THE POWER OF PARTICIPATION

Documenting and evaluating a community build project in Pongro Senchey, Phnom Penh, Cambodia

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ABSTRACT

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Documenting and evaluating a community build project in Pongro Senchey Phnom Penh, Cambodia

Grayson Durant Morris

Chair of the Supervisory Committee:
Associate Professor Ben Spencer
Landscape Architecture

This thesis documents and evaluates a community build project with the residents of Pongro Senchey. The community is located in the urban periphery of Phnom Penh, Cambodia. The central question of this thesis is, “How should this project be assessed for its effectiveness, and what larger lessons for community design-build efforts does it provide?”. This thesis identifies and reviews the immediate victories and challenges that were encountered. It also addresses impact assessments, participatory methods, facilitator behavior, and shifting power dynamics within the project partnership. Ultimately, this study faced the reality that evaluating the effectiveness of community build projects is a complicated endeavor, and that residents must be involved in every step of evaluation. It also became clear that a long-term relationship with the residents of Pongro Senchey is critical to the life of the project. This design-research thesis was pursued to inform best practices for future community build projects in Pongro Senchey. Suggestions for facilitation strategies as well as further evaluation methods are provided at the close of this report.

ACKNOWLEDGEMENTS

I would like to thank the residents of Pongro Senchey for their continuous commitment to the participatory process. The key leaders of this project, whose facilitation and design work exists throughout this document, also deserve recognition: Ben Spencer, Royal University of Fine Arts students, and fellow University of Washington students. A special thank you is appropriate for our local contact, Pen Sereypagna, for his dedication to this ongoing project, personal assistance translating the focus group conversations, and candid explanations of all things foreign to us. Further acknowledgements is necessary for the support from my family during what has seemed like an endless journey through higher education. Although they still may not understand what a landscape architect can do, I have received nothing but encouragement from my mother, father, sister and brother. A support network like the one I have is rare, and it has not been taken for granted. This also seems like an appropriate place to thank Vanessa Lee and Joanne Edwards in the College of Built Environments Landscape Architecture Office. Their infinite energy spent to ensure the quality of the student experience is always appreciated, yet rarely acknowledged. Thank you all!

DEDICATION

This document is dedicated to the residents of Pongo Senchey for their ceaseless commitment to the participatory process. Without an invitation into their community and continuous exchange of time and energy, this project would not have happened.

THE POWER OF PARTICIPATION

Documenting and evaluating a community build project in Pongro Senchey, Phnom Penh Cambodia

Peri-urban Phnom Penh, Cambodia

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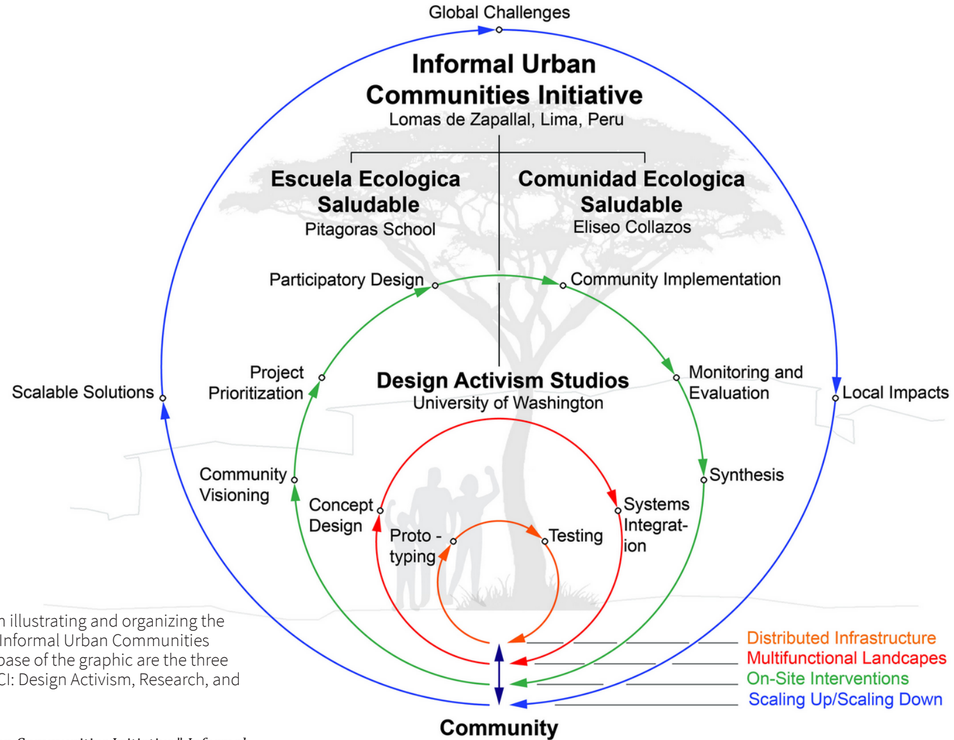


Figure 1. Diagram illustrating and organizing the dynamics of the Informal Urban Communities Initiative. At the base of the graphic are the three core pillars of IUCI: Design Activism, Research, and Education.[1]

1 "Informal Urban Communities Initiative," *Informal Urban Communities Initiative*, accessed February 10, 2016, http://sqwater.be.washington.edu/wp.

INFORMAL URBAN COMMUNITIES INITIATIVE: OVERVIEW

The Informal Urban Communities Initiative (IUCI) is a **design activism**, **research** and **education** program led by University of Washington Associate Professor in Landscape Architecture Ben Spencer. Projects facilitated by IUCI leaders use a participatory design approach, and partner with poor urban communities. There are ongoing community build projects in Lima, Peru and 2016 marks the first year of work with a community in Phnom Penh, Cambodia. The 2016 community partner in Phnom Penh is Pongro Senchey.

This thesis is a participatory research project that evaluates the community design process and implemented project in Pongro Senchey, Phnom Penh, Cambodia.

Mission:
The Informal Urban Communities Initiative, "focuses on the design, implementation, monitoring and evaluation of community-driven interventions in the built environment and, in response to priorities articulated by community members, places particular emphasis on the integrated, interdisciplinary design of public green space."[1]

Projects:
2009-ongoing in Lima, Peru
Pitagoras school: Primary school park, Secondary school classroom, Secondary school stairway.
Eliseo Collazos: Fog collection, household gardens.

2016-ongoing in Phnom Penh, Cambodia
Road improvement and a central gathering place.

Team:
University of Washington & Architects without Borders-Seattle

Leaders:
Ben Spencer – Associate Professor in Landscape Architecture, and Associate professor in Global Health. He spent the last year as the faculty leader in Phnom Penh arranging the community build project.
- Jorge Alarcon
- Susan Bolton
- Leann Andrews

Skill Set:
- Landscape Architecture
- Architecture
- Global Health
- Industrial Design
- Civil Engineering
- Construction
- Digital fabrication
- Research

1 Ben Spencer, Susan Bolton, and Jorge Alarcon, "The Informal Urban Communities Initiative: Community-Driven Design in the Slums of Lima, Peru," *International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship* 9, no. 1 (2014): 92–107.

KEY TERMS & STAKEHOLDERS

KEY TERMS

Informal Urban Communities Initiative (IUCI)
See previous page.

Participatory impact assessment (PIA)
A set of qualitative assessment methods created to evaluate the effectiveness of humanitarian and development projects.

Phnom Penh
The capital city of Cambodia, located in the southern region of the country. The estimated population is approximately 2 million.

Community Development Foundation (CDF)
Operating out of Phnom Penh, the CDF aims to improve the lives of Cambodia's urban and rural poor by organizing partnerships between local authorities, funding agencies and communities.

KEY STAKEHOLDERS

Pen Sereypagna (Pagna)
Pagna was the local coordinator in Phnom Penh. He assisted with everything from architecture tours to community workshops and construction.

University of Washington (UW) Students
David de la Cruz
Jess Hamilton
Marta Olson
Russell Greene
Grayson Morris
Roxanne Robles

Royal University of Fine Arts (RUFA) Students
The local university collaborator. RUFA provided a space to work in and six architecture students who participated in the community build project.
Satya Seang
So Pheap Sok
Monireach Tang
Vitou So
Siveling Synn
SinJong Thae

Pongro Senchey (PS)
Located on the urban periphery of Phnom Penh. This urban poor community became the partners for the community build project.

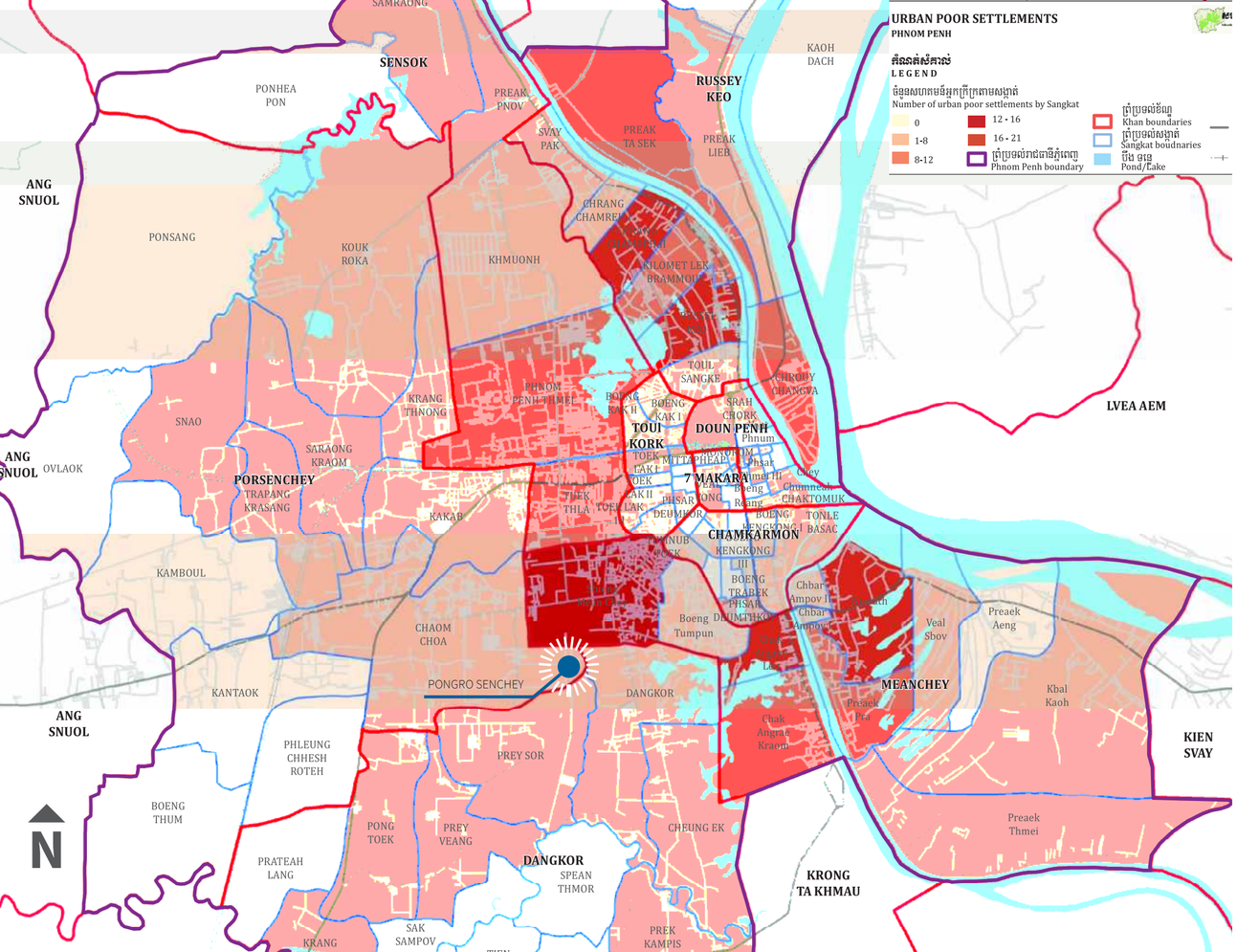


Figure 2. Urban poor settlment density map, *The Phnom Penh Survey 2014*. Pongro Senchey's approximate location identified. Scale Unknown.

1. INTRODUCTION

This thesis follows the international service learning (ISL) community build project facilitated by University of Washington's Informal Urban Communities Initiative (IUCI) in Pongro Senchey, a poor urban community in Phnom Penh, Cambodia. The objective was to document the participatory process, identify challenges and tools, and discuss the potential for multiple victories within community build projects. Interviews, focus groups, field observations, and a review of relevant literature informed this discussion. Why was this approach considered for a poor urban community in Phnom Penh? What are the benefits to the community that result from the participatory design process? What does it mean for these projects to be successful, and successful for whom? These are some questions that this thesis sets out to explore, while confronting larger issues such as the power dynamics within the ISL partnership between the community and IUCI.

This thesis documents and evaluates a participatory design approach.

Thesis Structure

The key elements of the thesis are as follows:

- Literature review of current knowledge on associated topics.
- Study of IUCI methodology, interviews with student designers previously and currently involved, faculty, and professionals.
- Participation in (and documentation of) the community build project.
- Evaluation of the facilitation process, keeping in mind the constraints and unique context.
- Review of the Participatory Impact Assessment (PIA) methods.

Chapter 1: Introduction

This chapter briefly introduces the central elements of the thesis, the critical stance, and site location.

Chapter 2: Literature Review

This chapter reveals the existing knowledge base on subjects surrounding the IUCI community build approach, and current gaps in knowledge. This chapter helps to explain what this IUCI project truly is, and the discussion that this thesis contributes to.

Chapter 3: Lessons From Lima

The third chapter brings in valuable observations from those involved in previous IUCI projects in Lima, Peru. These lessons help to frame questions on the role of the facilitator in an international collaboration. They also provide a point of comparison for the project in Phnom Penh.

Chapter 4: The Community

This chapter introduces Pongro Senchey and covers details on community history, demographics, and site conditions. This helped to illustrate the context of any challenges and victories, misunderstandings, during IUCI's engagement with this community.

Chapter 5: The Process

This chapter documents the participatory process and resulting design decisions. Data gathered at each workshop is synthesized and discussed. Facilitator behavior is assessed in relation to those challenges. Design implementation is presented and reviewed. Issues with durability, maintenance and overall design response are reported.

Chapter 6: Evaluation

The sixth chapter focuses on the assessment of project effectiveness, and reflects on facilitator behavior and strategies. The findings from the baseline PIA and the follow-up PIA exercise are explained and discussed.

Chapter 7: Discussion

The final chapter returns to the central question, "How should this project be assessed for its effectiveness, and what larger lessons for community design-build efforts does it provide?". This includes next steps and final thoughts.

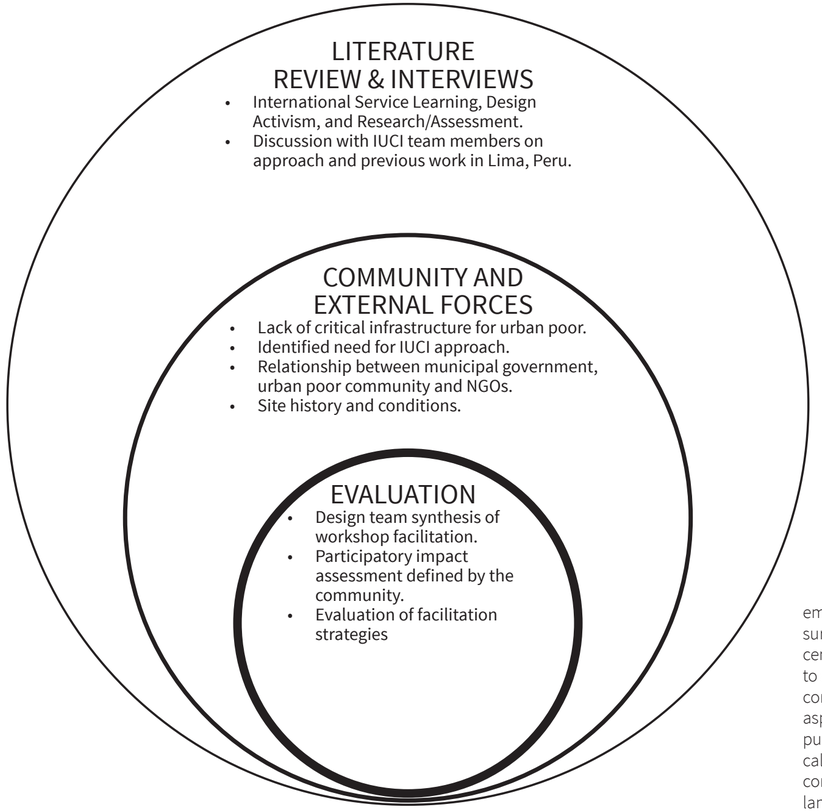


Figure 3 is a conceptual diagram of the embedded nature of the evaluation within the surrounding topics of this thesis. The evaluation is central to many of the objectives that IUCI set out to accomplish. This assessment is sensitive to the context of the community and integrated within all aspects of the community build project itself. The purpose that drives the assessment grows from a call to action within the literature on service learning, community building, design activism, and research in landscape architecture.

Critical Stance

The purpose of community design is to empower a community in such a way that catalyzes positive social change. This is what drives the Informal Urban Communities Initiative (IUCI) in their pursuit to disrupt cycles of poverty and enhance quality of life within urban poor populations. The purpose of evaluation stems from an ethical obligation to confirm lasting positive impacts upon the beneficiaries of these humanitarian and development projects. Evidence of positive change and strategies for improvement strengthens the approach to community design efforts. This also enhances the experience for everyone within the partnership. Lastly, it increases the support from funding agencies, which in turn increases the number and scope of community build projects.

This thesis documents the IUCI community build project in the urban poor community of Pongro Senchey (PS), located in Phnom Penh, Cambodia. Through documentation and review, this thesis asks, "How should this project be assessed for its effectiveness, and what larger lessons for community design-build efforts does it provide?" While conclusions can only be made about the work in PS, the hope is that this research engages with the broader discourse on best practices for community build projects. A gap in the international service learning and community build literature offers an opportunity to explore the methods of evaluating effectiveness of community build projects. There is significant support for participatory design strategies and community building in urban poor settlements, yet there is less documentation of those strategies in practice, and very little documentation of these grassroots community build projects in Cambodia.

Far too often, community build projects are quickly labeled a success and forgotten. As a result, the literature calls for extended rigorous assessment practices to ensure ethical work and additional funding. This thesis attempts to supplement less-developed territory in the literature on evaluation of project effectiveness within the context of Phnom Penh's urban poor. Documenting a professional project shows the practicality of balancing what can be accomplished (especially in a the first year) and what is called for in the literature.

Research for this project was intentionally qualitative in nature. Prior to departing for Phnom Penh, interviews with previous IUCI team members provided a rich knowledge base of challenges and useful strategies from previous projects. Notes from these interviews weave into several chapters of this thesis, providing valuable experiential knowledge related to the project. Personal reflections offered insight that aligned with existing literature, but offered messages that couldn't be found in the text. Namely, the place-specific challenges that were unforeseen in Lima, and difficult questions encountered on ethics and project effectiveness. Almost everyone noted first-hand experience with shifting power dynamics during projects. These reflections are central to the advancement of community build projects within service learning programs.

Three assumptions surrounded this thesis during its formation. The first was that the residents of Pongro Senchey wanted and needed a community build project. This includes a willingness to engage in a participatory process. Secondly, completing this community build to a significant degree was feasible within the time and design constraints. Lastly, the knowledge generated by this thesis would help inform best practices for future IUCI community builds and provide support for future projects. It became clear that the partnership with Pongro Senchey was genuine and the relationship will continue to grow as a result of a returning presence within the community. In terms of time, numerous challenges and setbacks shortened an already condensed schedule. While it's important to acknowledge the work that everyone accomplished, more time could have been used to modify design elements and assess impact within the community. The following chapters provide thoughtful reflection and suggestions for best practices. This document is intended to be a useful tool for anyone contributing to future IUCI projects.

Why Phnom Penh?

In 2009 there were close to 1 billion global slum dwellers as a result of rapid population growth, migration toward city centers, and failed urban planning practices. Unless planning and community development strategies are swiftly reimagined this number is projected to double by 2040.[1] Currently, slums are the large-scale answer to the influx of urban residents. These low-income communities contribute significant assets to the urban fabric, yet their conditions ignore basic human needs and expose residents to myriad environmental hazards. The marginalized urban poor can no longer be ignored, and it's obvious that mainstream planning approaches are ill suited to confront modern urban issues.

Cambodia is not exempt from these modern urban ills. While the majority of the population lives in rural conditions, large numbers continue to flock to the city in pursuit of economic opportunities. Meanwhile, there is no agreed upon masterplan for its capital, Phnom Penh nor is there a prioritized strategy for a significant urban poor population. This haphazard infill paired with a uniquely challenging climate means that Cambodia will likely encounter significant adversity in the coming decades of climate change.

According to the World Bank, in 2015 Cambodia's population was reported at 15.58 million, with approximately 1.5 million of those residents living in Phnom Penh. The country reported a gross domestic product (GDP) of $18.05 billion, far lower than neighboring countries of Thailand and Vietnam. It is very similar to Lao in terms of GDP and recent GDP growth. While the poverty rate has slowly fallen in Cambodia most of the families that escaped poverty only did so by a small margin. In 2012, 17.7 percent of Cambodians were living in poverty with 8.1 listed as near poor.[2] Further, due to such a large portion close to the poverty line, any minor loss in consumption (and thus income) would result in close to a 40 percent poverty rate.[3] While Cambodia has progressed at a higher rate in comparison to other countries in the region, the economy is fragile and many are at risk of slipping into poverty. It's also important to note here that any economic growth in the country has been largely unregulated. So, a short moment of prosperity could exacerbate the current decline in environmental health and social conditions for Cambodians.

Slum conditions have a serious impact on health education, monitoring, and care. World Bank reports on Cambodia that, "32 percent (or approximately 0.5 million) of children under five are stunted. 79 percent (of 12.3 million people) do not have access to piped water supply and 58 percent (9.3 million people) do not have access to improved sanitation (2015)."[4]

Similarly, the 2014 Phnom Penh Multiple Indicator Assessment offers a reference for modern living conditions in the Capital and notes changes from previous years. This report, which was organized by People in Need (PIN) and Unicef, focuses on health (in children and breastfeeding mothers), nutrition, education, and sanitation. The authors discuss the findings of the study on these conditions, and offer suggested interventions many of which are directly related to the work of IUCI. What the report found was a very high count of illness in children 6-59 months in age, high levels in stunted growth, and high levels of malnutrition. Further, while there is access to good water near the urban center, there is a significant lack of access to improved sanitation. In regards to food, there is a strong reliance on purchased goods from markets, thus a high level of food insecurity and sensitivity to changing market dynamics. Finally, there is a lack of investment in education for the poor and drop out rates of children are very high.[5] Overall, the urban poor require immediate improvements in sanitation, food security, and education.

There are underlying factors that create these conditions in Phnom Penh, and they're important to understand as urban poverty (and an approach to break communities out of cycles of poverty) is discussed. First of all, land tenure security is the single most reported concern. During the past 20 years 11% of the cities current population, 150,000 people have been relocated.[6] This is due to a number of reasons that emerge as a result of a lack of land mapping, lack of transparency in the tenure process, as well as shady land reclassification practices. Often, the urban poor live on public land, or private land without consent, live in homes constructed without permits, or rented spaces without formal contracts. Development near the urban center relocates populations of urban poor, at times with violent tactics. The unemployment rate is surprisingly low, however this is likely due to necessity rather than a high percentage of decent jobs available. Basic infrastructure fails to consistently reach the urban poor. Recent reports show that 15% percent of inner city settlements are not receiving potable water. Two-thirds are without adequate sewage systems. Close to 70% are without garbage collection.[7] These statistics focus on the inner khans, and Pongro Senchey is located in an outer khan where the opportunities to receive state-run infrastructural services are far more slim.[8] The context and conditions require intervention

1 "United Nations Human Settlements Programme, Planning Sustainable Cities: Global Report on Human Settlements 2009 (UN HABITAT and Earthscan), 2009," *Environment and Urbanization Asia* 2, no. 1 (March 1, 2011): 149–149, doi:10.1177/097542531000200111.

2 "Cambodia Overview," *The World Bank*, April 2016, http://www.worldbank.org/en/country/cambodia/overview.

3 "Where Have All the Poor Gone? Cambodia Poverty Assessment 2013" (Washington, D.C.: The World Bank, April 2014).

4 "Cambodia Home," *The World Bank: Working for a World Free of Poverty*, 2016, http://www.worldbank.org/en/country/cambodia.

5 People in Need and Unicef, "Phnom Penh Multiple Indicator Assessment of the Urban Poor," 2014.

6 Nora Lindstrom, "Policy for the Poor?: Phnom Penh, Tenure Security, and Circular 03" (Phnom Penh: The Urban Initiative, March 2013).

7 People in Need and Unicef, "Phnom Penh Multiple Indicator Assessment of the Urban Poor."

8 Meg Fukuzawa, "The Phnom Penh Survey: A Study on Urban Poor Settlements in Phnom Penh" (Sahmakum Teang Tnaut, February 2014).

and offer a chance to reimagine the mainstream urban design approach.

Suggested inventions within the report relate directly to the agenda of IUCI. These include: establishing partnerships in the health sector, health/nutrition monitoring, vocational training programs, environmental sanitation improvements, urban agriculture, and community organizing. So, the need for community grown interventions in Phnom Penh is clear and community goals align with the IUCI skill set. The literature on community building and design activism has shown an ability to empower and break cycles of poverty, in communities where mainstream approaches cannot sustain positive change.

How does the agenda of IUCI align with the conditions and needs of Phnom Penh's urban poor population? An interview with Ben Spencer about the location of this current project shed some light on the factors behind the decision to initiate work in SE Asia broadly, and Phnom Penh specifically. There were academic reasons along with personal reasons, and as the conversation revealed the two are closely intertwined. The academic agenda was to locate the project in a context different than what is found in Lima, Peru but with a similar opportunity to break free of mainstream community building methods. When compared to the desert climate, relaxed government involvement in urban poor development, and cultural values of Peru, this project in Cambodia opened up an exciting opportunity to test the IUCI approach in new territory. A distinctly different context was expected (and has proven) to require adaptations of community build strategies utilized in Peru. Cambodia's heavy rains and seasonal flooding require place-specific design needs. Social differences and the early stages of a working relationship also create slightly different workshop dynamics. Sharing the participatory approach in the two locations has strengthened the IUCI facilitation practices while broadening the reach of UW international service learning impacts.

While Phnom Penh has an approximate population of 1.5 million, the country as a whole is also far more rural in comparison to Peru. Slum populations are interspersed small pockets, rather than Lima's expansive urban poor settlements. By working in two very different contexts simultaneously, the IUCI team is able to identify commonalities in the community build processes. Concurrently, this tests the methodology in ways that require adaptation in order to succeed. Through the continuous evolution of each project in the two regions it is possible to compare, contrast, and synthesize the lessons learned. This in turn strengthens the IUCI community building strategies and offers guidance to community groups with similar goals across the world. Amongst all of the differences, these two cities hold similarities as well. Their existing planning networks and government agencies are unable to respond to the needs of their swelling poor populations. Both regions have recently come out of war and conflict, posing an opportunity to contribute to a process of rebuilding and establishing a culture of collaboration and trust. These similar conditions create opportunities to build community and social capital from within.

During the same interview, Ben included the personal reasons for expanding work to SE Asia. He explained his family's interest in living in the region and the importance of balancing family needs with his research agenda. It is clear that if the immersed community work is going to be sustained for a long period of time, it must be in healthy balance with family life.

When considering the long-term vision for IUCI, Ben's goal is to continue to work in Phnom Penh. The ideal situation would be to have a year-round site presence, through a series of studio projects and professional partnerships. Breaking from the single quarter approach would relieve the IUCI approach of the constraints posed by the university structure. This also has the potential to also encourage students and faculty from multiple disciplines to pool resources and work together within one community over the course of several years. Additionally, the long-term collaboration would build a broad and informed body of knowledge around community building and the related fields of community health, engineering, industrial design, landscape architecture, and architecture. Having said that, there are dynamic and complex forces that determine the available time and resources for future work in Pongro Senchey, both academic and personal. While it is a goal to continue working with residents, other factors must also be considered.

What was so attractive about exploring this project through the rigor of a thesis? The first reason is that the work of IUCI offered a hands-on learning experience that would result in significant social impact. The masters degree curriculum is heavy on theory coursework, and this project offered a chance at designing and building. This particular project also satisfied a curiosity in design experimentation and social observation. Social observation was accomplished through focus group interviews, on-site observations, photo transects and the participant impact assessment. Finally, this was an intensive course on community building; a chance to rigorously study design activism, contribute to a body of knowledge on the subject, and incorporate those lessons into a future career in landscape architecture.

Why This Site?

After two months of building connections with communities and community groups within Phnom Penh, Ben Spencer had narrowed the selection down to three potential communities. The criteria for selection were based upon availability of local coordinators, eagerness to participate in the workshop process, a lack of critical infrastructure, and community goals that coincided with the skills IUCI had to offer. Distance from the urban core played a significant role as well. Settlements closer to the center, while experiencing significant hardship, were more likely to have access to basic infrastructure. Those same communities were also more likely to have a greater threat of eviction. Further from the city center, urban poor settlements overall experienced greater hardship in comparison to those closer, due to a lack of infrastructure and distance from social networks or employment opportunities. Working with the Community Development Foundation (CDF) catalyzed the selection process by connecting IUCI with several communities already identified as potential partners. The process of selection beyond that point was slow going and required persistent work on the part of Ben Spencer to establish a network. Even once an initial community was selected, that first group communicated a change in their goals and went to work with a different program. As a result one of the original three shortlisted communities, Pongro Senchey, became the community partner. This was due to its location in an outer khan (district), current site conditions, and positive working relationship with the CDF. Additionally, there was enthusiasm for the participatory design process, and an expressed need of a gathering space as well as improved infrastructure. Pongro Senchey had partnered with other groups in the past, but had never engaged in a participatory design approach. While this presents its own challenges, this also offered an opportunity to broaden the reach of the community building process. There was a healthy relationship with other aid groups such as the CDF, although they did have some skepticism about project completion. The timing, conditions, location and resources; all of these factors came together to make the decision to initiate a long-term community build with Pongro Senchey.

2. LITERATURE REVIEW

The Informal Urban Communities Initiative is a **design activism**, **research** and **education** program with the goal "to effect positive and sustainable change...to build the capacity of designers to work effectively with poor urban communities and to gather evidence that informs best practices in project design and implementation in these contexts."[1] In an effort to better understand the influential base knowledge and benefits of these principles, this chapter reviews the literature on each of the three core pillars of the IUCI approach. The history of each of these is briefly explored, and the current state of each is viewed in relation to the work in Phnom Penh. This review concludes with the significance of uniting all three, emphasizing the important role of research and reflection that has so strongly influenced this thesis.

1 Ben Spencer, Susan Bolton, and Jorge Alarcon, "The Informal Urban Communities Initiative: Community-Driven Design in the Slums of Lima, Peru," *International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship* 9, no. 1 (2014): 92–107.

International Service Learning

Modern service learning in the U.S. finds its origins in the establishment of American democracy and higher education. It blossomed during the years of the Progressive Era (1890s-1920s) as the community service role of university programs became more pronounced and valued. Then, again with the 1930s came an increased participation in community service when the National Youth Association was formed as part of Roosevelt's New Deal. This program put America's youth to work in their communities in order to activate change and develop a sense of civic responsibility. Social work professionals and academics have maintained community-centric learning and service since the mid 19th century, developing and studying the theoretical foundation that is still referenced and critically explored to this day. Richard Kraft says it well, "Suffice it to say that service learning is the most recent manifestation of what is now almost a 100-year history [now over 100 years] of American educational reform attempts to bring the school and community back together, to build or rebuild a citizenship ethic in our young people, and to bring more active forms of learning to our schools."[1] This has since evolved to consider "community" to be the global community, and developing young people into global citizens in the form of International Service Learning.

Exploring various definitions has helped shed light on the most accepted description of service learning, and its core objectives. The Corporation for National and Community Service (CNCS) defines service learning as a, "curriculum-based community service that integrates classroom instruction with community service activities" Service-learning also, "1) Is organized in relation to an academic course or curriculum; 2) Has clearly stated learning objectives; 3) Addresses real community needs; and 4) involves students in drawing lessons from the service through regularly scheduled, organized reflection or critical analysis activities such as classroom discussions, presentations, or directed writing."[2] This approach is geared toward developing civic responsibility in America's youth. An organization with a global reach, The Peace Corps website explains that their approach offers, "a service opportunity for motivated changemakers to immerse themselves in a community abroad, working side by side with local leaders to tackle the most pressing challenges of our generation." It goes on to explain the importance of facilitating the development of requested skills and building strong relationships.[3] An academic institution, The University of Washington Carlson Leadership and Public Service Center define service learning as, "a learning experience that combines service with the community with structured preparation and reflection opportunities. Service opportunities are tied to academic coursework and address concerns that are identified and articulated by the community. As students engage in service-learning, they learn about the context in which service is provided, the connection between their service and their academic coursework, and their roles as community members."[4]

International service learning (ISL) offers an opportunity to expand one's global awareness. Robbin Crabtree defines ISL based on her literature review as, "International service-learning (ISL) combines academic instruction and community-based service in an international context. Objectives of linking international travel, education, and community service include increasing participants' global awareness, building intercultural understanding, and enhancing civic mindedness and skills."[5].

The common elements appear to be: cultural exchange, student learning, community service, and relationship building. What is sometimes missing in these definitions is the reflection component carried out by students, in an effort to critically analyze a complex partnership. And, what is often missing is the intent within the program to balance the power dynamics within the partnership. So it is no surprise that these are typical critiques of service learning in practice within the literature. Jordy Rocheleau, a professor with a research focus on democratic theory, international politics, and human rights offers a review of the theoretical roots of service learning. One of the author's major critiques was that the community service agenda is over-emphasized in practice. An experiential learning approach that facilitates critical self-reflection is needed. This in effect will balance power relationship between the community and individual.[6] Richard Kraft, who argues for a balanced focus on both student development and community empowerment goals, strongly echoes this stance in Service Learning: An Introduction to Its Theory, Practice, and Effects. According to Kraft, open dialogue is central to the power balance, extending the process of reflection and holding of knowledge to all parties involved in the learning partnership. The outcome is an effective catalyst to lasting grass-roots social change. This also enhances opportunities for cross-cultural learning in the community and within the student cohort.[7]

What are the benefits of ISL? During two international service-learning projects in which Robbin Crabtree was involved as a researcher, she observed the benefits of a model of mutual empowerment in cross-cultural participatory development and service learning. She argues that projects resulting in mutual empowerment form as a result of "communication and social justice research action that is grounded in long-term, international participatory projects." The outcomes of which, "empower community members, broaden sojourners' minds and personal growth, and result in increased communication skills and 'education in citizenship' that empowers participants.."[8] The commonly cited benefits of international service learning include:

1. Student skill development through experiential learning
2. Vocational skills requested by community
3. Global awareness within the partnership
4. Contributing positive social impacts within communities
5. Build respect and mutual understanding
6. Grassroots social action
7. Awareness within the community of outside forces

While international service learning programs vary in scope, often there is a lack of long-term commitment. With lasting relationships comes an enhanced version of the benefits listed above. A continuous presence and a continuous assessment of project outcomes and approaches are critical to building a quality relationship between university groups and communities. Further, the literature calls for critical reflection to be a core objective in any ISL program. This can be accomplished through regular meetings, synthesizing community feedback, focus groups, and journaling. Reflection and dialogue between facilitators and beneficiaries of humanitarian efforts shares the act of assessment and balances the power dynamics within the partnership.

Participatory Design

Some key voices in participatory design include (but are not limited to): Somesh Kumar, Randolf Hester, Henry Sanoff, and Mark Francis. In the Pacific Northwest, Milenko Matanovic and Jim Diers provide decades of experience with grassroots organizing and community building. Several other authors such as Ben Spencer, Karen Umemoto, and Robbin Crabtree offer fresh reflections on the role of participatory community design work and reveal new layers of complexity with connections to myriad social issues. A series of foundational books and articles on participatory methods were referenced throughout this project in an effort to understand the theoretical basis for IUCI's particular service learning approach.

Mark Francis explains the main difference between traditional design methods and community-based approach to design. In *Community Design* Francis writes, "Participatory design, by its very nature of close dialogue with users, is more concerned with meaning, context and appropriateness." He continues, "Community design is also concerned with process-oriented design which translates human needs into buildable plans."[9] At the time of this article, the state of community design had recently evolved from community organizing as a response to top-down planning approaches, the intent being to halt inappropriate solutions while communicating resident needs. According to Francis, in order to best serve the community members, designers need several skills that are not typically refined in a traditional design education: 1) Be able to ask the right questions. 2) Be good listeners and observers. 3) Anticipate the future impacts of design decisions. 4) Translate everyday social experiences into buildable designs and policy.[10] The

1 Richard J. Kraft, "Service Learning: An Introduction to Its Theory, Practice, and Effects," *Education and Urban Society* 28, no. 2 (1996): 135.

2 Kimberly Spring, Robert Grimm Jr., and Nathan Dietz, "Community Service and Service-Learning in America's Schools," November 2008, http://www.nationalservice.gov/pdf/08_1112_lsa_prevalence.pdf.

3 "Peace Corps: About," accessed November 23, 2016, https://www.peacecorps.gov/about/.

4 "Service-Learning | Carlson Leadership & Public Service Center," accessed November 23, 2016, http://www.washington.edu/carlson/students-3/browse-service-learning-positions/.

5 Robbin D. Crabtree, "Theoretical Foundations for International Service-Learning.," *Michigan Journal of Community Service Learning* 15, no. 1 (2008): 18–36.

6 Jordy Rocheleau, "Theoretical Roots of Service-Learning: Progressive Education and the Development of Citizenship," in *Service Learning: History, Theory, and Issues* (Praeger, 2004), 3–21.

7 Richard J. Kraft, "Service Learning: An Introduction to Its Theory, Practice, and Effects," *Education and Urban Society* 28, no. 2 (1996): 140.

8 Robbin D. Crabtree, "Mutual Empowerment in Cross-Cultural Participatory Development and Service Learning: Lessons in Communication and Social Justice from Projects in El Salvador and Nicaragua," *Journal of Applied Communication Research* 26, no. 2 (May 1998): 182–209.

9 Mark Francis, "Community Design," JAE 37, no. 1 (1983): 14, doi:10.2307/1424592.

10 Ibid.

skills that Randolf Hester would add are: political organization, crafty financial knowledge, and an understanding of human behavior across a wide range of cultures.[11] Francis focuses on addressing community needs and the design outcomes in relation to social life in the community, while there is only brief mention of benefit to student learning. Francis also calls for the integration of constant design evaluation as a way to inform best practices for future projects. And finally, when addressing aesthetics Francis explains, “One seminal idea that community design has contributed to our field is an understanding that there is not a ‘right’ way to design but only ‘appropriate’ approaches to design problems.”[12] In any community design, every individual in the room would create something different aesthetically. What’s more important is that the participatory process shares the ownership of the design, embraces a collectively-developed aesthetic, and addresses the pertinent social issues.

The contributions made by Randolf Hester are foundational, laying the origin of the participatory design approach and the big picture purpose. Hester’s chapters and books typically lay out a guide format for aspiring facilitators. Many of those guiding principles and indicators of positive impact continue to find their way into modern literature. For example his principles of required user participation, the anti-aesthetic, and decentralization inform the very process IUCI engages with.

Somesh Kumar lays out a guide for practitioners and students in Methods for Community Participation: A complete guide for practitioners. The author defines key terms and methodologies, specific methods with their practical application and benefits, and he discusses challenges typically encountered within participatory design methods. The author explains that modern participatory design stems from Participatory Rural Appraisal (PRA). PRA finds its origins in the union of various participatory community-building methods, and was shaped to encourage empowerment through true participation. Participatory Action Research, Agro Ecosystem Analysis, Applied Anthropology, and Rapid Rural Appraisal are a few of the major sources of PRA. While the name includes “rural”, this methodology has come to embody principles that have been proven to improve the conditions of education, health, agriculture, and notably urban poor communities. The four pillars of PRA are: methods and tools, process, sharing, and behavior. Facilitator behavior has commonly been listed as the most essential of the pillars. Kumar would argue that it is important for facilitators in Pongro Senchey to value:

1. Self-critical awareness
2. Commitment to the vulnerable
3. Respect
4. Active listening
5. Embracing error
6. Passing responsibility
7. Empowering through confidence of others
8. Flexibility in the process and prioritization of the poor

Kumar also indicates five key advantages to participation. These are: 1. Efficiency, 2. Effectiveness, 3. Self-reliance, 4. Coverage, and 5. Sustainability. Efficiency seeks locally sourced materials and local lived knowledge, which can avoid future obstacles in terms of managing the built intervention and this can lower initial costs. Participation in the visioning and construction process will lead to a more effective utilization of resources in the future. Active participation breaks the mentality of dependence. Transparency in the development process leads to control of the development process (decision-making, implementation, and monitoring). This in turn generates social capital in the community. Participation ensures coverage of social needs through the flow of benefits to those in need. Required participation generates a sense of ownership over the intervention, and encourages stewardship of design elements that may need maintenance or modifications.

Something to be aware of in every community build project is the presence of biases. Biases are immediately negative aspects of the project, but it is critical that they are identified and understood in order to aid a deeper assessment of the work. The types of biases explained by Kumar are: spatial, personal, seasonal, time-dependent, diplomatic, professional, and project. There are many aspects of any community build project that are important to consider, they are often hidden, and it’s critical to reveal and understand them.

IUCI projects are a response to the lack of mainstream support services for marginalized groups in society. There is a clear need for facilitated grassroots social change. Kumar asks how participatory design methods respond to those failed top-down approaches. The answer, the author has found, are through what he calls “reversals”. The first reversal is from closed to open, which is a conscious attempt to encourage and enable the people to get involved. The second is shifting from measurement to comparison, which invites participation, and is easier to comprehend. The third is democracy of the ground, which moves the sharing process away from the intimidating pen and paper, and down to the ground to engage a larger group. The fourth reversal is verbal to visual, which makes the conversation accessible to the non-literate, extracting thoughts that would be lost otherwise. The final reversal is from reserve to rapport, which reinforces how much these projects rely on rapport to create an informal and open atmosphere. Through facilitating these reversals, Kumar believes the community design process will be a success. The work of this author was used as a reference when evaluating facilitator behavior, participatory methods, and project impacts.

Modern voices recognize the value of the methods developed by foundational authors, while adding an updated perspective on the complexities of community builds. A local organizer and artist Milenko Matanovic explains the messiness of what he calls “multiple victories” that require dedication to the Pomegranate Center’s seven guiding principles for gathering places. Many of the principles are variations of principles in pre-existing literature on participatory design, but the author also incorporates a pledge to an environmentally sensitive approach. The useful nugget for a budding designer and organizer is where Matanovic gets specific on leading discussion. The author has all but perfected the art of facilitating democratic discussion. In his book *Multiple Victories*, and during workshops he reveals tested tactics to quickly handle personalities that tend to disrupt the democracy of discussion. It all begins with establishing ground rules that all participants agree upon and live by during collaborations. These troublemaking personalities cross cultures and neutralizing situations can get delicate. Another local organizer, Jim Diers, has a long history with the Seattle Neighborhoods, and contributes valuable insight into the delicate (and necessary) balance of government programs and grassroots organizing. This translates well into the work with marginalized communities that should aim to establish positive relationship with local government, yet break from culture of dependence.

Adding to the complexity of participatory methods, there is a growing conversation on cultural sensitivity and the challenges of communicating across cultures.[13] Facilitators are increasingly realizing the importance of word choice, behavior and an awareness of power dynamics. Critical reflection can offer insight into the aspects of ISL that are uncomfortable and note shifts in power as a result of the project.

Design Activism

Marcos Rosa and Ute Weiland compiled an inclusive list of projects related to the work of IUCI in their work, *Handmade Urbanism.* The book is a collection of case studies intended to carry on the conversation of grassroots social activism through participatory design. Case studies include project locations in: Mumbai, Sao Paulo, Istanbul, Mexico City, and Cape Town. These projects were vastly different in their cultural contexts but have clear parallels in regards to participation methods and resulting social change. The author brings the discussion to a global level, linking these individual projects as a patchwork of change within the urban fabric. The authors reveal opportunities for action in the otherwise invisible world of marginalized informal communities. A compilation like this becomes a call to action, as the collective power is tangible and common successful strategies begin to surface.

Architecture for Humanity compiled a series of design case studies that respond to crises around the world in *Design Like You Give A Damn*. As a collection, these reveal the presence of assets within any community, focus on place-based designs, and understand the catalytic role of design in marginalized communities. These designs also aim to pair local knowledge and tools with emerging technologies in a way that is culturally sensitive. The book offers support for the integration of digital technologies into any community build as a catalyst for social activism.[14] There are direct parallels to the IUCI approach, in the way that it aims to integrate emerging digital technologies into local building strategies and the iterative design process. The redesigned fog collectors secure additional water for plants, reducing the financial burden of supplying water to grow along the hillside or within residents’ personal gardens.

Part of the 2016 studio in Phnom Penh was to assemble a digital fabrication lab at the Royal University of Fine Arts to aid the iterative design process and integrate those digital tools into the community build project. These efforts are expected to grow with time to offer meaningful contributions to future projects.

Ann Thorpe adds more depth to the term ‘design activism’ itself by dissecting existing forms and influence from associated fields. Generally, the literature on this subject tends to borrow terms and frameworks from related fields of study. Primarily this means exploring design through the lens of either political protest or artwork that instigates

11 Randolph T. Hester, *Community Design Primer* (Mendocino, Calif: Ridge Times Press, 1990).

12 Francis, “Community Design.”

13 Karen Umemoto, “Walking in Another’s Shoes Epistemological Challenges in Participatory Planning,” *Journal of Planning Education and Research* 21, no. 1 (September 1, 2001): 17–31, doi:10.1177/0739456X0102100102.

14 Architecture for Humanity (Organization), ed., *Design like You Give a Damn: Architectural Responses to Humanitarian Crises* (New York, NY: Metropolis Books, 2006).

social change. By defining design activism through the use of borrowed terms, Thorpe extracts four basic criteria to define design as activism: 1. It publicly reveals or frames a problem or challenging issue, 2. It makes a contentious claim for change based on that problem or issue, 3. It works on behalf of a neglected, excluded or disadvantaged group, and 4. It disrupts routine practices, or systems of authority, which gives it the characteristic of being unconventional or unorthodox – outside traditional channels of change."[15]

In *Disruptive Aesthetics of Design Activism: Enacting design between art and politics,* Thomas Markussen adds that revelation, contest, and dissent, must be evoked through aesthetic means. He claims, "Urban design activism is about introducing heterogeneous material objects and artifacts into the urban field of perception. In their direct intervention into urban space, they invite active engagement and interaction, and simply offer new ways of inhabiting urban space."[16] The value in this article comes from a framework that focuses on the effect design activism can have on people's daily lives in an urban context. This framework becomes a useful tool when evaluating the role of design activism in IUCI projects. His critique of Thorpe is the overuse of a borrowed sociology framework that is ill suited to capture and define what design activism accomplishes. Markussen overhauls and merges existing frameworks until their origin is unrecognizable and a new design activism framework emerges. The author unites core concepts from DiSalvo (political effects) and Ranciere (aesthetics effects) into a more inclusive and design-specific framework. The take-home message is that design activism cannot be viewed through isolated existing pedagogies. Any one area of study, whether it be sociology, environmentalist thinking, political conditions, or art, it alone cannot categorize nor fully explain the qualities of design activism projects.

Thorpe does bring up a profound thought for an aspiring community designer, which is that while good design may bring about general improvements it does not automatically instigate activism on behalf of marginalized groups.[17] Not all design is activism. The physical interventions constructed during IUCI projects have certainly shown positive change in the physical environment, but it's important to step back and assess the project related impacts that activate social change. For any project it could be the design process that shared new knowledge and empowered, or a design element that shifted perspective.

Design Research

"Every designed place must be thought of as a hypothesis to be tested. After occupancy, evaluation in terms of functional effectiveness and user satisfaction should be a mandatory, periodic component of a continued design process. To perceive the design process as complete at the point of construction is to treat people – their use of, feelings about, and modifications to the environment – as inconsequential."

-Randolf Hester Jr.

The refrain in the literature reiterates the dire need for research and assessment generally in landscape architecture[18], and specifically in participatory community design efforts[19] [20]. There is also a call to action within the international service-learning literature. Benefits in ISL that are cited range from combining faculty resources to meet the three core goals of academia (teaching, research, and service) [21] to understanding functional effectiveness[22]. Many claim that research, in the context of international service learning, is an ethical imperative. The community partners deserve to receive best practices and thus lasting positive impacts.

In *Landscape Architecture Research* Simon Swaffield calls on professionals to engage in the design experiment and envision the role of research-based design in the profession. The author identifies a rather large gap of research in LA practice and academia, while myriad opportunities exist to conduct research that would inform best design practices. The most fitting category of research from this text for participatory design would be in the Post Occupancy Evaluation (POE). However, it lacks the level of participation that fosters empowerment. A participatory impact assessment (PIA) is typically prescribed for humanitarian build projects due to it's simplicity, reliability, and ability to engage people in the full process. Many of the same guiding principles from a POE can be applied, yet a PIA incorporates participation at every level and is less complex in the form of its inquiry.

A valid concern with the information gathered through design experiments is a heavy reliance on qualitative feedback, and/or less rigorous methods due to a variety of surrounding constraints. When it comes to qualitative versus quantitative data gathering, the IUCI approach typically requires a balance of both. Each method provides useful information that the other cannot. This thesis ultimately focuses on the PIA survey and focus group feedback from residents. While interviews are rich with information, and perception of impact can be translated to numerical data, these methods should be paired with quantitative studies. Overall, past collaborators have discovered great value in the design experiment and research following construction.

Participatory Impact Assessment (PIA)

Within the literature on PIA, there is a growing need for assessment of long-term impacts of humanitarian interventions on beneficiaries.[23] [24] Andy Catley's *Participant Impact Assessment: A Design Guide* provides a useful framework to approach this type of research, in a way that focuses on the measurement of community impact rather than the achievement of project activities. The author stresses the ethical obligation to rigorously evaluate humanitarian efforts, calling practitioners to use this guide as a reference, while adapting it to each unique cultural context. This framework became an excellent resource to evaluate the state of IUCI research methods and goals in PS. The participatory nature of research in PS demonstrates the central agenda of IUCI to initiate a sustainable research program, facilitated by faculty and students, yet carried out and owned by community members. What has already been accomplished is incredibly valuable. As for what can still be done, Catley has many useful suggestions for how to strengthen the role of research in this project.

The PIA grows from the principles of Participatory Rural Appraisal (PRA), to include the beneficiaries as much as possible. As a result, the PIA has shown to overcome common weaknesses of conventional humanitarian and development monitoring, evaluation and impact assessment approaches.[25] The reliability and depth of the information resulting from PIA methods can be attributed to the balance of qualitative and numerical measurement, and repeating methods with various informants. Further, the benefits gained from the PIA are: 1) new knowledge, made available to everyone in the partnership 2) support from funding agencies to continue work 3) raised awareness within the community 4) the creation of space for dialogue 5) Inform best practices for future work. In Catley's words, "A more systematic approach to impact measurement helps to improve accountability, not only to donors and external stakeholders, but more importantly to the recipients of aid.".[26] Catley and Watson agree that the long-term success and benefit of this approach would mean that local people are identifying and measuring their own indicators of change. Further, participation generates new knowledge opening the door to social activation.

Over the past several years in Lima PIA exercises have been adapted to become more accessible for residents and thus reveal more about project impacts. Learning from those years of work, the exercises were carried out the same way in Phnom Penh. Residents defined the exercises, they followed a simple structure, and they utilized the same graphic conventions as those used in Lima, Peru.

15 Ann Thorpe, "Submitted to the Journal of Architectural Education Title: Defining Design as Activism," accessed November 28, 2016, http://www.academia.edu/download/22023379/thorpe-definingdesignactivism.pdf.

16 Thomas Markussen, "The Disruptive Aesthetics of Design Activism: Enacting Design Between Art and Politics," *DesignIssues* 29, no. 1 (Winter 2013).

17 Thorpe, "Submitted to the Journal of Architectural Education Title."

18 M. Elen Deming and Simon R. Swaffield, *Landscape Architecture Research: Inquiry, Strategy, Design* (Hoboken, N.J: Wiley, 2011).

19 Randolph Hester Jr., "Community Design," in *Theory in Landscape Architecture* (Philadelphia: University of Pennsylvania Press, 1974).

20 Sanoff, *Community Participation Methods in Design and Planning*.

21 Mary C. Hardin, "Research as Ethical Practice: When Academic Goals Align with Community Needs," in *From the Studio to the Streets: Service-Learning in Planning and Architecture* (Sterling, VA: Stylus, 2006), 59–76.

22 Hester, *Community Design Primer*.

23 Cathy Watson, "Impact Assessment of Humanitarian Response: A Review of the Literature" (Feinstein International Center, 2008).

24 Andy Catley et al., "Participatory Impact Assessment," Tools, guidelines and methodologies (Feinstein International Center, 2013).

25 Ibid.

26 Ibid.

Community Name:

Eliseo Collazos

Population (30,000 in LdZ)

90 families

Average Earnings

$10/day

Land Title Status

No tenure

Photo credit: IUCI collection

3. LESSONS FROM LIMA

The Informal Urban Communities Initiative began in 2009 with rapport building and small projects in the urban poor community of Lomas de Zapallal, located in Lima, Peru. Since then, the number and scope of projects has grown within Lima and the participatory approach brought to Phnom Penh, Cambodia. The IUCI ethos however did not spring up immediately in 2009, but rather the inspiring force to create the IUCI began with Ben Spencer's thesis project in Venezuela followed by his work with the Peace Corps in East Timor. Along the way, faculty, students, and volunteers from several related fields have collaborated to promote community building and research. In order to accomplish some ambitious goals, IUCI has always sought to gather a team and explore an approach that balances design education, service learning practice, and a broad research base that informs best practices. The IUCI ethos is discussed in detail through shared experiences by those involved. Through interviews, valuable lessons from all previous years in Lima are identified.

“What do you want? What’s the priority for you?”

Lessons From Lima

The mission of the Informal Urban Communities Initiative (IUCI) is, “to improve human and environmental health and well-being…to build the capacity of designers and other professionals to work effectively with poor urban communities and to gather evidence that informs best practices in these contexts.”[1]. IUCI is an interdisciplinary team of students, faculty, and designers from the University of Washington and Architects without Borders-Seattle. Since 2009, University of Washington associate professor Ben Spencer has led the facilitation of community health projects in Lomas de Zapallal (LdZ) and in the winter of 2016 has extended work to Cambodia. Students, faculty and professionals from landscape architecture, global health, architecture, engineering, and other fields have gotten involved in the projects over the past few years. On the ground, local leaders have been identified in each project site and those relationships have been maintained since the beginning. Students assist in facilitating workshops and co-generating designs with the residents of each community.

Interviewing those who were involved in various phases and roles became a logical first step to understanding the intricacies of the participatory process. These conversations revealed 6 common lessons that related to the challenges typically encountered. Lessons learned from the previous IUCI projects in Lima served as guidance for the project in Phnom Penh.

The first formal interview, with Leann Andrews, provided additional insight into the projects in Lima and the IUCI approach. She has been involved with projects as a student, project manager, and instructor over the past 5 years. Her focus is on health within slum communities, and landscape interventions as a catalyst to creating healthy communities. She strongly supports the mission of IUCI, and noted several successful outcomes resulting from the group’s methodologies and goals. There was also a constructive skepticism in her voice about any ethical stance, the value of a formal education over lived knowledge, and the definition of “success”. This interview brought valuable questions forward; questions that this group is constantly asking themselves in order to bring truly positive change to the communities they work in. Acknowledging challenges and facilitator errors has been central to ensuring best practices abroad.

When Andrews was asked about defining the goals of an IUCI project, her response was, “The first is the community. We always ask them in the very beginning what are the goals for your actual community? Not even for the project, because we don’t know what this project is going to be. What do you want? What’s the priority for you?”[2] One of the main goals of the group is to listen to the community needs, and then allow the project to grow from there. Another objective that came up during discussion was the need to identify community assets, such as skilled artists or horticulturalists and strengthen their role in the project and to hand off responsibility. She also stressed the importance of making the tools, resources, and processes accessible to a large audience. This is part of an effort to promote momentum in the interventions after the group’s departure.

Andrews is convinced that returning every year to document progress has contributed to the long-term success of projects. She mentioned that one of the great things that Ben has done is to go back to previous project sites each year and continued to work with those residents. Maintaining relationships leads to effective interventions and gathers knowledge on the social, economic, and environmental improvement that occurs during periods of IUCI absence. Looking to the future, IUCI plans to continue working with communities in Lima, Peru and Phnom Penh, Cambodia.

During interviews with several other team members, communication challenges were repeatedly noted. Most UW students do not speak fluent Spanish. Gathering resident feedback or giving direction without an interpreter presented a significant challenge to the process. During an interview Marta Olson, a UW student, expressed her frustration that she, “couldn’t really talk to people… There were times when I was like I know I can help this person but I can’t - I just cannot get the words out. I kinda know what they need what they want but…that is really frustrating.”[3] The communication struggle continues with more complex issues that go beyond the English-Spanish language barrier. Tapping into the local communication network, understanding who is available to talk and when, delivering the goals and expectations, and identifying the words that resonate with each local group of people appear to be the more difficult obstacles to navigate. For example, one word used throughout this document is *challenges*, and this is a word that may be clear to me, but when translated, may not resonate with residents. Coco Alarcon explained this miscommunication, “You want to say ‘Is this a challenge for you or what challenges are you going to experience with these types of projects?’ It’s a pretty common question. And when you use the word challenge that word in Spanish would be desafio. It doesn’t say anything for them.”[4]. After identifying that the word “problem” does resonate, he went further to explain the importance of conducting pilot sessions with a small sample of the community. One major goal of these pilot sessions was to eliminate jargon, identify words or phrases that resonate with the community, and to make the conversation of future sessions accessible to all participants.

Participation is really at the heart of the IUCI methodology. If residents don’t engage in the process, then an intervention is irrelevant. Inviting and maintaining participation throughout the process is a significant challenge. First, the invitation requires an understanding of resident commitment, their available time, and existing communication networks. One example, in Lima, the time parents spent at the workshops would qualify for the required volunteer time with the school. Leann explained that moment of realization in the 2011 project at the Pitagorus school, “It was the very first workshop that we held at the school, no one came…I think it was they had this system in place…you either have to pay a fee or you have to volunteer yourself in order to support your kid going to that school…As soon as we tapped into that system, of understanding that parents could volunteer and this would count for that volunteering service we had, well we had 300 parents show up!”[5] Ben Spencer adds that the main reason for the no-show was a lack of communication from the local representative of the parents committee. Tapping into existing systems of volunteer labor is not very useful if the local leaders are unreliable communicators.

Other aspects of participation play into the success of the project. Maintaining momentum is absolutely crucial, as well as requiring an exchange of input. What we have learned from Peru is that participation dictates the timeline and scope of the intervention. If participation dwindles then the project cannot and should not carry on; the long-term success of the intervention depends on continued community participation.

Related directly to participation is the process of defining project goals. Everyone interviewed explained the need for these goals to grow from the community. It is central to the IUCI methodology, and based on decades of community building studies. Most importantly is the proof that urban poor residents can (and will) take ownership over these projects, utilize them, and maintain them as a result of authoring the design goals.

Listed as potential interferences to this strategy are: the lack of participation, personal and funder design goals detracting from community goals, deciphering what the community genuinely wants, and a variety of design constraints.

Every interview reinforced that these interventions do not happen in a vacuum, but rather respond to and operate within a complex web of challenges surrounding each community. Challenges include political battles, contested land, corruption, and natural disaster. In 2015, IUCI installed a large-scale array of fog collectors along the hillside near the community of Eliseo Collazos in Lima, Peru. During an interview with David Witte, the engineering student who was spearheading the fog collection project, he reflected on several unforeseen external forces that the team encountered. This list included everything from a tense political atmosphere, to rapid urban poor invasions, and theft of building materials. During the interview he chuckled at his initial perception of the fog collectors being “simple” interventions.[6]

The participants interviewed identified tools to navigate the unpredictable terrain of community building abroad. First and foremost, identifying and utilizing a local contact is invaluable to the process. This has been repeatedly addressed in conversations with those involved in IUCI projects. There are leaders within the community as well as working professionals acquainted with the community. Coco Alarcon explains that locating a community leader is a central factor to calculating feasibility of a community build project. Coco, an architect and native Peruvian, has been the intermediate professional contact in

1 “Informal Urban Communities Initiative,” *Informal Urban Communities Initiative*, accessed February 10, 2016, http://sqwater.be.washington.edu/wp.

2 Leann Andrews (IUCI Project Manager), in discussion with the author, February 2016.

3 Marta Olson, in discussion with the author, February 2016.

4 David Witte, in discussion with the author, March 2016.

5 Leann Andrews (IUCI Project Manager), in discussion with the author, February 2016.

6 Witte David, in discussion with the author, March 2016.

Peru who helps bridge IUCI process to community needs. Students from previous projects expressed the value of having Coco involved over the years in Peru. Some of those same students involved in previous projects were also a part of this community build project in Phnom Penh. During interviews with those team members, they were very curious about the local contact in Phnom Penh. Pen Sereypagna (Pagna) became that essential bridge between the community in Phnom Penh and the IUCI team.

Gathering feedback from residents keeps the process evolving and this continued research informs best practices. Coco Alarcon brought up an excellent point during his interview that the feedback and participant impact assessment are what set the IUCI process apart from NGO projects. Generating surveys, encouraging diaries, and evaluating long term success creates an argument for why this approach should be used and why it is worthwhile to invest in urban poor communities.

According to all of those involved, building a long-term relationship with community members is a catalyst to creating project conditions that have a positive impact. As a result of returning to the urban poor communities in Lima, Peru the workshops are carried out more efficiently and feedback has become more honest. After years of implementing projects, residents know what the IUCI team is capable of. They know Ben and how he approaches each preexisting and new project. There is trust that has developed, and in return for Ben's dedication to each community the residents are participating more readily and more willing to assume leadership roles.

Initial Differences and Similarities

During an interview with Ben in late April, we discussed initial differences and similarities between Lima and Phnom Penh, as they relate to the community build project. This chapter concludes with a summary of that discussion. Some of these differences led to facilitation strategies being actively adapted during the quarter to meet the needs and abilities of those participating in Pongro Senchey. The work of IUCI in Phnom Penh was directly grown from years of experience in Lima, which had been developed based upon established community building knowledge. The approach has constantly evolved, which is why it is so important to reflect upon the lessons learned from previous projects in Lomas de Zapallal and Eliseo Collazos. This is part of an effort to anticipate what knowledge can be applied, and further develop best practices as the work in Phnom Penh grows.

At a larger scale Lima and Phnom Penh are very different places. One experiences a desert climate blanketed by dense fog, versus one that is hot and humid with seasonal flooding 6 months out of the year. The municipal government in Lima has a laissez-faire approach to urban poor community development, whereas in Phnom Penh there is a more antagonistic attitude toward similar development in the city. Peru is highly urbanized, whereas Cambodia is mostly rural aside from a few urban centers. Along with that, the urban poor settlements are widespread in Lima whereas there are interspersed pockets of settlements in Phnom Penh.

When it comes to workshop facilitation in Lima, after seven years, there is a good understanding of how workshops can and will work. In the community of Pongro Senchey it was necessary to explore the level of workshop complexity that is accessible and engaging. There were times during this first project where seemingly simple exercises needed to be simplified in order to get folks participating. There is also less experience overall with participatory design in Pongro Senchey. Due to the presence of a strong hierarchy, local leaders along with outside collaborators make most decisions and then the larger community is notified. This was confirmed in focus group responses, where participants reported that the IUCI methodology is new to them and a bit too demanding of their time.

There are strong similarities that confirm the knowledge base of community building developed in Peru. For one, it's similar to earlier work in Peru, where there were several missteps – meetings with no shows as mentioned earlier in the chapter. To combat these obstacles the local coordinator, Pagna, in Phnom Penh has proven to be an invaluable connection to the community in support of the IUCI process. Further, Pagna has filled a crucial role as translator (alongside RUFA students), throughout the duration of the project. This particular community as a whole speaks only Khmer, the native language of Cambodia. While the support of translators is appreciated, Ben spent 3 hours a day for 2.5 months studying the language in preparation of facilitating community workshops. From his experience in Peru, he knows the significance of language. His proficient skills in speaking Khmer shows interest in bridging cultures, and appeared to be appreciated by those in the community. Ben noted during this interview that, "In any kind of community work, building rapport is critical. Knowing the people you work with and being friends with them…the more you can eliminate the intermediary the more rapport you will have."[7]

7 Spencer, Ben, in discussion with the author, April 28, 2016.

Ben Spencer sees a reconfirmation of what he first experienced during his thesis work in Venezuela and later while working with the Peace Corps in East Timor. For him, that work, "reconfirmed the idea that working in the same place over the course of many years has a significant impact on the quality of the work and the degree to which you can actually make a difference in the community."[8] This previous experience acted as the foundation of the IUCI ethos, while the current work continues to strengthen a body of knowledge on community building and international service learning collaborations. The result of an extended presence in a community he explains is that there is a better understanding of resources, community dynamics, and local contacts. On the flip side, one concern for Spencer is that while the presence is one that lasts for years, the individual project timelines are often constrained by the academic calendar. A lesson he has learned is that in the past the project goals have often been too lofty given this time frame. He explains, "We try to accomplish a huge amount in short period of time when it would really be more beneficial for everyone involved to have a little bit more space to digest and to make decisions, and then respond in a way that is in pace with the community."[9]

The knowledge shared in these interviews was gained experientially through years of hands-on community design work. Interviewing people who had been involved with IUCI projects revealed a diverse set of experiences and stories, yet the same handful of important lessons surfaced during discussion.

8 Ibid.
9 Ibid.

1. Utilize local communication networks

2. Participation is necessary to move forward

3. Projects will be affected by external forces

4. Local contacts are invaluable to any project

5. Initial Goals need to come from community input

6. Long-term relationships are critical

IUCI TIMELINE

2009

Lima: Multiple meetings with NGOs. First meeting with representatives from the Pitagoras School in Lomas de Zapallal (LDZ) Lima, Peru.

2010

Lima: Workshops initiate school visioning and classroom design. Comprehensive mapping of LDZ to assess environmental conditions.

2011

Lima: Initiated the design and construction of a classroom building (completed in 2013). First meeting with community in Eliseo Collazos (EC).

2012

Lima: Designed and constructed a garden stairway at the Pitagoras school. Assessed previous work. Fog collection and park design workshop in EC.

2013

Lima: Designed and constructed household gardens in EC. Initiated the pilot program for fog collection. Completed classroom in EC. Assessed previous projects.

2014

Lima: Assessed conditions of park and stair at the Pitagoras school. 1 year assessment of household garden impacts in EC.

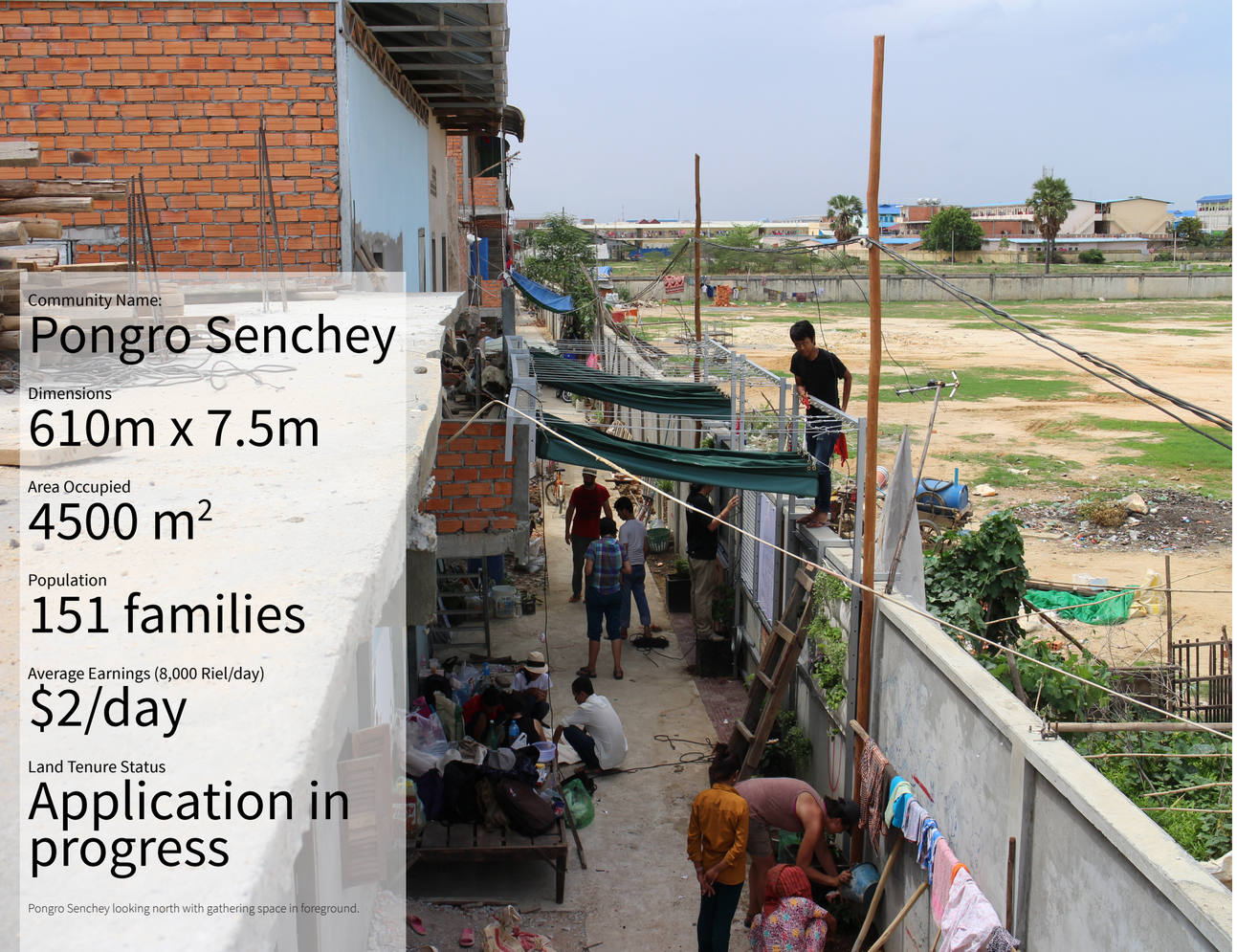
2015

Lima: Additional gardens and large scale fog collection array installed in EC. Assessed impacts of existing gardens.

2016

Phnom Penh, Cambodia: First community build in Pongro Senchey.

Lima, Peru: Further developed fog collection technology and expanded parks network. Designed and constructed public park in EC.



Community Name:

Pongro Senchey

Dimensions

610m x 7.5m

Area Occupied

4500 m^2

Population

151 families

Average Earnings (8,000 Riel/day)

$2/day

Land Tenure Status

Application in progress

Pongro Senchey looking north with gathering space in foreground.

4. THE COMMUNITY

This chapter documents and explains site location, conditions, community history, and observable traces of resident behavior embedded within the current physical environment. This information was collected from various sources including but not limited to: our local contact Pagna, an annual survey on Phnom Penh's urban poor population, and on-site documentation by University of Washington students. The discussion of site conditions considers of all Phnom Penh's urban poor.

The intent was to establish the context within which this community build project occurred. Before exploring the participatory design process and design response it was important to understand the unique setting of the project, the community assets, the current use, and resident experience.

Photo transect N-S along the road at intervals of approximately 150 ft.

Date taken: April 25 2016

Community Introduction

Pongro Senchey (PS) is an urban poor community of 151 families that originated in 2000. The total number of people living within the community is 373, with 180 of those being female and 193 male.[1] Local leaders are both female and male, although throughout the participatory process this IUCI project has received mostly female voices. Women, while busy with childcare, cooking, and many other tasks are on site every Sunday for several hours, and are able to participate in the community activities. Most community members are motor taxi drivers, construction workers, merchants, government officers, and garment workers. The final occupation on that list is predominantly female laborers, while the ones proceeding are male-dominant (if not exclusively male) occupations. It is typical for young people to leave school in order to help generate additional income for the household.

Figure 2 on page 1 is a map of modern Phnom Penh, layered with Khan (district) boundaries, and density of urban poor in each Khan. The blue leader indicates the general location of PS, in the Por Senchey Khan, a considerable distance (45 min. drive) from the urban center of Phnom Penh. The amount of land that the community occupies is 4500 m^2. The physical dimensions are 610 meters in length and 7.5 meters wide.[2] In section, west to east, the community consists of one house structure, an approximately 3 meter wide street (sometimes with awning cover), and an approximately 3 meter tall wall. The alleyway-like nature of the community presents its own unique design challenges, such as determining a location for the "central" gathering place. This long and skinny community is also sandwiched between two vast sites slated for development as housing, marketplaces, and factories.

It is important to discuss the wall itself, its origin and how the community engages with it. The landowner for the site adjacent to the east paid for the wall to be constructed in an effort to curb expansion by urban poor communities. While the wall creates a defined community space, it is also a major obstacle for the flow of people, vehicular traffic, and construction materials. Materials are carted through holes knocked out of the wall (or entire wall sections removed) rather than the two main entrances at the north and south ends. This is understandable given the narrow passage. A positive aspect of this wall intended to keep these people in (or out), was that it became a canvas for school lessons, engaging students in chalk drawings of the subject matter. The wall also offered structural support for electrical poles, climbing plants, as well as for the frame of the IUCI community build project this spring.

The community build project facilitated by IUCI exists as one part of a larger collaboration between the municipality, Community Development Foundation (CDF), the IUCI and community members. Three upgrading projects preceded IUCI's involvement. First, the land on the road was filled (610m x 3m x 0.5m). The second was the construction of a bridge (12m x 3m) on the south end of the road over wetlands. The third was the sewage system installation and fill over the system line. During the IUCI intervention, the money was collected from IUCI, CDF, and a community savings to pave the road over the sewage system line. Additionally, halfway through

1 Pen Sereypagna, "History of Pongro Senchey," May 2, 2016.

2 Ibid.

the design process led by IUCI the deconstruction of an existing classroom structure was followed by the reconstruction of a much-improved structure. That last project was funded by an outside organization with a religious mission. The community money saving program is there specifically to encourage this continuous support from partner organizations such as the CDF, and of all surveyed urban poor communities, the ones with a savings program in place see continuous improvement of infrastructure that others do not.

The land to the west of the community is inundated with water year round. The recently installed combined sewage and stormwater pipe has alleviated standing water. However, the functionality of the conveyance system remains uncertain in light of future development of adjacent parcels.

Site Conditions

The 2014 Phnom Penh Survey was useful in determining the conditions in PS in relation to other urban poor communities in the outer khans of Phnom Penh. At the time of the completion of this survey there were four inner khans and five outer khans. Since the time of this survey the total number of khans has increased to twelve, but all of the findings in this chapter have been located in this 2014 report. Generally, there is a stark difference between the conditions found in the outer khans and the inner khans. Outer khans suffer from lower quality infrastructure, a weaker social network, and hold far fewer opportunities to generate an income.[3] It is useful to explore the quality/presence of sewer systems, trash collection, water access, electricity, environmental health, crime, and saving schemes to understand site conditions. This is how the Phnom Penh Survey organizes the conditions of urban poor communities. For the purpose of comparing Pongro Senchey to other outer khan communities, these same evaluators will be explored.

As of 2013, there were a total of 260 urban poor communities located in the outer khans. PS is located within the khan of Por Senchey, which as of 2013 contained 28 communities. PS is located on state land and is in the process of applying for a land certificate that will secure their tenure. 40 percent of poor urban communities have been told they are living on state land, either public or private. In the outer khans, 69 communities reported that they were on state public while 33 reported they were on state private land. The outer khans claim a far higher percentage of holding documented land status. Lack of state land mapping and titling unfortunately makes the verification of land status challenging and easily overturned. As a result, 37 percent in the outer khans are facing eviction.[4] For PS, eviction has not been threatened, however proposed development on either side of the community creates uncertainty. The relationship between the local municipality and PS seems to be one of respect. The new municipal leader as of 2016 has supported projects in PS, while the previous municipal leader was generally more inclined towards eviction of poor urban communities.

Construction materials in outer khans were typically wood (45%) or low quality mixed materials (19%). Dominant building materials in PS are brick and concrete, although many houses are also made of wood. Any new structures erected while the

3 Meg Fukuzawa, "The Phnom Penh Survey: A Study on Urban Poor Settlements in Phnom Penh" (Sahmakum Teang Tnaut, February 2014).

4 Ibid.

design team was on site were made of brick, rebar and concrete. There is a move in this community to spend the money on traditional building materials to appear more established. Residents reject the use of recycled materials for any intervention due to their stigma.

Forty percent of outer khan communities are under ponding water for longer than four weeks. For PS, this period lasts up to three months and reaches an average depth of 18 inches. Outer khan settlements lack the trash collection services that exist closer to the city center. 72% report no collection of trash. This leads to burning trash, or dumping it in other areas. Site observations suggest that there is some form of trash collection, but this has not been confirmed. Less than half of outer khans are directly connected to the city water source. As a result residents outer khans pay up to three times as much for a private water provider. Site observations at PS revealed that a community member pulls up with a tank of water and pumps it in to the community via a newly installed plumbing system. An impressive 80% of both outer and inner khans are connected to state electricity. Unfortunately PS was not connected, and they pay higher electricity costs.[5]

Health hazards persist throughout all urban poor settlements, with polluted air and water as the most pertinent issues. Observations suggested tha environmental health in PS is currently in poor condition. Garbage is scattered about, proximity to a dirt road brings dust clouds in, and effluent is discharging into a neighboring pond where there is potential human contact. Further exacerbating all environmental health issues is the duration of seasonal flooding that puts everyone at risk of illness. Beyond immediate health issues, when asked about concerning issues, residents in PS listed domestic violence and alcohol abuse amongst others. These problems have been voiced by approximately half of all urban poor communities.

A higher percentage of outer khan settlements reported having a saving scheme in comparison to inner Kahns. A money saving scheme strengthens the community, organizes socially beneficial projects, and assists in achieving land tenure. The reasons listed in the survey for the dramatically higher number of saving schemes further from the city center are (1) less of a hold on the community by local authorities, and (2) worse conditions and history of relocation in the outer khans. Only 12% of all settlements had functional saving schemes, and PS is one of those.[6] Currently, the community has saved 36,408,000 Riels to contribute to any number of socially beneficial projects. 38% of outer khan settlements report partnering with some NGO or association for community improvement. PS has multiple NGOs and groups working with them.

In comparison to all urban poor settlements, PS ranks higher in durability of construction materials, partnerships with outside organizations, saving schemes, trash collection, and tenure status. It ranks lower in terms of access to income generating opportunities, storm water management, sewer infrastructure and access to state provided water and electricity. There are significant issues pertaining to environmental health, critical infrastructure, personal finances, and social relationships that pose problems for the community. In summary, Pongro Senchey falls somewhere in the middle in terms of overall conditions when compared to other urban poor settlements.

Future plans include applying for a loan from the CDF to upgrade houses for the 151 families who are members of the money saving program. Connecting to state-run (rather than privately operated) electricity is a top priority. The “greening” of living spaces is noted on the list of common and immediate goals. Last but not least, land tenure is a top priority. Pongro Senchey sits on state owned property and is currently pursuing an application process with the local government to gain tenure. Tenure means stability, and in an effort to gain stability the community has gone to great lengths to strengthen their application. Local leaders have initiated the upgrading projects listed previously and established partnerships with NGOs and agencies such as CDF, Community Architects Network (CAN-Cam). Other useful activities included: increasing the money in the savings program and organizing a financial plan, cleaning up around each house and storage of building materials, mapping and surveying the community, generating house upgrade designs and building specifications to achieve a permanent and unified community appearance.[7]

Site Observation

During one site visit, University of Washington students systematically observed common elements and unique traces throughout the community, as an effort to reveal social needs and patterns. In this less “formal” community, low-tech modifications were the norm and revealed a substantial amount of information about the users of the place. While on site UW students noted the location of garbage collection, seating, plantings, awning covers, holes knocked out of the wall, parked motorbikes, and more. Through the process of noting categorized traces the design team was able to make inferences about how conditions came to be, why some elements were built, or why some things were modified to meet specific needs of the users. This relatively short and simple activity was able to clue the design team into some aspects of daily use of the space, reject assumptions that had developed, as well as anticipate how a new intervention might meet unaddressed social needs.

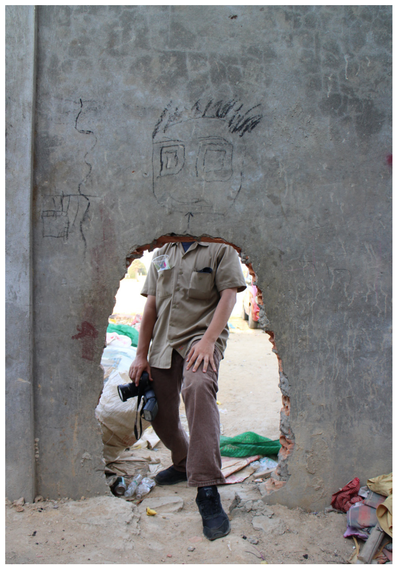
Photos of discovered traces occupy the next two pages.

5 Ibid.

6 Ibid.

7 Pen Sereypagna, “Optimisticism,” May 2, 2016.

CONNECTIONS



LEFTOVER

PERSONALIZATION

SEPARATION

PROP

PROP

Photo credit: David de la Cruz

5. THE PROCESS

Workshop exercises, focus groups, home surveys, and design schemes the IUCI process created a constant state of information exchange. The community build process used in Pongro Senchey grew from years of lessons learned during work with communities in Lima, Peru. The workshop agendas stayed true to the process of listening to participant-generated goals and preferences, and designing from that information. This process revealed opportunities for synergistic relationships between project and program. During workshop #5, a baseline participant impact assessment (PIA) was initiated, allowing local residents to define the metric by which the community build is evaluated over a the next several years time. Design workshops were followed by capacity building workshops and design implementation. Information gathered from interviews and design team observations informed the evolution of strategies used by the facilitation team.

Photo credit: David de la Cruz

Workshop #1:Community Visioning

The objective of the first workshop was to get the community members' individual priorities on paper through social mapping. Then they identified existing qualities that presented challenges or opportunities for the build. Individual voices accumulated to build a refrain that provided a direction for design goals. The schedule for this workshop is listed below.

- Check-in
- Introductions (20 min)
- Community Mapping (60 min)
- Maps (30 min)
- Resources/Assets (10 min)
- Challenges/Problems (10 min)
- Projects and Programs (10 min)
- Break (10 min)
- Presentations and Priorities (50 min)
- Map Presentations (30 min)
- Priorities Ranking (20 min)
- Closing Remarks (10 min)

Photo credit: David de la Cruz

Synthesizing the Information

This synthesis was a result of design team discussion, focus group feedback, and personal reflection. Covered in this section are notes on participation, facilitator behavior, challenges, successful strategies, design goals and more. While there was a relatively high number of community members present at this first workshop it is important to acknowledge the biases that were present. There was a bias in the process towards those that are available during this time and day. There were a disproportionate number of older women to men, boys, and girls. It will be their concerns that are represented in the following workshops and built intervention. This workshop moved slowly at times, but hopefully as the community sees progress and participants gain familiarity with the participatory process the activities will move along quickly.

Challenges came up during our first workshop that offered useful lessons. First, residents were quick to write down examples that were provided in the explanation for the workshop exercises. Communicating a clear explanation of the activity without using leading examples

Photo credit: David de la Cruz

proved to be difficult, but should be something that facilitators practice. Another challenge was getting people to start drawing. Participants needed significant persuasion to contribute to drawings on the social mapping exercise. It became apparent that many are nervous to reveal their drawing skill level, or ideas, or both to their neighbors. Facilitators need to find ways to encourage a safe drawing environment. Some on the design team suggested that facilitators assist with drawings, while others felt that this uncomfortable phase with the blank paper was essential to the process. Another challenge encountered was the variability in education between individuals. This required facilitators to spend additional time with individual participants.

There were several noteworthy facilitator strategies and behaviors practiced at this first workshop. First, giving community assets and problems equal weight in the social mapping exercise set a positive tone to the workshop and established a relationship of exchange between facilitator and participant. Incorporating assets will allow the design to build off of positive elements and lays the foundation for a more meaningful intervention. It was important to have a group representative from the community explain their concerns and ideas to the rest of the participants. These ideas were grown from their input and it was essential to remind participants of that. This also confirmed to participants that the design team recorded what they were saying, and that it would be put to use. The workshop wrapped up with an explanation of the next steps and workshops ahead. Those closing comments were clear and optimistic, yet honest about our abilities within the constraints of this project.

Organizing an all-male table revealed a significant gender division in the perception of community conditions. Issues of importance were very different. Types of vocational training, and appropriate street uses showed the greatest contrast in opinions. At the all-women tables, they brought up conflicts in the community as a result of men's drinking and drug abuse. It was possible that they did not feel comfortable saying this while men were at the table. When it was finally brought up during the presentations, there was immediate rebuttal from the men at the workshop. This appeared to be a contentious issue.

At this point in the design process potential synergies were identified between projects of interest, as well as between projects and program. First, the relationship between the community center and road presented opportunities to strengthen both the project and program of both areas. The introduction of green space was expected to improve community health. Food-producing vertical gardens were expected to alleviate financial stress and increase food security. Garbage was consolidated along the wall. At this point it was considered that a new road design had the potential to initiate an improved garbage collection program. The wall itself offered a canvas for any community-generated artwork. Artwork was anticipated to address the community priority for enhanced aesthetics. The potential for low-tech water collection was considered to be integrated into the community center or used as a vegetation water source. Utilizing local building processes and skills as part of a construction workshop was thought to provide an opportunity for sharing knowledge and opening up employment opportunities. Lastly, providing sewing equipment and a space for sewing was considered for its income-generating potential.

There were several constraints that surrounded the project at this point. First of all, completing the entire road appeared difficult to implement in phases that worked with the timing of community activity and the design team schedule. Cost was the most project-defining constraint; this project had a budget of $6,000 for any project and program. The materials were limited to those that were locally sourced and low cost. Most importantly the tenure of this community seemed fairly secure, but the threat of eviction continued to be a serious concern. This synthesis established the need to offer skills and processes that could be taken with the residents if they needed to relocate suddenly.

Community Preferences

Synthesized workshop data clarified community goals to be presented at the next session with local residents. The intent was to listen to community needs and from that generate an array of preferences for them to select from the next week and refine the community vision. During the meeting between design team members it was established that the intervention could not be solely based off of the ideation and voting process completed by the community. Instead, it was decided that the design incorporated participant feedback, the skill set of the design team, constraints that surrounded the intervention, and the cost to complete the intervention. This opened a difficult discussion about the role of the facilitator-designer. This role required a balance of addressing the expressed social needs and making final design decisions. This role also requires a global understanding of the process, intervention design, and surrounding influences in order to catalyze an exchange between those collaborating that offers the most at the lowest cost. Ultimately, the goal set forth was to provide a skills-based intervention, to build capacity within the community. The physical elements included in the design at this stage were a short length of road and a community center.

Partial completion of the road and community center offered more of the design team's skills. Further, the design team identified opportunities for a socially beneficial relationship between the building and the road. Techniques used for the community center could later be applied to personal homes. Building strategies for the road segment could later be replicated along the entire stretch of road. The intent at this stage was to offer a master plan for the road and center to be implemented in phases as additional funds were secured.

Key Findings

- The top three priorities ranked for the community:
  1) beautiful road (49 votes)
  2) electricity & water (31 votes)
  3) community center (17 votes)
- The largest group represented at the workshop were the older women of the community. They have the time and the interest in the program.

Focus Group Feedback

Were the directions clear? The answer was a unanimous yes.

Did you all get the chance to voice your concerns? Yes.

Did you feel like you got the assistance that you needed? Enthusiastic yes!

Are there any goals that were not brought up during the workshop? Unanimous no.

Were there people that were not able to make it to the workshop? Yes, this is because people leave to attend ceremonies for their ancestors in the countryside.

Why were there mostly only women at this workshop? The men work construction seven days a week and will not be able to make any of the workshops.

Will the information from this workshop be passed along to others that were not able to make it? Yes, we will pass along the information informally.

Program

Objective: Generated and collected ideas on potential program inside of a new community center and outside in a gathering place along the street.

Floor Plan

Objective: Asked residents to place programmatic elements within each floor of a community center that they propose.

Materials

Objective: Presented feasible construction materials to gain feedback on likes/dislikes. Further inquiry revealed reasoning behind preferences.

Workshop #2:

The objective of the second workshop was to establish activities, spaces, design elements and materials preferred for the community center. Through both diagramming and drawing out the community center and street, the aim was to inform design options for the following workshop. The schedule for this workshop is listed below.

- Check-in
- Introductions (20 min)
- Activities | Spaces/Elements (10 min)
- Site Plan Game (20 min)
- Materials/Plants (10 min)
- Break (10 min)
- Visual Preferences (20 min)
- Drawings/Murals (60 min)
- Homework & Closing Remarks (10 min)

Synthesizing the Information

There were significant challenges encountered at this workshop worth addressing. First, there was a lower turnout for this workshop in comparison to previous workshops due to the Khmer New Year. This annual holiday draws residents of Phnom Penh out to their home provinces and many community members had yet to return, while others were working. Second, there was a considerable amount of explanation required for the images and their captions. There were varying degrees of literacy and familiarity with design strategies. Once again the workshop benefited from the translation skills of Royal University of Fine Arts students during times of confusion. Focus group participants commented that the length of the workshop is exhausting and does not work well with their busy schedules. This workshop ran about 3 hours, and there were observable drops in energy and attention during the session. An observation by the design team was that as children grow tiresome or hungry, that older women are pulled out of the classroom to attend to them. David mentioned generating ideas for how to accommodate some form of childcare during sessions.

Before departure from Pongro Senchey the design team learned of a potential land dispute over the site selected for the community center. Nothing was confirmed so it was decided to move forward with design scheme generation for both the road and community center.

The exercises utilized for this session included: listing out desired activities and spaces, a site plan game, responding to materials and plants, noting visual preferences, drawing on paper, and large-scale chalk drawings. Those in the focus group replied that the most enjoyable exercise was drawing their version of the community center with chalk on the community wall. The reason for this was that others who did not make it to the workshop would be able to see it. Bringing a large site plan and premade game pieces made the site plan game accessible to all and invited exploration. The moveable pieces allowed participants to change their mind. In the case of the community center drawings, the groups had case study examples in front of them that they had already studied and generated thoughts on aesthetics. Along with this they also had the program and spaces generated from the previously mentioned

site plan game. When it came time to put a large marker to a blank page, they had everything they needed. Likewise, when they were asked to draw a larger picture in chalk, this only required the transfer of their existing drawing. While this session had a lot of moving parts, the expectations appeared to be accessible and broken down into understandable sections. Discussion in the focus group confirmed this.

Adding up the feedback from each group revealed common priorities for the representative body of the community. A community center, vocational training program, youth classes, and a covered open space were repeatedly noted as top interests. Road-related priorities included a linear garden space and motorbike parking. A space for sewing, and sewing equipment were also in the list of interests, presenting an exciting opportunity for integrating sewing into both the construction of design elements and income-generating program. Our findings emerged from the feedback collected in each exercise. The common activities of interest were: sewing and fabrication training, holding community meetings, health care and medicine distribution, youth classes, and beauty training. Common spaces desired were: sewing areas/equipment, garden space and trees, salon space, classroom, and meeting space. The drawn site plans communicated the need for a classroom or open space on the first floor, a utility space or vocational training space on the second floor of the building. In front of the building vehicular space and vegetation were the most common suggestions. The visual preference survey revealed that residents favored traditional building materials, specifically concrete coated brick. There was interest in a heavily planted street as long as it remained open to traffic. Drawings generated by participants repeatedly included a pitched roof and vegetation out front, while only half included an open stilt ground floor. The materials of choice were brick, roof tile, concrete, and surprisingly specific ceramic tile patterns. Plants suggested were: Moringa, Grapefruit, Agati tree, Bouganvilla, Mango tree, Jasmine, Magnolia, Jackfruit, Sesbanta grandiflora, Mekop, Umbrella tree, along with a flower color preference of yellow, red and purple. After reviewing this feedback, both explicit and subtle notes, potential synergies presented themselves. The vocational training room with equipment and large tables addressed the interest to train for additional employment opportunities. The large open space addressed the space concerns for youth classes and community meetings. Finally, the garden space along the road addressed the enthusiasm for a more enjoyable pedestrian experience.

Key Findings

- In the community center space for vocational training, youth classes, and covered open space were priorities.
- Along the road garden space and vehicular parking/travel were priorities.
- Sewing could become a major element of the design associated program.

Focus Group Feedback

What are some ways that we could make things more clear? It was perfectly clear, and they cannot think of any ways to make the workshop tasks more clear.

What was the most enjoyable part of the workshop? The most enjoyable part of the workshop for them was drawing on the paper and on the wall. Why? This way other people who did not make it to the workshop can see the ideas.

Why didn't some people show up? This is because of the New Year, and many people are still out visiting their relatives in the country.

Can we improve our communication? How do you typically get the word out about events? Normally, they go to each other's homes to speak with one another. When it comes to getting the word out, the flyers we are handing out to each house are much better than the posters.

Any other thoughts? The duration of the workshops are too long. The participants are too busy for this. 1 hour to 1.5 hours is ideal.

Design Goals

The design team developed a set of deliverables to be completed by the next workshop. There were three distinct schemes that addressed the priorities of the community. The first organized the community center to have meeting space on the first floor, vocational training and a small secure space on the second floor, and a flat roof. This scheme incorporated the maximum level of vegetation on the street while maintaining some traffic flow. The second scheme organized the community center to have meeting space on the first floor with a small secure space, vocational training on the second floor, and a single pitch roof. This scheme incorporated a medium level of vegetation along the road. The third scheme had a large open-air public space on the first floor, training and meeting space on the second floor, and a double pitch roof. This scheme had a low level of vegetation and prioritized traffic flow on the road. The materials to be used for the design schemes were brick, painted stucco, wood, and bamboo. All groups were directed to base the designs off of these guidelines, but to take it their own direction and generate holistic designs.

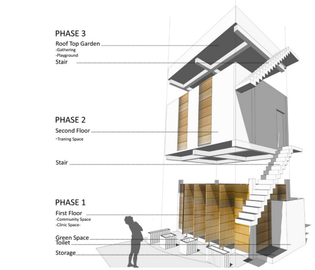
Design Generation

- Develop mutliple floor plans that allow programmatic interests.
- Consider the relationship between the segment of road in front of the community center and the structure.
- Incorporate varying levels of vegetation in relationship to the space allocated for traffic flow.
- Apply material preferences communicated by local residents.
- Design holistically, considering the opportunity for positive change beyond the space.

Scheme 1

Design Team: Grayson Morris, Marta Olsen, Vitou So, So Pheap Sok

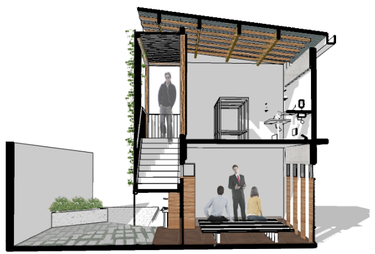
Elements: Community space, vocational training space, rooftop garden, toilet, green wall, planters and canopy. High level of vegetation and low vehicular flow. Interior stair.



Scheme 2

Design Team: David de la Cruz, Russell Greene, Satya Seang, Siveling Synn

Elements: Community space, training space, climbing plants. Medium level of vegetation. Medium vehicular flow. Exterior stair.



Scheme 3

Design Team: Roxanne Robles, Jess Hamilton, Monireach Tang, SinJong Thae

Elements: Indoor play area, vocational training space, green wall. Low level of vegetation and high vehicular flow. Interior stair.

Workshop #3: Design Options

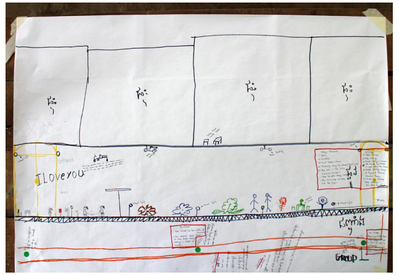
The objective of this workshop had to be immediately modified when the design team arrived. This came with news that the land for the community center was no longer available. While this workshop identified likes and dislikes about each full design scheme, the focus became the design of the road. The schedule for this workshop is listed below.

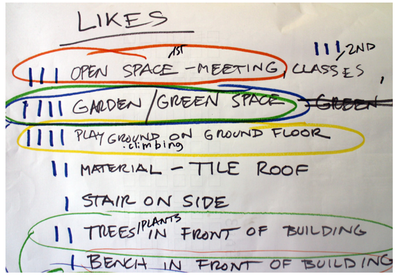
- Introduction
- Presentations
- Voting with dots
- Locating gathering places
- Drawing the new road
- Discussion
- Focus group

Synthesizing the Information

This workshop intended to present design schemes that the team developed in response to the information from previous workshops. During the workshop the team planned to gather feedback on design elements to inform final design. However, the land dispute mentioned at the close of the last workshop had evolved, leaving the intended site unavailable to construct a new community center. This site was someone's land, but they had not lived in the community for the past 15 years. Their absence led community leaders to think that they would not return, so they submitted a request with the municipality to absorb the land as a community asset. Once the landowners got wind of construction on this plot of land, they were on site within the week laying a brick foundation. This affects the project in multiple ways. The most obvious impact is the elimination of a community center and more investment into road improvements. A second, is the effect on the momentum of the project. This miscommunication placed some stress on the relationship between IUCI and the community leaders. The design team showed up on Sunday having invested days of work into design schemes and graphics. Clear communication is essential to keeping a strong relationship. Regardless of this major development, the workshop bagan with student presentations of the full design schemes and the facilitators gathered feedback on both the road as well as the community center. These designs and feedback became a community asset for future interventions.

The local leader, Channa, was central to the success of this community build project. Having said that, the participatory approach attempts to balance the voices of all and there were times when Channa lobbied excessively for specific options. A community leader with an overpowering voice presented a challenge to the democratic process. The intent was to encourage equity of voice for all participants. Another challenge during this workshop was maintaining clarity with the graphics we presented. Participant feedback suggested that the diagrams were confusing and the process of selecting design elements might not have been accessible to everyone. It appeared that the group drawing their version of the road was the easiest and most engaging of the activities. This was contrary to previous sessions when there was great hesitation to put pen to paper. Hopefully,





this means that participants were getting more acquainted with the process and more comfortable drawing around each other.

Following student presentations, each group was asked to explain likes and dislikes, and to vote with red or blue dots on the printouts. This generated feedback on garden space, open flexible space, play elements, and material preferences. Generally, residents preferred that the the garden space be slim, covered, and moveable. The number one priority for the open flexible space is to be wide enough for traffic flow. There was some hesitation toward climbing play structures but a safe approach to play is desired. It may be valuable to explore how they define play and safety. When it comes to materials there is significant push back on recycled materials, such as walls made with plastic bottles and earth. Mainstream materials are favored because anything recycled carries a stigma of poverty. This workshop revealed that residents try very hard to appear established and organized through choice of construction materials. Participants were also asked to draw their ideal street. They have noted that the northern entrance, the two schools, and the southern entrance are potential locations for interventions. From their drawings we have gathered that play, business, and holding meetings are popular activities attached to their envisioned street. Further, the street is perceived as both public and private space. The elements that induce the most excitement are: the green wall, trees, flexible seating, artwork, speed bumps, garden space, a curb, parking, and the use of metal and concrete.

Focus group participants provided valuable insight directly after this workshop. There was a unanimous feeling of insecurity in regards to generating design ideas and drawing. However, as a group they have done an excellent job at sharing their ideas and they have been increasingly more comfortable with drawing design elements. Perhaps for individuals the design process was intimidating, but the IUCI methodology runs on group thinking and support, which intended to make the design process accessible to a larger population. Alternatively, within the same discussion, the focus group responses suggested that participants are generally becoming more acquainted with the methodology.

Key Findings

- Due to a land dispute, the land set aside for the community center is no longer available for the community build.
- Three locations along the road (each end of the road and in front of the school) are suitable for community spaces in the street.
- The design team should develop a design that allows for multiple programs by rearranging multi-use elements.

Focus Group Feedback

Did you find the exercises today easier or more difficult than previous workshops? Why? Last week was more difficult. They don't know how to draw a house and cannot think of design elements.

It seemed like many images today needed explanation. How can we make this clearer? They needed the explanation because they don't have ideas, and they cannot decide on design elements.

Now the project is focused on the road. How do you picture yourself using the road? The older women say they will use it for sitting. They suggested speed bumps to slow traffic down. The young boys say they will use it to play futbol.

Did you agree or disagree with others at your table? Were your votes/ideas ever taken away? They agreed with those at the table, and their votes were heard.

What was the easiest activity today? Most say that drawing the picture (plan view of street) was the easiest. One woman says placing the stickers.

Design Goals

While the intent was to move into final design following this workshop, the land dispute set the schedule back by one week. The design team agreed that workshop #4 required three design schemes for an intervention along the road in front of one school in the community. These design schemes were to include several elements that could be installed or built upon as needed throughout the community. We divided into three teams and within each team one person focused on play elements, another on gathering, and another on vehicular elements. A fourth person in each team kept track of the big picture, helping to map the entire street to scale and coordinate with other teams. While each person was to focus initially on separate elements they were expected to unite these elements as a team, identify areas of overlap, and create one inclusive model that communicated multiple programs (i.e. gathering, play, etc.).

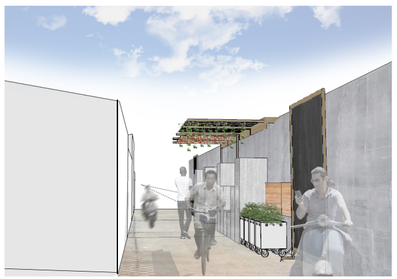
Design Generation

- Focus design schemes on the road.
- Envision the road as a community center.
- Present design elements that offer multiple uses and move out of the way of traffic.
- Design with consideration of opportunities for income generation.

Scheme 1: Slide

Design Team: Russell Greene, David de la Cruz, Satya Seang, Siveling Synn

Elements: Rolling chalk boards, seats and planters. Tables that fold out from the wall.



Scheme 2: Stack

Design Team: Grayson Morris, Marta Olsen, Vitou So, Sopheap Sok

Elements: Sliding awning, vertical planting, stackable chairs and concrete benches.

Scheme 3: Nest

Design Team: Roxy Robles, Jess Hamilton, Monireach Tang, SinJong Thae

Elements: Seating, potted plants, and storage that nests within the wall. Vertical planting and canopy.

Workshop 4: Design Options

The objective of this workshop was to explain design options for a road and wall intervention. The hope was to gather feedback and create a hybrid design from multiple design schemes. This information would then be used to inform the following week of planning for construction.

- Introduction/Overview (10 min)
- Student Presentations (30 min)
- Vote 1 (10 min)
- Likes/Dislikes Dots (30 min)
- Discussion (20 min)
- Vote 2 (10 min)
- Next Steps (10 min)
- Home Voting (20 min)

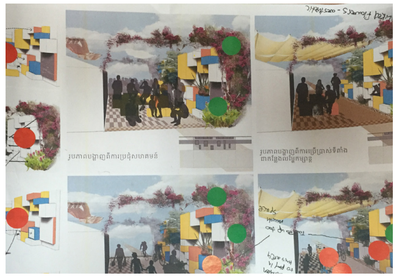
Synthesizing the Information

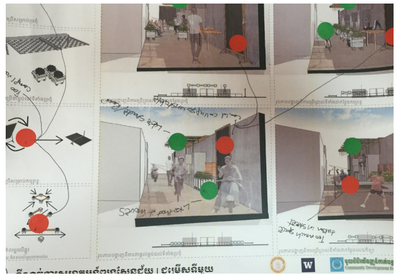
Each visit to Pongro Senchey offered a reminder that this site is constantly changing. During this workshop, the team noticed that the wall opposite to the school structure was missing. This portion of wall had been a important focus in the designs. This section of wall was removed to haul in construction materials for a new school. It was considered at this point, an opportunity to be involved in the rebuild of the wall. However, there was also uncertainty surrounding the design of the new school, which posed its own logistical issues. What was reassuring during this workshop amidst the uncertainty was that the exercises had continued to gain momentum and support from residents. The number of participants remained relatively stable and feedback from participants suggested a common belief that the planned intervention would be be realized.

The objective of this workshop was to present design schemes for a road and wall intervention that addressed the social needs and aesthetic preferences of residents. The hope was to gather feedback and then create a new hybrid design from the favored elements in each scheme. Ultimately, this information would be used to inform construction materials research. Following the student presentations there was an initial vote. This was intended to gather preferences based upon first impressions of the projects. Then, participants expressed their likes and dislikes for various design elements. During this period of time RUFA students offered support when there was confusion within participant groups. Once the designs were more fully understood, each table of participants elected a leader to speak to the entire group about their preferences. Facilitating this allowed for a healthy amount of lobbying and additional discussion to clear up the design options that had been laid out. A second round of voting revealed any shifts in preference that may have resulted from discussion. To wrap up the session, Ben and Pagna explained the next steps for the process and students began to deliver home voting pages.

Common Likes:
Wide road, safety, vegetation, canopy, order, flexible space, movable furniture.
Common Dislikes: Space-taking stuff, and complicated or messy elements.

There were three aspects to this workshop that worked very well. The first was the participant-led presentations and resulting discussion. The act of facilitating this discussion embodies the PRA behavior principle of *Handing over the Stick,* established by author Somesh Kumar. The author explains that handing over the stick takes place, "where the outsiders encourage the local people





to take control of the process of depiction and analysis, etc, of their realities. PRA emphasizes the capacity of the local people to take control of their lives…The outsider initiates the process and passes on the control to the local people and sits back and observes, intervening only when essential."[1] While there was initially hesitation to speak in front of others, the participants appeared to be adept at articulating what they needed, and they presented their priorities to their neighbors. This activity revealed the capabilities of people within the community, which has an important effect far beyond the workshop. The second aspect that worked well was the act of pressing for more information during the likes and dislikes exercise. This could have quickly devolved into arbitrary sticker placement which would have made the synthesis of the workshop feedback very challenging. RUFA students were again ready to support groups during the exercise. They asked participants why they favored one element over another or disliked elements of each design.

1 Somesh Kumar, *Methods for Community Participation: A Complete Guide for Practitioners* (New Delhi: Vistaar Publications, 2002), 42.

Anything could be disliked for any number of reasons, from color choice to safety concerns. The additional information that RUFA students gathered led to a rich analysis of participant preferences and further design. Multiple votes, one prior to discussion and the other following discussion also provided useful information into what participants were thinking and how discussion may have changed their thinking.

Gathering focus group feedback had only been moderately successful until this workshop. This group of residents, and a set of revised interview questions made for a candid conversation and revealed their ability to be rather perceptive. First off, while they liked the proposed designs, their first priority was getting a paved road laid out and everything else seemed secondary at this point. Next, not all activities were accessible by every person. So, while one person felt comfortable speaking out in front of a group, another found their voice while placing stickers on printed renderings. Third, clarity continued to be an issue. This reinforced the importance of having translators explain the design responses. Lastly, those in the focus group noticed a lack of confidence in the RUFA students during presentations. The students had limited availability the prior week due to their thesis deadline and they were absent for a majority of the design process. They essentially were brought up to speed a few hours before the workshop. As a result there was a lack of clarity and confidence in the presentations that had an adverse effect on the perception of the designs. This was remedied during the session with additional explanation within table groups, however there should be more attention paid to practicing presentations.

Key Findings

- The wall outside of the school building has been removed to haul in materials for construction. This means an intervention might need to be easily transported. Another option would be to work on an intervention outside of another school site in the community.
- Community members see momentum and progress.
- The priority for community members is the road construction and unobstructed traffic flow. Yet overall they like the design elements (planters, green wall, canopy cover, furniture).

Focus Group Feedback

What could we improve for any of the previous workshops?
The workshops are good. Water, juice and snacks are appreciated. It is good that decisions are being made and they can see progress.

How important is it to you to have multiple people explaining images?
Yes, this is very important, because they don't know what is going on sometimes.

How could we improve the introductions and conclusions?
They are good. They like that Ben explains where he and the students come from.

What could we have done to make the images clear?
Some older people don't understand the writing as it is. There should be more written explanation.

What could we have done to help improve the presentation?
The students should speak with more confidence. It was like they did not know the designs fully.

When was it easiest for you to express your thoughts?
Placing the likes/dislikes stickers was a good idea. Some people are nervous and cannot speak.

Have you participated in all of the previous workshops? What were some reasons that you weren't able to make it?
They have made it to several (2-3), but not all. One man was building his home, and others were working or visiting their hometown.

What ways could we make the workshops easier to attend for you? For children?
The IUCI team doesn't inform the children about the workshop, that's why they don't come.

Are there specific parts of the construction project that you would like to help with?
They want to be involved in the narrow strip of road and platform because that is the first priority and everything else is secondary.

Design Goals

Given the feedback from the voting, discussion, and likes/dislikes exercises, the design team established qualities and elements to incorporate into a revised design. Desired design qualities were: safe, orderly, beautiful, flexible, and compact. Design elements included were: a canopy, green wall, collapsible furniture, subtle ground plane features, and planters. A hybrid version needed to emerge that addressed common social needs and aesthetic preferences. The intent was also to envision the construction of the design as a tool to enable residents to generate income. An example of this would be a green wall panel that participants could learn to sew out of canvas or recycled bags and possibly take to market to generate income. The design is displayed on the following page with graphics, models, 1:1 scale mockups, and material examples.

Team 1: Model

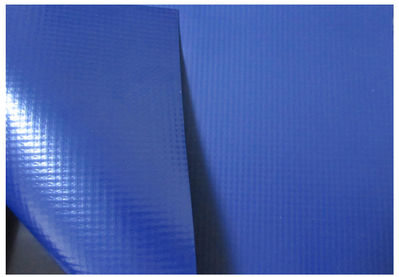
Design Team: Grayson Morris, Roxy Robles, Monireach Tang

Objective: Build a scale model as a supporting form of communicating design intent.
Elements: Frame, canopy, road, wall, structures.

Team 2: Materials

Design Team: Marta Olsen, Sopheap Sok, Russell Greene, Siveling Synn

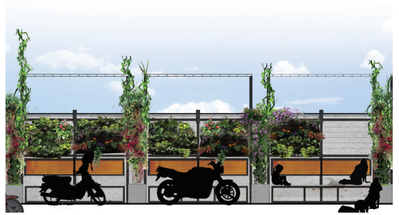
Objective: Report research on building materials for the awning and green wall.
Elements: Various canvas, steel, and plant samples.

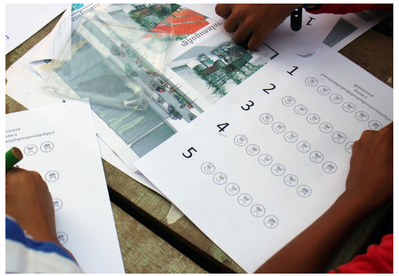


Team 3: Graphics

Design Team: David de la Cruz, Jess Hamilton, Vitou So, SinJong Thae, Satya Seang

Objective: Generate graphics to illustrate the look and feel of the design intervention.
Elements: All proposed site elements.





Workshop 5: Final Design & PIA

The objective of this workshop was to present the final design through the combined use of graphics, a physical site model, 1:1 scale mock-ups, and examples of plant and construction materials. Then, the workshop exercises would collect feedback on materials preferences. Responses for a baseline Participant Impact Assessment (PIA) were also generated during this workshop. The schedule is listed below.

- Introduction/Overview (10 min)
- Student Presentations (30 min)
- Materials preferences
- Participant-led Discussion
- PIA
- Next Steps (10 min)

Synthesizing the Information

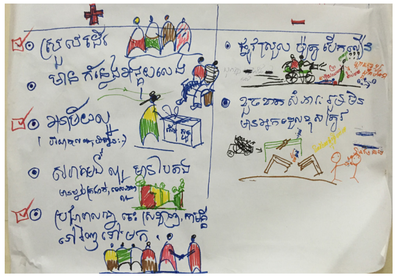
Workshop five assessed participants' perception of their environment during the baseline PIA. Other exercises collected their aesthetic preference for materials and vegetation. At this time the design had moved beyond the big picture design element decisions and focused instead on the details. After an initial round of materials research, the design team sought feedback and a chance to include the community in continued design development. Activities included: student presentations, identifying material preferences, participant discussion, and a participant impact assessment.

RUFA student presentations went smoothly this week as a result of more involvement during the design process. Prior to departure for Pongro Senchey, the two students tasked with presenting the scheme were required to complete a practice run of the presentation. That proved to be useful in establishing a confident presentation voice. The two students used a poster of renderings and a scale model to help explain the design concept and flexibility of design elements.

Material preferences for wood, fabric, and plants were included on the participant survey. While material examples were provided, there was freedom to include any material that fit the space well. Participants listed Bamboo, Kor Koh, Beng, and Pchak for wood. Except for the Bamboo, the rest are endangered rosewoods that carry a high monetary and environmental cost. Fabric preferences for the canopy were umbrella material (coated nylon) and plastic material. Color preferences were dark green and orange. The latter may have had something to do with the fact that the proposed design rendered the canopy orange. Plant names that were listed by several groups included: Jasmine, 10 O'clock, Basil, Aloe, Orchid, Ivy Gourd, Sunflower, and Bougainvillea. There were consistent flower color preferences.

The participant discussion activity elected table leaders to explain what they understood about the intervention to their neighbors. This assignment had been deployed during previous workshops as well, and had been invaluable to the practice of *handing over the stick*. This process of empowerment began with small assignments that is intended to grow into an ability to lead and take ownership.

While originally planned for an earlier



date, the Participant Impact Assessment (PIA) was rescheduled for workshop #5 due to time constraints in previous workshops. The PIA was a tool that enabled local residents to establish the metric upon which to measure change within their community. For this particular PIA, the process began with asking each table of participants to discuss and list five impacts that this intervention could have on their community (both positive and negative). Then, they were asked to narrow those down to the three most important impacts to them. These were collected from each table, counted by facilitators, and refined into the five most common impacts cited. These top impacts were written out on a large page, one through five, in a question format and participants were then asked to complete an assessment of their feelings toward each issue. For example, one common impact was, "as a result of this intervention the circulation in our community will improve". That was then turned into the first question on the board, "How do you feel about circulation now?". Then, without discussing with others, participants filled in the emoticon (happy face to sad face) that best suited their feelings toward the current status of circulation.

The focus group held after this workshop seemed less fruitful than the previous one last week. There were a number of factors that might have played into this. The questions generated may have been weaker, or there may have been a feeling of workshop fatigue. It could also be as simple as the people present were less interested than those before. For example, there were times when the answers seemed to be contrived rather than genuine. Also, as with all previous focus groups the interview was conducted through a translator, which caused some misinformation. The key finding from this focus group is that this group had never been asked to engage in a participatory design process prior to the involvement of IUCI. There have been several upgrade projects prior to the arrival of IUCI (including the current construction of a new school). According to this group there has not been an exchange of input for the completion of these previous projects.

Key Findings

- Residents know what they like and what works well in this environment.
- Plant selections focused on beautiful flowers rather than edible sustenance.
- Participants recognize momentum in the project and continue to participate.
- The priority is completion of the road.
- A sample size of 32 completed a Participant Impact Assessment (PIA) evaluating current conditions and establishing a metric of evaluation.

Focus Group Feedback

What could we improve for any of the previous workshops?
They appreciate our work and are thankful for the project. There is nothing negative to say.

After seeing the design, is there any part of the construction process that you would like to help with? Do you have skills that would be helpful for the project?
They would like to help with the road paving, sewing, construction, and planting.

What are some things that facilitators do to make the workshops easy for you?
Everything is understandable; they just hope the project gets finished.

Have you participated in all of the previous workshops? What were the reasons you couldn't make it?
One person was unable to make previous workshops. She was not living in Pongro Senchey, but she will live here from now on.

How could we make the images/graphics easier to understand?
The IUCI group could bring 1-1 mock ups constructed in their actual material. That could help, but it's okay if that cannot be done.

What are some ways we could get more people to participate in construction workshops?
IUCI should give Channa papers to take with her when she walks door to door to inform people. Some people aren't home and having a poster to tape to their door would be good.

Are you comfortable speaking around each other and sharing ideas?
They are all uncomfortable speaking in public because they are afraid of saying something wrong.

What are some other projects in Pongro Senchey in the past? Have you participated in any workshops like these? What are the similarities and differences between IUCI and other organizations?
This is the 1st time with a participatory project. The other group, CDF, never had this kind of meeting. They have worked with CDF for a long time. There have been proposals without following through.

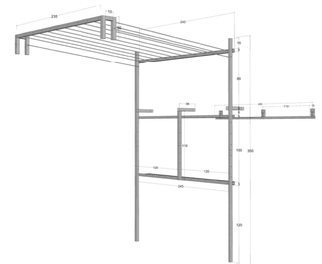
Design Goals

To advance the intervention the design team conducted materials research, organized capacity-building workshops, 3d modeled design elements, generated construction documents for the metal fabricator, and assisted on site with road construction and grading. The following pages depict these tasks in greater detail.

Team 1: Frame

Design Team: Grayson Morris, Russell Greene, Satya Seang, SinJong Thae

Objective: Work with a fabricator to realize the metal frame and furniture.



Team 2: Panels

Design Team: Marta Olsen, Jess Hamilton, Sopheap Sok

Objective: Develop a green wall panel sewing pattern and agenda for capacity building.

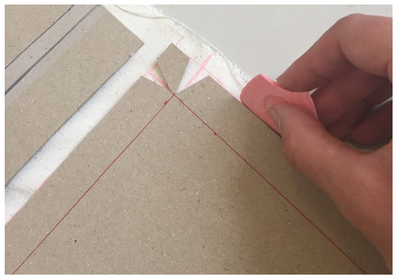


Photo credit: Marta Olson

Team 3: Road

Design Team: David de la Cruz, Roxy Robles, Monireach Tang, Vitou So

Objective: Work with ongoing road construction, providing help and keeping a flexible approach to road design with regards to drainage.

Photo credit: David de la Cruz

Design Implementation

Design implementation began with multiple design elements advancing simultaneously. For team working on the frame, this meant developing construction drawings and 3D models to use as communication tools for sessions with metal fabricators. Once fabricated, transportation to PS was arranged and accompanied. Then, on site the frames were installed and adjusted as needed. The second team advanced the green panel and awning design. They explored materials, developed sewing templates, built prototypes, and facilitated a sewing workshop in the community. The third team focused on road construction. They got their hands dirty mixing concrete, and they calculated slope and drainage locations as a tool for residents to lie out the proper grade. A series of instructional packets accompanied the design implementation. These manuals laid out details on the frame and hardware, sewing methods and templates, planting methods, and proper disposal and reduction of waste. The final construction workshop included a series of instructional demonstrations on these topics.

All efforts came together to create the gathering place. Elements in the gathering place included: 1) a paved surface across a majority of the road with two course of pavers along the wall, 2) a galvanized steel frame structure that hugged the wall for all other components to attach to, 3) green wall panels, planters and vine cables, 4) a sliding awning 5) a gutter for rain water, 6) foldable benches and tables. The materials used consisted of galvanized steel pipe, steel cable and hardware, treated wood, canvas and grommets, concrete, and tile. The larger design team worked together on site with available residents to assemble design elements. A couple people were wrangling cables and hardware, while others were laying tile. A green panel was attached and planted while the awning was sorted out. Some activities were repeated several times, because mistakes were found in the fabrication of frames or steps completed out of order. It was a messy process that served up lesson after lesson on design details and how to work best as a team in difficult conditions.

The reach of designed elements extended along the length of the community as a paved road. Some initial drawings and grading suggestions for this aspect of the project were provided to the community. The road team calculated and provided grade to optimize drainage for the road. This then served as a guideline for community construction efforts, as residents paved the areas in front of their homes. Due to constraints related to drain box locations and limited time, the exact grades were not met. Regardless of these constraints, the drainage works quite well with only a few areas where there is ponding. In these areas, community members sweep the water off when necessary.

Over the six months following design implementation, there were multiple areas where the functionality needed to be improved. The first was the installation of a gutter that had been designed and fabricated prior to student departure. This was installed shortly after most students had left in early June. This captured runoff well, but the awning fabric itself lacked a protective coating and was not suitable for the heavy rainstorms of the wet season. In the late summer, a solid roof structure was installed over the awning that shed water to the gutter. Help from a metal worker near the community was called for during roof construction, which initiated a useful local connection. The intent was to incorporate someone nearby with the tools and knowledge to assist in any future modifications. The green wall pockets deteriorated

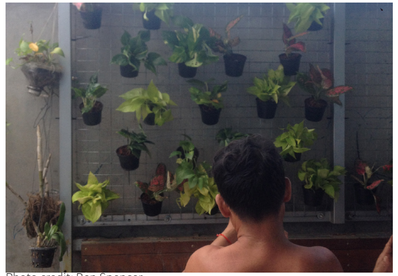


Photo credit: Ben Spencer

Photo credit: Ben Spencer

Photo credit: Ben Spencer

over six months due to the humid climate and saturation from the soil. Those were then replaced with plastic hanging planters that clip to the welded wire mesh on the frame. Green wall pocket prototypes that used recycled concrete bags performed better over six months, and new designs are being tested for long-term durability.

More important than the durability of materials, is the dedication of residents to become stewards of these design elements. The design implementation work sessions were intended to be open to all residents, although only a few people were available to help during every stage. Within the community, it has been the neighbors adjacent to the school that have overseen much of the work related to the gathering place. The proximity of their homes to the gathering place encourages input and care. Other residents may not feel the same connection and level of responsibility to the place. Only additional time will reveal if there is a lasting commitment from a large population of residents.

6. EVALUATION

This chapter displays the qualitative data gathered from a participatory impact assessment (PIA). The evaluation metrics were established during the baseline PIA, and those same metrics were used during the post-project PIA six months after construction. Responses before and after were then compared. The findings from these surveys are discussed in detail, as well as challenges and biases encountered during the evaluation process. The question, “What would it mean for this community build in Pongro Senchey to be successful?” is discussed in length as the participatory design approach is scrutinized.

Based upon the literature reviewed earlier, the IUCI approach, strategies, research, and facilitator abilities are evaluated. This is intended to inform best practices for future work in Pongro Senchey, and extends the conversation out to all international service learning projects.

The findings show a positive change in perception of community assets.

PIA Methods

Catley's PIA phases offer a guiding framework for assessment methods. The phases are:[1]

1) Define the questions to be answered
"How does the community build project impact the quality of life in Pongro Senchey?"

2) Define the geographical and time limits of the project
The geographical limits of the project were mapped in the very first workshop exercise when participants were asked to divide into teams and draw their community. They identified boundaries, landmarks, and assets. The time limits of the larger IUCI involvement are indefinite, however the timeline for this particular project was set within the spring quarter. The majority of project activities took place during April and May and came to a conclusion in early June. Then, updates to the design occurred closer to September.

3) Identify and prioritize locally defined impact indicators
Locally defined impact indicators were identified and prioritized during the final design workshop. These were narrowed down to five in an effort to avoid unnecessary complexity in the assessment.

4) Decide which methods to use for measuring change, and test them
A comparison study of a baseline PIA exercise and a PIA exercise that followed six months after the baseline was used to measure change. The impact indicators were determined by residents and judged by residents. The exercise included emoticon graphics to create an evaluation tool that was accessible to everyone. In addition to the baseline and post project emoticon exercises, workshop facilitators conducted a second PIA exercise that utilized the same community-defined indicators as the emoticon exercise, but asked more direct questions about project impacts. For example, the emoticon exercise asked "How do you feel about circulation now?", whereas the second exercise prompted, "The project made circulation and access in the community_____" . Participants were asked to circle their choice of answer from a list to fill in the blank. Choices for the answer were: "Much Worse", "Worse", "Neutral", "Better", or "Much Better". The redundancy aimed to confirm or refute the results of the baseline and post project emoticon exercises. Variations on both of these exercises have been tested previously during community build projects in Lima, Peru.

5) Decide which sampling method and sample size to use
The sampling size for this project was typically around 30 residents as a result of who was available to participate.

6) Decide how to assess project attribution
The second PIA exercise confirmed the findings of the comparative emoticon study (baseline and post design PIA exercise). This redundancy liked positive impacts directly to the project. However, constraints on time and research capacity limited the ability to carry out a more rigorous assessment of project attribution.
7) Decide how to triangulate results from participatory methods with other information
Methods used for triangulating results included: the second PIA exercise described above, site observation, focus group interviews, and analysis of photo transects. Additional triangulation methods are proposed at the close of the chapter.

8) Plan the feedback and final crosschecking of results with the community
The findings are planned to be shared with the community leader Channa, as well as the contact at CDF, Kimseng. The IUCI leadership intends to share findings with the whole community in person during future projects.

PIA Findings

The findings of the second PIA exercise (see figure 4) when compared to the baseline exercise show a positive change in perception of all community-defined project impacts. Specifically, perception of circulation showed the greatest shift from the most negative votes to most positive votes. This also appears to reconfirm the initial priority to upgrade the road and improve circulation. Residents often reiterated this message about prioritizing the road during workshops and focus group interviews.

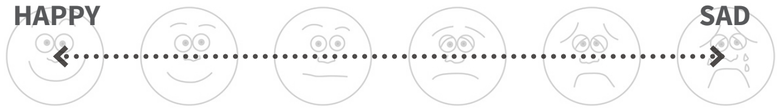
During the first survey, there were 32 participants. Of those, 24 identified as female and the other 8 male. Some votes were not cast for certain questions, possibly due to confusion about the question. What this meant for the data was a total of 30-32 votes for each question. The men cast mostly neutral votes on all issues. However, there were outliers. Some expressed a negative perception on circulation and aesthetics, and others a more positive perception of solidarity in the community. The women voiced a generally less positive attitude toward all indicators, except solidarity. There was a spread of votes across the spectrum for solidarity in the community. Women appeared to be most concerned about circulation in this first survey.

During the second survey, there were 37 participants, although only 32 identified their sex. There were 26 female and 6 male. Some votes were not cast for some questions, possibly due to confusion. What this meant for the data was a total of 35-36 votes for each question. The men were generally very happy about each aspect. However, there was one vote for "somewhat sad" for both environment and aesthetics. There was also one male vote for "very sad" in regards to health, solidarity, and aesthetics. The female votes followed a similar trend of being generally very happy, with a few outliers on the "very sad" end of the spectrum.

Isolating the gender-specific votes revealed a divide between the two groups in their initial perception of their community. Yet, the male and female perceptions aligned on the project impacts. During the workshops, men were the minority group and typically placed at one table together, in an effort to gather gender-specific feedback. Men were interspersed throughout the tables at the PIA workshops, although they typically sat in pairs without facilitator sorting. During these sessions, concerns about the design process and even community mapping showed differences in opinion. With mostly female participants throughout the workshops, one concern was that the male voice would feel underrepresented. However, this was not the case with the findings from the survey. The men expressed generally positive perceptions of the community aspects. While there may be a few residents that don't perceive positive impacts or continue to feel neutral about their environment, this survey is not so much about individual voices but rather it is about the collective voice. The collective voice of the community has seen an improvement in community assets and the impact those assets have on their lives.

A second PIA exercise was used to crosscheck the findings from the first emoticon exercise, and those responses confirmed the findings. This supporting inquiry asked more direct questions about residents' feelings toward aspects of the community. There were also questions on the sheet that required participants to identify specific likes and dislikes about the project. Lastly, at the close of the exercise residents were asked, "What would you like to improve next?" Workshop facilitators collected and translated the answers to these questions. He wrote that it was very difficult to get anyone in the community to voice dislikes about the project. However, what they liked about the project was: 1) it provided them an upgraded road and easier access, 2) they no longer needed to worry about flooding in front of their houses, and 3) it provided them nice beautiful flowers in front of their schools. Participants agreed that inexpensive electricity and water services were priorities for future projects. There was also a strong interest in constructing proper educational spaces as well. Last but not least, the indoor community center was still listed as a top priority.

1 Andy Catley et al., "Participatory Impact Assessment," Tools, guidelines and methodologies (Feinstein International Center, 2013).



How do you feel about circulation now?

1 0 2 5 9 15

How do you feel about the community environment?

0 1 8 5 16 2

How do you feel about community health?

0 2 8 10 3 8

How do you feel about solidarity in the community?

6 1 12 9 3 0

How do you feel about your community aesthetically?

2 0 7 8 13 0

PIA 1: May 29, 2016

Facilitation Team: Ben Spencer, Pagna, Satya Seang, SinJong Thae, Sopheap Sok, Monireach Tang, Vitou So, Grayson Morris, Roxanne Robles, Marta Olsen, Russel Greene, David de la Cruz, Jess Hamilton

Objective: The community members define their own metrics of evaluation and report their initial perceptions toward existing community qualities.

Participatory Impact Assessment #1

This baseline assessment took place prior to the community build and road improvements. During this initial assessment there were 32 participants, 24 of which identified as female, and the other 8 identified as male. Age varied among participants. Eight were under 18 years old, and 11 were over 40 years old. The median age was 36 years old. The collective response to the community-generated evaluation questions is shown in the graphic to the left. In graphic form the data illustrates a very negative perception of the community circulation. This also shows a mostly negative perception of environmental quality, community health, and community aesthetics. The perception of solidarity varied, but displays a majority of voices somewhere in the middle.

Figure 4. Graphic representation of PIA results. Baseline exercise (left) and the exercise completed six months after construction (right) Number of emoticon responses are shown within the circles. The percent opacity of the circle is proportionate to the number of responses within that circle.

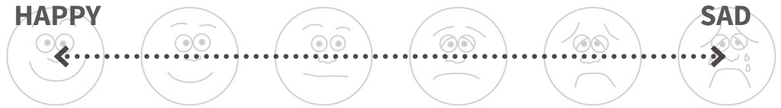
PIA 2: Nov 27, 2016

Facilitation Team: Ben Spencer, Monireach Tang

Objective: The community members report their perceptions of the same metrics six months after design implementation.

Participatory Impact Assessment #2

This assessment occurred six months after completion of the gathering place outside the school and the road construction. During this assessment there were 37 participants, 26 which identified as female and 6 that identified as male. The remainder of the participants chose not to disclose that information, didn't see the prompt, or misunderstood. The collective response to the questions is shown in the graphic to the right. In graphic form the data illustrates a very positive perception of all five factors, and a dramatic change overall from the initial PIA. There is still some disagreement on an individual level, and a handful of residents that negatively perceive aspects of the community.



How do you feel about circulation now?

25 7 4 0 0 0

How do you feel about the community environment?

24 7 1 2 1 0

How do you feel about community health?

17 8 5 2 0 3

How do you feel about solidarity in the community?

18 7 6 2 0 3

How do you feel about your community aesthetically?

21 8 0 2 2 2

Post-Implementation Observations

Site observation offered additional information outside of the participatory exercises. Ben has noted that six months later the gathering place is a very important place for young children to gather, rest and play. Teachers at the school confirm this observation. The place has also been used for the occasional meeting. Another observation is that the water levels seem to dissipate quickly after a heavy rain. Having the road clear of water is major improvement from the extended periods of flooding that residents experienced prior to construction. Several gardens have also been installed in the narrow space between the wall and the road, greening the community and growing food. Ben also observed more motorbikes and people along the road due to the easier access, but acknowledged that this observation could be validated through an official count.

The state of the project at the time of student departure in June, and faculty departure in December, had an effect on the community build efforts and the rapport between facilitators and residents. If the project had been left as it was in early June design required maintenance would have accumulated through the wet season. That could have led to the abandonment of the gathering space or the participatory process. It is possible that the extended IUCI presence, monitoring, and revisions contributed to the longevity of the space and encouraged further stewardship.

Residents mostly worked on road construction, while students focused efforts on assembling the gathering space, however there was some crossover. Ben explained that the division of labor was only slightly different for PS than for previous projects in Lima. In both Lima and Phnom Penh, some of the design elements were fabricated off site and then brought to the community to be assembled. This has been the case in previous projects in Lima, although the items were transported over shorter distances. Metal fabrication came from the city center of Phnom Penh to PS 45 minutes away. For each component of the gathering space (ie cables, green panels, etc), the task was intentionally left unfinished. Facilitators provided instruction on construction techniques during a capacity building implementation workshop. The concern within the design team was some parts of the project would fail if residents didn't participate to some degree in every aspect of the project. The final workshop of tutorials was an effort to fill residents in on the pieces that came together with only a select number of individuals, and to have them complete the work. This was critical to the life of the gathering space.

The site observations begin to suggest some next steps for design updates. Additional elements and modifications should continue to focus on managing storm water on site. This includes the installation of small drains along the road where there is some ponding. More attention could also be directed toward the collection of water from the roof over the gathering place. Where that ultimately goes and whether it can be stored or put to use should be explored. There is an opportunity in the future to crosscheck observations of flood status with surveys and constant monitoring.

Transect Photos

In the first series of transect photos motorbikes are parked on either side of the street. This is either in front of the homes or as a cluster near a gathering place. Plantings, laundry, and construction materials fill the area near the wall. The condition of the road itself left shows pockets that after a rain would collect water and remain muddy for extended period of time. Along the dirt road there is also garbage scattered about, but mostly along the sides. Lastly, the facades of homes vary in material and quality of construction.

Many of these conditions remain the same in the second photo transect. However, the most notable change is the improved road conditions. Even after a heavy rain there is very little ponding on the road. This improved access has possibly has led to an increase in motorbikes and people along the road. Another significant change is the installation of concrete electrical poles. This is a sign of a more permanent community and suggests a connection to state-run electricity. Garbage still remains throughout the community but it appears to be swept or washed more off to the sides of the road now. And while an increase in plantings along the wall has been observed, it is difficult to glean this from the transect photos. Lastly, while the facades of homes still vary in material and quality, additional homes have been constructed. Generally, the two transects show a trend toward a more permanent appearance and the enhancement of basic infrastructure. These photos support the shift toward positive perception gathered in the PIA exercise.

Focus Groups

The focus groups conducted after each design workshop provide further evidence of a positive perception of the project. Responses also showed appreciation for specific strategies or tactics used to build rapport with the community. Negative feedback suggested specific improvements in preparedness by students. There were also requests to shorten the duration of workshops. During every focus group, the interviewers were thanked heavily and urged to follow through on the plan to upgrade the community. Generally, answers were brief, fairly shallow, and overly positive. On one hand, short answers can be attributed to early mistakes that I made as an interviewer. After a long afternoon of workshop activities, deeper answers had to be coaxed out through clear and probing questions. The challenge was to press for information and ask somewhat redundant questions without offending respondents or confusing them. It became obvious later in the quarter that questions can pry a bit without coming off as offensive. Understanding what is culturally appropriate just takes time and rapport building. The greatest obstacle encountered was the need for a translator. While having a translator made the interviews possible, it immediately introduced impurities in the knowledge gathered. Interviewer questions were translated as well as reconfigured with new word selection that resonated with residents. After each question there would be considerable discussion between Pagna and respondents. This was then followed by quickly translated and summarized response. Whatever I wrote down never seemed to be the whole story. It wasn't always this complex or disappointing, but often it felt impossible to extract the depth of information needed. Responses were often far too congratulatory of the workshop strategies or project status, which raised suspicion of their authenticity. In reflection, future interviewers shouldn't fear insulting participants. They should be comfortable, deeply inquisitive and light hearted. If a translator is needed again in the future, IUCI collaborators should discuss the questions and agenda at length prior to the focus group meeting. Considering my novice interviewing skills, this assessment strategy generated a satisfactory amount of new knowledge. That being said, there are also vast areas open for improvement.

Suggestions

A rigorous Participatory Impact Assessment strives to answer three questions:
1) What changes have there been in the community since the start of the project?
2) Which of these changes are attributable to the project?
3) What impact have these changes had on people's lives?

To determine where the assessment methods can improve, suggested strategies must make an effort answer those questions more completely. The methods that IUCI utilized for assessment seemed simple in comparison to Catley's examples. Questions in the PIA exercise were centered on impacts rather than assets, but retained a simplistic level of inquiry. This strategy stems from experiences in Lima where time constraints made it difficult to achieve Catley's level of complexity. The current form of the exercise is a compromise between the suggested method in the literature and a more practical approach given these constraints. There may be opportunities to slowly incorporate more complexity over time.

The garden journaling activity in Lima was useful because it revealed assets gained, as well as the impact of those assets. This activity wasn't implemented immediately, but it was accessible and fun and ultimately engaged residents bringing new knowledge to the assessment. Journaling and photographing assets in PS could be paired with discussion for those that are interested in using a disposable camera. Informal interviews could also offer useful information for the long-term assessment, and put the process of assessment in the hands of those in the community. The mistake here would be to assume that the residents are incapable of engaging on a deeper level without first trying.

Future research could broaden to include topics that are well suited to survey questions. The areas of research could investigate flood levels, or disease rates in children and exposure to contaminated water. Other impacts might come from calculating the weight of food grown on the green wall, or the change in number of vector-borne illnesses reported (part of ongoing research in Lima, Peru).

Additional ways to enhance the inquiry have to do with sample size, isolating project impacts, and tracking changes. The sample size presented a somewhat limited view into the community. There seems to be a consistent group of the same 30 people in the community. While this sample number is fine for now, it would strengthen the reliability of the information if different sets of 30 people were surveyed. Another way to enhance the information from the PIA would be a participatory method that directly compares project and non-project activity or impact. This assessment of project attribution would isolate the impact of the project from the non-project influences. Finally, as projects begin to agglomerate the IUCI should develop a timeline that tracks community milestones, records impacts, and notes key external events in Phnom Penh. This timeline has the potential to become a useful tool for collaborators. It could be used to better understand the impact of community build projects over an

extended period of time.

As a final suggestion, the findings from the PIA should be shared with (and translated for) everyone in the partnership. This thesis is a useful document for what Catley calls the feedback and validation phase of PIA. Generating knowledge should not stop because the university has left. Data collection might become difficult after the departure of IUCI collaborators. However, local contacts should be encouraged to regularly collect and report information back to IUCI researchers. Most importantly residents of PS should control the data itself. For example, journal entries (possibly spoken into recorders), or photo journals of project impacts should be a routine activity and periodically conveyed to IUCI researchers. These strategies have the potential to empower residents further by sharing the data collection process and opening up a dialogue on the conditions within their community. Sharing ownership of knowledge becomes essential to gain a toehold on the path to empowerment.

Review of Facilitator Behavior

Many of the long-term social impacts of the participatory process are a direct result of facilitator behavior over the life of the project. The literature on methods is reintroduced here as a tool for assessing the approach taken by the facilitators in PS. A comparison reveals victories, challenges, and failures that can be translated into lessons for future projects. Author and practitioner Somesh Kumar claims that reversals are the distinguishing feature of PRA, and where much of the power of PRA is held. Unlocking these reversals are evidence of an impactful grassroots approach that challenges an ineffective mainstream approach.[2] A full reversal of those systems that keep communities from breaking out of a cycle of poverty would mean that the community build project was highly successful. The intent was to assess the work using the literature that has guided the foundation of IUCI methodology. An honest critique of facilitator abilities is both beneficial to all parties involved and ethical in that it informs best practices. The reversals to strive for according to Kumar are: 1) Closed to open, 2) Measurement to comparison, 3) Individual to group, 4) Democracy of the ground, 5) Verbal to visual, and lastly 6) Reserve to rapport.[3]

One specific example of IUCI attempting to reverse a closed system was in the PIA exercise itself. Residents didn't just score the criteria, but they also determined the factors being judged. Generally, every feasible effort was made to embed transparency and community control throughout the project. Residents generated the list of community assets, project priorities, and indicator impacts. The community maintained an open partnership with the CDF and managed their own savings program for upgrading projects. Workshops also open up discussion on project details such as construction materials and plant selection. Further, leading questions were intentionally avoided to free participants from facilitator influence.

The research methods were comparison-based making the assessment process accessible to a larger audience. The PIA exercises and crosscheck studies captured changes easily and quickly.

A substantial amount of energy was devoted to fostering group voice over individual voice. Throughout the workshops there were still loud and influential voices, possibly attributed to an established hierarchy woven into the community dynamics. To create a space for shy voices to speak up, facilitators regularly asked participants about their level of understanding. Sometimes everyone got to speak; other times the discussion was heavily influenced by a few. All of that energy was well spent though, because the group-based activities offered a greater wealth of information than one-on-one dialogue ever could have.

Workshop number one asked residents to identify assets and map their community. The space was too limited to take this exercise to the ground per Kumar's suggestions. The responses also needed to be collected for future synthesis by the design team. So, the compromise was a long roll of paper at each desk that a group could contribute to. During workshop two, residents were asked to draw their envisioned community center in chalk on the wall. One benefit was the approachability of chalk drawings. Another benefit was the inclusion of those who didn't participate in the workshop. This offered a peek into the decisions being made and encouraged future attendance, further democratizing the process.

Illiteracy could have become a major issue in the facilitation of workshops. Flipping the information from being written to being illustrated opened up the flow of information. A larger audience was able to engage with the feedback and provide more at once. Kumar explains that this is a shift from sequential information flow to cumulative flow. Visual activities were part of every workshop, with the help of RUFA students learning more information from contributors in real time. Cumulative flow reinforced the shared aspect of feedback and decisions. It became very difficult for decisions to be owned by any one person.

Maintaining a constant presence, keeping the activities engaging, and following through on intent to upgrade has created rapport and began to push out reservations. This commitment started with the first meeting, persisted through the activities in workshops, through every personal interaction, and during the implementation of the project. This has the potential to increase upon returning to the same community for future projects. As Ben has observed time and again, it's through the return trips and continuous presence that trust and a genuine partnership is grown.

Addressing Biases

The types of biases in community build projects identified by Kumar are: spatial, personal, seasonal, time-dependent, diplomatic, professional, and project biases. This project in Phnom Penh is not immune to these typical biases. Recognizing biases puts project outcomes and shortcomings in context and informs the goals of future work.

First of all, the location of the community introduces project constraints presenting a spatial bias. Due the distance of the drive between the city center and urban periphery the design team was unable to achieve a constant site presence. In previous years in Lima, students and faculty had lived next to the urban poor community in the urban periphery rather than in the city center.

Personal biases occur when facilitators choose to interact with some groups more than others. The language barrier presented the greatest bias of who spoke with whom, UW students were confined to drawings and gestures while RUFA students were able to communicate with all residents in the community. The RUFA students did not appear to favor one group (age, gender, literacy level) over another.

Time-dependent biases received the most discussion because of the constraints that resulted from the academic timeline. The spring quarter is when the studio was offered, so the community build was going to start and finish by those academic dates. Overall, the timing of the project was good in the sense that it took place in the dry season when the site was more accessible and construction activities were more feasible. A longer project timeline (e.g. 2 quarters) would have provided opportunities to modify design elements, evaluate the project more rigorously, build additional rapport with the community, and reflect as a group.

There were diplomatic biases in interviews with residents. As an interviewer, I hesitated to ask questions that might cause offense. This went both ways, residents didn't want to offend facilitators. Even months after completing the project residents refused to mention dislikes or anything negative about the process, facilitator behavior, or project outcomes. It's possible that residents want to avoid hurting the partnership, and eliminating opportunities for future projects.

Budding designers and experienced professionals alike came into this partnership with backgrounds and biased design perspectives. It took a concerted effort to keep an open mind throughout the entire process. Even still, it's doubtful that the design team eliminated professional biases entirely. Opinions on aesthetics, assembly, and functionality influenced many design decisions.

Project biases occur when there is a failure to assess the genuine symptoms of the community due to an overshadowing by the built intervention itself. IUCI should share the stories, victories and challenges, of this community build project. Publicity will spread this new information further. The project team has not done this in a way that loses sight of the original community needs. That is not likely to be an outcome of the work if IUCI stays true to its ethos.

2 Somesh Kumar, *Methods for Community Participation: A Complete Guide for Practitioners* (New Delhi: Vistaar Publications, 2002).

3 Ibid.

Group picture within the newly constructed gathering place.
Photo Credit: David de la Cruz

7. DISCUSSION

This chapter revisits the main lessons learned from the community build in Pongro Senchey. Initial (and challenging) questions that sparked interest in this project to begin with are brought back for discussion. Power dynamics, the role of critical reflection, and speculating next steps are the three major areas of discussion. In closing, there is a reflection on how this thesis will influence professional pursuits.

To the left is a group picture of main contributors to the project taken within the newly implemented gathering place. The revisited photo transect is displayed on the following pages and observations from those photos are discussed in detail in the previous evaluation chapter as one of the crosschecking methods.

Photo transect S to N through the community. Credit: Ben Spencer.

Date taken: December 16, 2016. After a heavy rain.

Power dynamics

The title of this thesis suggests dual meanings. Evaluating this project was intended to reveal the effectiveness of participatory design, yet it also uncovered the power dynamics within the partnership. Focus group interviews encouraged open discussion but questions were met with hesitation throughout the process. With a translator between interviewer and interviewees it was a serious challenge to gauge genuine feedback and build rapport. On the other hand, some residents claimed to lack the ability to make design decisions during early workshops, however all appeared fully capable by the end to communicate their opinions on design elements. Hierarchy within the community seemed to level out, and participation appeared to come more easily.

The work in Pongro Senchey aimed to catalyze social change, which is difficult to gauge at this point. Residents have reported positive impacts, however there is no conclusive evidence that it has disrupted negative social cycles or catalyzed social change. It will be very important to monitor power dynamics between the community and their surrounding political systems over the next few years. Internally, observed impacts from this project do support the notion that extended time spent in a community will build rapport and disrupt power imbalances between insider and outsider. This comes from informal observations of changes in social exchanges between students and residents by the end of only three months. There was an awkwardness that wore off after a certain amount of time. The notion of offending someone on the other side began to lessen, and the dialogue (albeit through a translator) relaxed, becoming more candid.

Literature on ISL calls for a continued effort to steer away from a knowledge monopoly toward an open and inclusive approach to evaluation methods and ownership of new knowledge. The act of participating and witnessing self-driven change is a powerful one. The objective with future work in PS should be to disrupt power imbalances through opening up the knowledge gathering and ownership further. This, in effect can achieve social justice and leave a lasting positive impact on all participants in the collaboration.

Critical Reflection

Did the design team display community design skills? Throughout the process the design team asked critical questions following each workshop. This was an effort to identify what resonated with participants and what didn't. Everyone on the team appeared to display excellent listening skills. Even those on the team that were lost in translation observed body language and gauged interest levels. In terms of the design itself, healthy levels of conversation were dedicated to speculating the future impacts of designs. Clearly, limited knowledge on some materials resulted in immediate redesign or maintenance, but a positive perception of project impacts grew from a process filled with discussion. Finally, as a result of community participation, the design team was able to translate everyday social experiences into a functional and buildable design. In short, the design team displayed excellent community design skills.

Did the focus group interviews achieve what they set out to accomplish? The intent was to crosscheck findings in the PIA and to offer immediate feedback about facilitation strategies. There were unforeseen challenges for myself as a novice interviewer. The need for a translator

inhibited the ability to build rapport and identify genuine responses. As a result everything was summarized, reconfigured and possibly shrouded in cultural differences. At times it was also awkward and disjointed due a lack of coordination between the translator and myself. Answers were shallow in the beginning but grew in depth over the course of three months, as I slowly crafted better questions. If attempted again this would hopefully become more than just a data-gathering technique. It would also intentionally contribute to the process of building rapport.

Evaluating the effectiveness of a community build project is a complex and messy endeavor. Success can be measured at multiple scales for a multitude of variables both qualitative and quantitative. The use of qualitative impact indicators determined and judged by residents, was the method used during this project. Research as a participatory exercise contributes to the effectiveness of any community build project, and it also revealed positive perception of project impact. Ultimately, this thesis confirms that a successfully facilitated community build hands over responsibility, empowers residents through the act of democratizing knowledge, activates social change, and rigorously evaluates all of it. Then, Lessons learned are absorbed and redistributed, further spreading the reach of participatory community design. Finally, through critical reflection, everyone involved receives a deeper view of global issues and develops a civic mindset. This first effort and contact with the community of Pongro Senchey began to fulfill these objectives.

Constraints

The constraints that made it difficult to resolve biases within the project were related to a tight schedule, the specific skill set of the design team, and available resources. Distance from the community also presented constraints on the ability to maintain a constant site presence and build rapport. Identifying constraints becomes a useful tool for future work and puts the shortcomings of the project into perspective. A constant site presence would have been impossible considering the 45-minute drive to the community. On the other hand, had the living quarters been closer to Pongro Senchey, the project would have lost connection with the Royal University of Fine Arts and the digital fabrication studio that was developed over three months. Quite a bit was accomplished considering the schedule for the project and student responsibilities. Additional goals would have been stretching the design team too thin and opening up the possibility of failure to deliver. That kind of failure can be detrimental to a community design partnership in its early stages. Finally, funding directly determines the scope of the design goals. In the case of Pongro Senchey this was a blessing and a curse. Additional resources for the road construction or gathering place could have enhanced the project quality. However, more money can lead to higher expectations that can't be met due to other constraints. The goals of this project were already ambitious given the timeline. Considering the constraints and unforeseen challenges, this project made every attempt to resolve biases. At the very least these biases have been acknowledged to inform future projects.

I was fully immersed in this project as a facilitator, designer and student, which created a significant challenge to acting as an impartial researcher as well. While I reviewed the facilitator strategies, the design response, and participatory evaluation exercises, it was very difficult to eliminate personal bias, if not impossible. This

personal voice is important to consider as a constraint to the impartial and rigorous evaluation of this project.

Next Steps

As in Lima, the collaborative efforts in Phnom Penh are planned to continue without a designated end date. Looking ahead, the project requires consistent monitoring over several years and there is an opportunity to broaden the scope of research. The study areas of human health and nutrition, education, environmental assessment would integrate well into the existing focus on landscape architecture and basic infrastructure. Broadening the scope of the research aligns with the ethical obligation to provide lasting improvements. Slowly increasing the complexity of inquiry and incorporating additional methods of triangulation would invite depth to the evaluation. This could also enhance the dialogue, further empowering residents to control aspects of their community.

To address the constraints of the academic calendar the program could expand the timeline to span two quarters, spending as much time in the host community as possible. The second quarter would offer more “breathing room” to monitor, modify, and evaluate the project. Ben has suggested establishing a field school to maintain a consistent academic presence. A field school would communicate dedication to the advancement of community projects and accommodate more rigorous evaluation over a longer period of time.

Final Thoughts

The qualitative research central to this thesis lacks the desired level of rigor, due to several constraints encountered within the process. Mainly, research efforts were intentionally given a smaller role because an overwhelming amount of research during the initial project in this community would have sent the wrong message. However, the participatory assessment went a long way to reveal project impacts and establish a dialogue.

While IUCI hopes to continue working with the residents of Pongro Senchey, it is important to note that there are complicated and dynamic limitations to the work, both academic and personal, that may keep the future projects from being realized.

This thesis accomplished its initial goal. This document illustrates the hard work and dedication from everyone in the community build partnership. As a record of facilitation strategies and initial findings on project impacts, this document also creates a foundation of research for future collaborators to build upon. I feel fortunate to have been able to contribute to this community build project in Pongro Senchey, and I have experienced significant growth as a community designer as a result of this academic pursuit.

Introduction
“Cambodia Home.” The World Bank: Working for a World Free of Poverty, 2016. http://www.worldbank.org/en/country/cambodia.
“Cambodia Overview.” The World Bank, April 2016. http://www.worldbank.org/en/country/cambodia/overview.
Ben Spencer, Susan Bolton, and Jorge Alarcon, “The Informal Urban Communities Initiative: Community-Driven Design in the Slums of Lima, Peru,” *International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship* 9, no. 1 (2014): 92–107.
Meg Fukuzawa. “The Phnom Penh Survey: A Study on Urban Poor Settlements in Phnom Penh.” Sahmakum Teang Tnaut, February 2014.
Nora Lindstrom. “Policy for the Poor?: Phnom Penh, Tenure Security, and Circular 03.” Phnom Penh: The Urban Initiative, March 2013.
People in Need, and Unicef. “Phnom Penh Multiple Indicator Assessment of the Urban Poor,” 2014.
“United Nations Human Settlements Programme, Planning Sustainable Cities: Global Report on Human Settlements 2009 (UN HABITAT and Earthscan), 2009.”
Environment and Urbanization Asia 2, no. 1 (March 1, 2011): 149–149. doi:10.1177/097542531000200111.
“Where Have All the Poor Gone? Cambodia Poverty Assessment 2013.” Washington, D.C.: The World Bank, April 2014.

Literature Review
Andy Catley, John Burns, Dawit Abebe, and Omeno Suji. “Participatory Impact Assessment.” Tools, guidelines and methodologies. Feinstein International Center, 2013.
Cathy Watson. “Impact Assessment of Humanitarian Response: A Review of the Literature.” Feinstein International Center, 2008.
Crabtree, Robbin D. “Mutual Empowerment in Cross-Cultural Participatory Development and Service Learning: Lessons in Communication and Social Justice from Projects in El Salvador and Nicaragua.” Journal of Applied Communication Research 26, no. 2 (May 1998): 182–209.
Crabtree, Robbin D. “Theoretical Foundations for International Service-Learning.” Michigan Journal of Community Service Learning 15, no. 1 (2008): 18–36.
Francis, Mark. “Community Design.” JAE 37, no. 1 (1983): 14. doi:10.2307/1424592.
Hester, Randolph T. Community Design Primer. Mendocino, Calif: Ridge Times Press, 1990.
Jordy Rocheleau. “Theoretical Roots of Service-Learning: Progressive Education and the Development of Citizenship.” In Service Learning: History, Theory, and Issues, 3–21. Praeger, 2004.
Kimberly Spring, Robert Grimm Jr., and Nathan Dietz. “Community Service and Service-Learning in America’s Schools,” November 2008. http://www.nationalservice.gov/pdf/08_1112_lsa_prevalence.pdf.
Mary C. Hardin. “Research as Ethical Practice: When Academic Goals Align with Community Needs.” In From the Studio to the Streets: Service-Learning in Planning and Architecture, 59–76. Sterling, VA: Stylus, 2006.
“Peace Corps: About.” Accessed November 23, 2016. https://www.peacecorps.gov/about/.
Richard J. Kraft. “Service Learning: An Introduction to Its Theory, Practice, and Effects.” Education and Urban Society 28, no. 2 (1996): 131–59.
“Service-Learning | Carlson Leadership & Public Service Center.” Accessed November 23, 2016. http://www.washington.edu/carlson/students-3/browse-service-learning-positions/.
Spencer, Ben, Susan Bolton, and Jorge Alarcon. “The Informal Urban Communities Initiative: Community-Driven Design in the Slums of Lima, Peru.” International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship 9, no. 1 (2014): 92–107.

REFERENCES

Thomas Markussen. “The Disruptive Aesthetics of Design Activism: Enacting Design Between Art and Politics.” DesignIssues 29, no. 1 (Winter 2013).
Thorpe, Ann. “Submitted to the Journal of Architectural Education Title: Defining Design as Activism.” Accessed November 28, 2016. http://www.academia.edu/download/22023379/thorpe-definingdesignactivism.pdf.

Lessons from Lima
Andrews (IUCI Project Manager), Leann. in discussion with the author, February 2016.
Olson, Marta. in discussion with the author, February 2016.
Spencer, Ben. in discussion with the author, April 28, 2016.
Witte, David. in discussion with the author, March 2016.

The Community
Meg Fukuzawa. “The Phnom Penh Survey: A Study on Urban Poor Settlements in Phnom Penh.” Sahmakum Teang Tnaut, February 2014.
Pen Sereypagna. “History of Pongro Senchey,” May 2, 2016. “Optimisticism,” May 2, 2016.

The Process
Kumar, Somesh. Methods for Community Participation: A Complete Guide for Practitioners. New Delhi: Vistaar Publications, 2002.

Evaluation
Andy Catley, John Burns, Dawit Abebe, and Omeno Suji. “Participatory Impact Assessment.” Tools, guidelines and methodologies. Feinstein International Center, 2013.
Kumar, Somesh. Methods for Community Participation: A Complete Guide for Practitioners. New Delhi: Vistaar Publications, 2002.