia for community kitchen (3 workshops)  
• Workshops in Miaoxia for community guesthouse (2 workshops)  
• Workshops in Hong Kong for community kitchen (2 workshops)  
• Workshops in Shenzhen for community kitchen (1 workshops) |
| Expert consultants            | 8      |                  | • sustainable design  
• planning, architecture, building surveying, landscape design  
• timber construction  
• social enterprise development  
• local culture, local food and handicrafts  
• disaster response and management  
• rural development and sustainable resource management |
| Villagers involvement         | 2      | 157              | • Community Kitchen construction (90 people)  
• Community Kitchen operation (6 people)  
• Community Guesthouse construction (61 people)  
For Kitchen and Guesthouse design and construction only |
| Students and researcher involvement | 23 |                  | • Research + Project Assistants (design related) Poly U (5 people)  
• Research and Project Assistants (design related) SZ U (2 people)  
• Research and Project Assistants (design related) HKDI (2 people)  
• Internships (design related) UG Poly U and HKDI (5 people)  
• Internships (design related) Pograd Shenzhen U (2 people)  
• Workshop participants BA students (122 people)  
• Workshop participants Masters students (18 people) |
| Volunteer involvement         | 23     |                  | • Community Kitchen construction (5 people)  
• Community Kitchen workshops (15 people: Miaoxia and HK)  
• Community Guesthouse construction (3 people) |
| Visitors to Miaoxia           | 2204   |                  | • visitor groups range from local and regional interest groups, community related groups, elderly rural resident groups, disaster management groups, social work groups, design related groups, NGO and affiliate groups, educational and study groups, visiting academic groups (1380 people)  
• Visitors for training (164 people)  
• Visitors for workshops (90 people)  
• Visitors for festivals (520 people) |
| Event Numbers                 | 130    |                  | • Visiting events range from local and regional interest groups, community related groups, elderly rural resident groups, disaster management groups, social work groups, design related groups, NGO and affiliate groups, educational and study groups, visiting academic groups (107 events)  
• Training events (8 events)  
• Workshop events (10 events)  
• Festival events (4 events)  
Note: these figures are incomplete and estimates |
| Facilities developed          | 2      |                  | • Community Kitchen and meeting facility (100m2 completed 2015) with capacity for 100+ person eating events  
• Community Guesthouse and Disaster Management Resource Facility (350m2 completed 2017) with capacity for 20-25 persons, with integrated waste management system |
| Income generated              | Rmb 87881.00 |                  | • Community Kitchen cooperative group (Rmb 59,992)  
• Guesthouse group (Rmb 24,643); note this is for in house stay not for the Community Guesthouse  
• Culture Group (Rmb 3,425) |
| Exhibitions                   | 6      |                  | • International exhibitions 1  
• Miaoxia exhibitions 1  
• HK and Shenzhen exhibitions 4 |
| Symposia and colloquia        | 11     |                  | • International colloquia 1  
• Regional colloquia 2  
• HK and Shenzhen colloquia 3  
• Conferences international 2  
• Conferences regional and local 3 |
3.4 Research Output: Social Enterprise (2016, 2018)

3.4b Research Outputs: Social Enterprise

### A. Number of events (to 2018.01)

<table>
<thead>
<tr>
<th>Date</th>
<th>Visiting</th>
<th>Training</th>
<th>Workshop</th>
<th>Festival</th>
<th>Total (events)</th>
</tr>
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<tr>
<td>2015.8 to 2016.7</td>
<td>17</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>2016.8 to 2017.7</td>
<td>63</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>74</td>
</tr>
<tr>
<td>2017.8 to 2018.01</td>
<td>27</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>107</td>
<td>8</td>
<td>10</td>
<td>4</td>
<td>130</td>
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### B. Revenue streams (to 2018.01: all figures Rmb)

<table>
<thead>
<tr>
<th>Date</th>
<th>Kitchen group</th>
<th>Guesthouse group</th>
<th>Culture group</th>
<th>Total (events)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015.8 to 2016.7</td>
<td>9,100.00</td>
<td>6,640.00</td>
<td>-</td>
<td>15,740.00</td>
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<tr>
<td>2016.8 to 2017.7</td>
<td>32,692.00</td>
<td>10,203.00</td>
<td>2,495.00</td>
<td>45,391.00</td>
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<tr>
<td>2017.8 to 2018.01</td>
<td>18,200.00</td>
<td>7,800.00</td>
<td>750.00</td>
<td>26,750.00</td>
</tr>
<tr>
<td></td>
<td>59,992.00</td>
<td>24,643.00</td>
<td>3,245.00</td>
<td>87,881.00</td>
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A. Breakdown summary of revenue producing events since the Guesthouse was completed (until January 2018). These are new events and new visiting groups of people visiting the village as recorded by the resident social workers. Typically the events ranged from 5 to 25 persons depending on the nature of the events.

B. Breakdown summary of the revenue streams since the Guesthouse was completed (until January 2018). Note the Culture groups is a villager initiated social enterprise conducting tours, craft workshops etc. For comparison the estimated monthly average income is around 1000 - 1200 Rmb per villager in Miaoxia. All numbers are from established social enterprise or community benefit cooperative groups. In addition, revenue contributes between 6-15% to community initiatives such as the Elderly fund, the Childrens fund and the Village improvement fund.
3 Research Output

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3.5 Additional Research Outcomes: Database and Archive

A. Existing Miaoxia wood building: Miaoxia community projects are the first new wood buildings in village in over 50 years: reactivating dormant skills in village and timber building patrimony. Note that the village was formerly very skilled in carpentry.

B. View of Childrens reading room in Community Guesthouse building

C. Guesthouse innovation of traditional “through frame” construction through diagonal cross bracing for additional earthquake reasons. Through research and consultation with experts and craftsperson's both the Kitchen and Guesthouse adapted and innovated and tested aspects of conventional framing. Considerable archiving of construction techniques and skills has been done.

D. Guesthouse innovation of traditional “through frame” construction.
3.5 Additional Research Outcomes: Database and Archive

A. Miaoxia village survey. Before the Miaoxia community projects commenced there were no records or archives of the village built structures. Through internship we mapped timber buildings in Miaoxia for patrimony purposes and this exists as a database / archive.

B. The survey measured and drew and photographed the buildings inside and out and drone surveyed the contexts for the village plan.

C. Example of survey drawings
3.5 Additional Research Outcomes: Database and Archive

A. Interviews with villagers, April 2019. [https://tinyurl.com/y2l5y62k](https://tinyurl.com/y2l5y62k)

B. Interviews with social workers, April 2019. [https://tinyurl.com/y5kb884y](https://tinyurl.com/y5kb884y)
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Research methodology development:
Resulting from the collaborative cross disciplinary projects in Miaoxia additional research projects were developed using the same research methodology and in some cases a developed or evolved approach deriving from Miaoxia.

Research application:
Projects in 9 other villages in rural China involving over 11 distinct community design projects and constructed or realized projects occurred between 2014 and 2019. These are uniquely specific to the local factors and conditions of each place and the socio-cultural and economic basis of that location.

Knowledge Transfer:
In addition to the knowledge transfer activities for the Miaoxia projects outlined above, a further 9 academic workshops, 12 symposia and colloquia, 8 training workshops and 4 exhibitions have occurred between 2014-19.

Research Impact:
The estimated direct beneficiaries for these projects (not including Miaoxia) is 2000 villagers.
3.6a. Research Application: Overview

01: Miaoxia Village: Sichuan
2015 Community kitchen 150m²
2015 Workshop 1: Wood construction
2015 Workshop 2: Building façade design
2016 Workshop 3: Bamboo innovation
2017 Workshop 4: Narrative FILMS
2017 Survey of village (internship)
2017 Community Guesthouse 350m²
2018 Garden and square 400m²

02: Meinan Village: Guangdong
2016 Workshop 1: Exploring local resources
2016 Workshop 2: Bamboo structure
2017 Workshop 3: Bamboo craft Innovation
2018 Workshop 4: Adobe brick craft

03: Xianniangxi Village: Guangdong
2018 Jiyi public square construction, 400m²
2018 Workshop 1: In-situ resources
2019 Unity space community hall, 300m²
2019 Community kitchen 200m²

04: North Huanggu Village: Shandong
2017 Public space planning, 100m²
2017 Workshop 1: Stone construction
2018 Children's activity space, 300m²

05: Zhoushan Village: Henan
2018 Solidarity Learning: 950m²
2018 Workshop 1: Cave construction
2019 Solidarity Learning stage 2, 2,500m²

06: Zhaizi Village: Shanxi
2019 Public street 1000m² (in preparation)
2018 Training Centre, 500m²

07: Xinyi Village: Sichuan
2019 Nature school and guesthouse 300m²

08: Donglei: (minority village) Henan
2019 Museum of everyday life 50m²

09: Shaoguan: Danxia Guangdong
2019 5 villages rural reconstruction (2022)
3.6b. Research Application: Examples

A. Solidarity Learning: 950m², Zhoushan Village: Henan 2018

B. Public space planning, 100m² North Huanggu Village: Shandong 2017

C. Unity space community hall, 300m² Xianniangxi Village: Guangdong 2018 (unbuilt)

3.6b. Research Application: Examples

A. Museum of everyday life 50m²
Donglei: (minority village) Henan 2019

B. Public street 1000m² (in preparation) Zhaizi Village: Shanxi 2019

C. Jiyi public square construction, 400m² Xianniangxi Village: Guangdong 2018

D. Unity space community hall, 300m² Xianniangxi Village: Guangdong 2018 (unbuilt)
4 Research Fields

4.1 Research fields cross disciplinarity
4.1 Research Fields: Cross-disciplinarity

**Keywords**

![Diagram](image)

- Participatory Design ← Action Research
- Social Design ← Social Enterprise
- Design Agency ← Social Innovation

**Dual Research Fields**

The applied research fields use a dual approach that overlaps two discipline specific knowledge fields from their respective disciplines of Design and the Social Sciences.

The intersection and alignment of these fields (refer to section 5) is the primary interest for application in Miaoxia Village – building a sustainable community. For how this dual collaborative approach can contribute to both a practical approach (applicability) in-situ and a conceptual approach through the development of a dual methodologies, cross fertilisations and in the framing larger combined goals. The research fields outlined below are not mutually exclusive.
4.1 Research Fields: Cross-disciplinarity

Design research fields used fall into the categories of “Research by/through Design” (Biggs and Buchler 2008; Hauberg 2012) and “Design Practice based Research” (Candy 2006). These are forms of action based research, with intervention within its subject to develop research and tests hypotheses through this process. Specifically, the research approach involved aspects of Participatory Design, Social Design and Design Agency. A viable starting point for re-evaluation of Participatory Design methodologies repositions it within complex social and materialization processes; where design outcomes are the formation of socio-material assemblies (Latour 1999; Manzini 2011), constructed within processes spanning both before and after the design stage.

For the social sciences the research approach used in Miaoxia Village – building a sustainable community, involved aspects of (Participatory) Action Research, Social Enterprise, and Social Innovation. It is useful to contextualize this process in terms of emerging changes in social systems that are evolving the ways both the social and design processes are developing towards distributed forms of knowledge, collaborative processes and cross-disciplinary practices (Sanders & Stappers 2008).
4.1 Research Fields: Cross-disciplinarity

Involves the engagement of users and stakeholders in the design process itself (also referred to as cooperative design). This is a field of research that stems from both fields of computer systems design (Ehn 1988) and urban design and planning (Smith 1973). It focuses on processes and procedures of design rather than outcomes. As a research methodology its recursive feedback allows for continual adjustment of the design in question.

Action Research engages participatory processes (Lewin 1946, 1958) to generate positive social change. Typically involving iteration and feedback in iterative cycles: plan, act, observe, reflect; and repeat (Kemmis & McTaggart 1988; Susman 1983). Action Research’s methodology draws from psychology and sociology, and practical application of these methods occurs in active engagement with its research subjects (Winter 1996; O’Brien 1998). Recent developments put greater emphasis on social enterprise, on new social forms and organizations and social innovation, concordant with wider society changes. These move the conceptual focus from a reflective practice towards a projective one, but embedded in a social context.
4.1 Research Fields: Cross-disciplinarity

Uses design processes to bring about social change and implicate design and its relationship to society within these changes (Papenek 1972, Illich 1971), often in the search for more inclusive, ethical or ecological approaches. Involves the understanding of social capital (Margolin 2002) as means to re-assign values towards different distributive and benefit models. This may also focus more on the design of the social systems and forms of this in recent years. As a research field, attracting growing interest, its utility and applicability may be in addressing and researching complex social problems.

Social enterprise (Yunus 2006) derives from cooperative enterprises and community and social co-ops (Freer 1978). In recent instances it has evolved into community run distributed benefits models that are closely embedded into their stakeholder communities, providing hybrid social forms coupled with service provision and distributed profit models, and which promote the concepts of social responsibility and a more circular form of economy contributing to the social economy and the formation of social capital. The field of social enterprise research is comparatively recent.
4.1 Research Fields: Cross-disciplinarity

Design agency redefines, repositions and recalibrates what design is, how it is effected and for who it is done. As the boarder terms “Spatial Agency” (Till and Schnieder 2011) and spatial activism (Fuad-Luke 2017) suggest, design agency outlines new agencies, modalities and outcomes of design. Research in this filed is comparatively recent, but broadly extends the remit of earlier forms such as community architect.

Social innovation develops and applies new social practices as vehicles to generation improvements in society. These changes are often regarded as having a social purpose or objectives, whereby the changes lead to positive changes in the social group. Although drawing from older approaches (Weber, Durkheim etc) social innovation (Mulan G., Tucker S., et.al 2007) is a recent research field.
5 Research Methods & Materials

5.1 Collaborative framework

5.2 Application of methodology
5.1 Collaborative research frameworkary Process

5.2 Application of research methodology (example)

5.1a Collaborative research framework

The diagram of general research framework collaboration and iterative participatory design and action research process is presented overleaf. This is applicable for all primary Miaoxia community projects: the Community Kitchen and the Community Guesthouse.

5.2 Application of research methodology (example)

The following pages outline one example of application of the research methodology and its tangible design related outcomes. These stages are for the Community Kitchen but are applicable to the Community Guesthouse:

- Project framework development, asset mapping, needs assessment, negotiations and fundraising.
- Dual participatory design / action research process design process.
- Participatory construction and implementation process.
- Post design evaluation, social enterprise initiation, training and monitoring / evaluation.
5.1 Research Methods and Materials

A. Project methodology and framework agreement on approach by all research parties (design before design). Project framework agreement with community and stakeholders, fundraising, Asset mapping and capacity and needs assessment. Local embedding of researchers/social worker.

B. Commencement of dual participatory design/action research process which negotiates brief and site, design development and construction and social enterprise (social form) and beneficiaries.

C. Implementation of operational social enterprise including training and skill workshops as needed, inauguration.

D. Continual on-going monitoring and evaluation including stakeholder feedback and evaluation (design after design)
## 5.2 Application of research methodology (example)

### A. Stage 1: Project agreement and discussion with community and stakeholders: Activities include:
- Asset mapping, capacity evaluation, community stakeholder discussions and land-owner and site preliminary negotiations, brief development social enterprise, agreement of rights to use and by whom, site survey and site clearance.

### B. Stage 2: Design concept option participatory process conceptual design initiation and presentation (three options)

### B. Stage 3: Design development participatory process (two rounds). Clarification of land-use, beneficiaries and schedules. Agreements on overall design, brief, operation and beneficiaries including negotiation and community engagement process rights
5.2 Application of research methodology (example)

A. Stage 4: Detail Design confirmation and development of construction documents (drawings and models) negotiation of construction responsibilities

Stage 5: Site clearance, demolition process, material reuse and sourcing, construction and villager labour contribution planning.

B. Stage 6: Construction processes and community participation in construction process. Concurrent student workshops on crafting (knowledge transfer)
A. Stage 7: Building completion, evaluation and finishing processes. Commencement of social enterprise and training for this operation, initiation of community benefit schemes. Agreed 'timeshare' or rules of community facility.

Ongoing evaluation and monitoring of facility and social enterprise.

B. Zoom-in: Participatory design process. Typically presentation followed by revision and close working with the community the following day, then longer breaks to the next visit.
5.2 Application of research methodology (example)

A. Zoom-in: Participatory construction process

B. Zoom-in: Roofing construction
6 Research Conclusions

6.1 Research conclusions

Community Guesthouse construction process 2017.
6.1 Research Conclusions

1. As a cross-disciplinary dual methodology approach, the projects generated both positive outcomes and highlighted specific challenges.

2. The project has been successful in the production of a significant body of research and knowledge, both about rural design, community and social development. Different disciplines add complexity but increase scope, scale and knowledge.

3. Multi-lateral knowledge transfer has been actively engaged involving different knowledge domains (Social Sciences, Design, local knowledge and skills), service learning initiatives from three different disciplines (student, intern and researcher engagement).

4. Research application the work has attracted interest leading to new projects using a similar approach in villages contexts of Xiniangxi, Meinan, Shunde, Shaoguan (Guangdong), Xinyi (Sichuan), Donglei (Hunan), Shoushan (Henan) and in Anhui and Yunnan during the past 4 years.

5. Community resilience and cohesion has increased and some aspects of this have contributed to an alignment of sustainable development with social development. The intersection of design with social enhances self-sufficiency, although better longitudinal ways to track this would be desirable.
Development of collectively run social enterprises to rebuild socio-economic systems and develop new income generation through the combined effect of the kitchen and guesthouse is positive but requires highly specific considerations.

Strengthening of locally based skills and craft traditions: (wood building construction), enhances place-making and community self-organization and pride, attracting younger villagers back.

More than 130 groups or over 2200 new visitors visited Miaoxia in this period. The visitor groups range from local and regional interest groups, community related groups, elderly rural resident groups, disaster management groups, social work groups, design related groups, NGO and affiliate groups, educational and study groups, visiting academic groups and others.

The sustainable social development goal challenges include a rapidly aging population that has some resistance to self-manage and develop self-sufficiency. The cooperative enterprises; sustainable environmental initiatives that use local assets, skills and capabilities contribute but may not be sufficient.
Dissemination

7.1 Published Book Chapter / Journal Article
7.2 Exhibitions
7.3 Conferences and colloquia
7.4 Media and awards
7.5 Weblinks
### 7.1 Published Book Chapter / Journal Article

<table>
<thead>
<tr>
<th>Year</th>
<th>Published Book Chapter / Journal Article (peer reviewed and non-peer reviewed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Making and the physical parameters of design, in Architects as Makers, Design Material and Fabrication, eds Leung C., Chan E., HKDI, Architecture Projects Review #02, Hong Kong.</td>
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</table>
### 7.2 Exhibitions

<table>
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<tr>
<th>Year</th>
<th>Exhibitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Kuo, J., Y., students from SD, HKDI and visitors to Makerfaire, Miaoxia workshop #3: Styx: triangulated wood frame systems installation and workshop for Makerfaire 2015, School of Design, The Hong Kong Polytechnic University, Hong Kong.</td>
</tr>
</tbody>
</table>
### 7.3 Conferences and colloquia

<table>
<thead>
<tr>
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<th>Conferences and colloquia</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>“Narrative Workshop” presentation on the narrative workshop outcome on cultural mythos and materiality, presentation Chengdu Social Workers forum.</td>
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### 7.4 Media and awards

<table>
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<tr>
<th>Year</th>
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</table>
7.5 Weblinks

http://insitu-project.com/
https://www.facebook.com/insitu.prj/
https://www.instagram.com/insitu__project/
https://www.sd.polyu.edu.hk/en/event/mvcg17
https://cargocollective.com/cklittleperson/MIAOXIA-COMMUNITY-KITCHEN-EXHIBITION
https://issuu.com/ckwku/docs/insitu_project_mx02
https://www.youtube.com/watch?v=slwUZK6bTQo
https://www.youtube.com/watch?v=wFLzry0p4jA
https://www.epicpeople.org/participatory-design/
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www.vimeo.com/insituproject
https://issuu.com/insitu-project
http://www.lveng.org/news/4547/
http://www.lveng.org/news/5080/
http://www.shuangbai-plan.org/protal/10682/
8 Researchers & collaborators

8.1 Principal Research Investigators
8.2 Key Researchers
8.3 Collaborating Institutions
8.4 Image and Media Credits
8.1 Principal Research Investigators

8.2 Key Researchers

8.1 Principal Research Investigators

8.1a Peter Hasdell

Assoc. Prof, School of Design, Architect, Planner


Peter’s work investigates the intersection of the built world and natural systems. It focuses on metabolic architecture on the scales of the city (city as a life form, urban eco-systems), and; responsive architecture (living, interactive and adaptable spatial design) responding to local community and environmental conditions.

8.1b Dr Ku Hok Bun

Assoc. Prof, Dept. Applied Social Sciences, Social Anthropology, Social Work


8.2 Key Researchers

Kuo Jze Yi

Associate Researcher, Architect (2016 – present)

Tan Ming

Research Assistant, Landscape Architect (2017 – present)

Clarence Ku


Zi hao

Research Assistant, Architect (2017 – present)
8.3 Collaborating Institutions
8.4 Image and Media Credits

8.3 Collaborating Institutions

- In-situ Project SD: School of Design (Primary collaborator)
- APSS: Faculty of Health and Social Science (Primary collaborator)
- Lvgeng: Guangdong Green Farming Social Work Development Centre / Shangli Social work Station (Secondary collaborator)
- Dept. Social Work: Sichuan Agricultural University, Ya'an, Sichuan (Secondary collaborator)

8.4 Image and Media Credits

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