

**Participatory Framework for Architectural Practice in Indonesian Humanitarian Urban Context**

**by**

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## Abstract

In Indonesian humanitarian settings, many residential buildings are low-cost, self-built structures located in high-density urban informal settlements or *kampungs*. These areas are particularly vulnerable to geotectonic hazards, and the buildings are often substandard. The potential losses from structural failures in these environments highlight the need for appropriate, low-cost, and accessible building technologies. This necessity has driven research in architecture and building technologies, but implementing these innovations has yielded mixed results, with some being underutilized or even entirely unused. This suggests a significant gap in the knowledge surrounding the effective implementation of novel building technologies.

Critiques have emerged regarding *kampung* redevelopment as a means of disaster mitigation, pointing to the resulting injustices faced by low-income groups who are meant to benefit from such projects. With their agency to transform concepts into tangible designs, architects find themselves at the intersection of two intentions: hazard mitigation and the protection of dwelling rights. There is a call for a more just and effective practice of architectural humanitarian service. This approach emphasizes involving laypeople or non-expert communities in the planning and design process. It is argued that their inclusion, traditionally the exclusive domain of experts, empowers communities to influence the decisions shaping their built environment significantly.

This inclusive approach has been described using various terms, such as participatory community problem-solving, participatory design approach, and participatory design. These concepts all advocate for the inclusion of the community as the end-users of the built environment in the process of addressing shared concerns. However, despite adopting participatory methods, issues regarding acceptance and usability persist. Concerns arise that these projects may not genuinely reflect the needs or challenges of the communities they aim to serve. A project labeled as participatory might not achieve true participation, failing to deliver justice in the built environment.

This dissertation explores the nuances of involving beneficiaries in hazard mitigation architectural design within a humanitarian context. It examines multiple aspects of the participatory architectural endeavor: 1) applying participatory principles from health, psychology, and social science as an analytical lens, 2) adapting conventional architectural workflows to integrate these principles, and 3) utilizing constructivist research methodologies that embrace a constructivist perspective, viewing reality as shaped by the interactions among various actors.

The findings emphasize the importance of recognizing all participating groups or entities' diverse backgrounds and pre-existing positionalities. Understanding the different priorities and perspectives of various constituencies offers a complexity that can produce an architecturally-sound, acceptable, and useful built environment that works for all. This awareness should form the basis for implementing other participatory principles, acknowledging that a group may comprise several subgroups with different identities and internal structures, including well-

meaning architects. The dissertation proposes a framework for participatory architectural practice that modifies conventional workflows to accommodate participatory spectrums appropriate to the context. This framework aims to achieve a more equitable and effective integration of community participation in architectural design and disaster mitigation efforts, specifically in urban areas.

Keywords: humanitarian settings, urban *kampung*, participatory architectural practice, constructivist methodologies, participatory spectrums

## Chapter 1 Preface

In this preface, I discuss the background that shapes the research for this dissertation and my position as the primary investigator (PI). The background elaborates on the dissertation's setting in Indonesia as a developing country with a geographical position that exposes most of its population to tectonic hazards (earthquakes, volcanic eruptions, tsunamis). The background focuses further on hazard-mitigating development programs for the Indonesian urban informal settlements, implementations of those programs that seem to focus on a top-down approach, and the criticism of the top-down approach that resulted in the marginalization of the underprivileged communities.

At the intersection of hazard mitigation and the discourse about hazard-mitigating development is the architecture discipline that I am part of, both as a practitioner and an academic studying for a doctoral degree. I elaborate on the background further to discuss the phenomena of the inclusive approach in the implementation of architectural products or novel research output of building technology and the challenge to achieve equitable architectural practice in hazard mitigation settings.

### 1.1 Indonesian Hazard Mitigating Development Situation

The earthquake map (Figure 1) illustrates Indonesia's position on the junction of some continental tectonic fault lines [1], [2], [3], [4]. Almost all parts of Indonesia bear several natural

hazard risks ranging from earthquakes and volcanic eruptions to tsunamis as the direct consequence of the converging of several tectonic plates [1]. Consequentially, it exposes many Indonesian cities to the risk of geotectonic-related disasters, many of them being densely populated urban areas [3], [5].

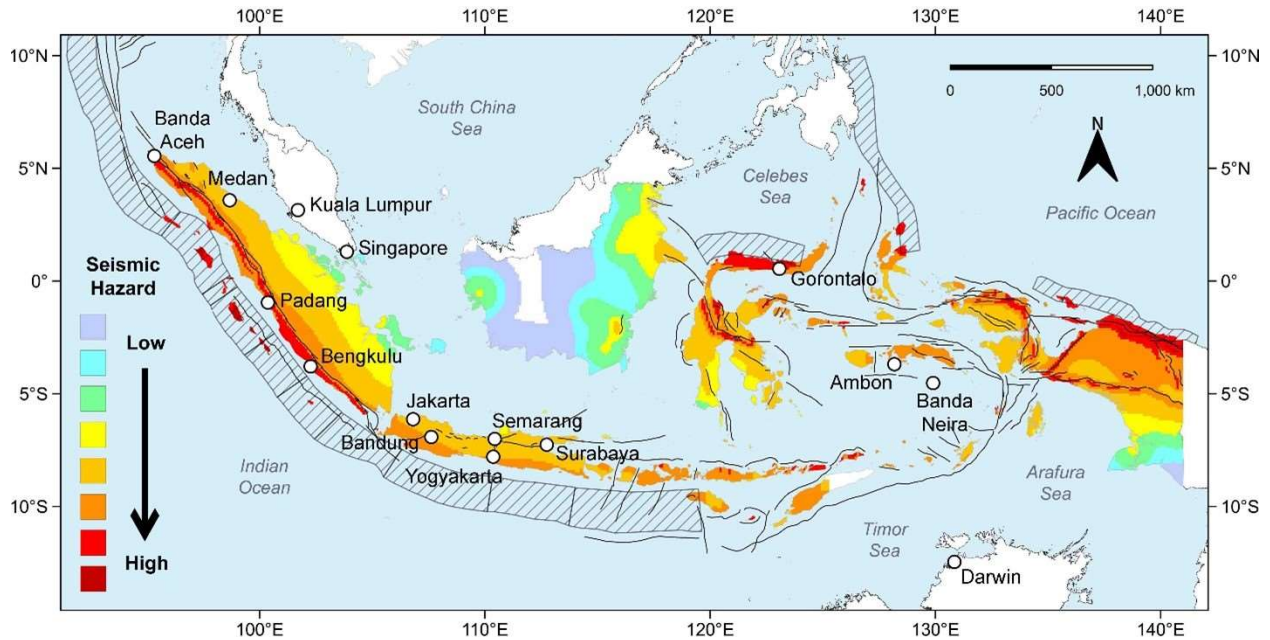


Figure 1. The Indonesian seismic hazard map.  
 Image Source: <https://www.newmandala.org/bridging-historical-archives-and-earthquake-hazard-studies-in-indonesia/>

On the other hand, the reality of urban population growth in developing Asian countries poses unresolved and mounting challenges economically, socially, and ecologically [6], [7], [8]. One of the challenges is the growing need to provide affordable, proper housing in urban areas. With the current situation of urban poverty and inequality [9], [10]. Housing urban populations through formal means (by the state and the market) becomes harder to fulfill across Asian nations.

The struggle of low-income communities to access affordable housing in urban areas [6], [7], in turn, pushes these communities to provide for their own habitation informally, the self-help approach [6], [7], [11], [12]. It is still the prevalent choice for housing provision in Indonesian urban *kampungs*<sup>1</sup>, despite having “*much higher densities*” and “*still growing at about 28%*” [11].

Limited on budget for starter plots and shelters, low-income homeowners typically will start constructing their houses with low-quality materials and non-engineered residential constructions. Usually, homeowners will gradually transform their houses into larger units to fulfill growing needs that tend to be constructed in equally low quality (hence cheaper) construction [5], [15], [16], often categorized as slums by the authorities [17]. Considering their geographical location in tectonically active areas, living in sub-standard structures means an increased exposure of urban disadvantaged communities in the Indonesian urban *kampungs* to earthquake hazards [15], [18].

Physical redevelopment at the *kampungs* is a way to alleviate the urban slum condition.

Architects and other engineering experts can and have been willing to contribute their technical expertise to the humanitarian situation in both post- and pre-disaster contexts. [13], [19], [20], [21], [22]. Discourse on the roles of architecture and architectural experts in that context has been active in the discipline of architecture and the built environment since the early 1970s [23].

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<sup>1</sup> *Kampung* means “village” in the Indonesian language. It refers to the term to address the social unit in Indonesian traditional cultures (despite the overlaps of traditional and colonial definitions) [6], [7], [8], [9], [10]. However, nowadays, the term is often applied to organic, self-built settlements in urban and rural areas. It still strongly suggests the traditional characteristics of relatively tight-knit communities with traits inherited from or resembling those of rural agrarian villages [13], [14].

However, the well-meaning experts may have participated in a mitigatory government-commissioned redevelopment program that might disregard the local, preexisting socio-cultural layers and on-site complexities.

Redevelopment projects that use hazard risk reduction and mitigation as the pretext are typically programmed by the government in conjunction with the government's aim to modernize the urban environment. Such programs are often realized through eviction, land clearing, and forced relocation of the *kampung* inhabitants to government-assigned locations. As a result, impacted *kampung* residents tend to be left with little to no options other than submitting to disruptive land clearance and relocation. Several scholarly and journalistic works criticized the approach as a form of injustice for overlooking, even disregarding the concerns of the displaced low-income communities to have equal rights to living in cities as the more privileged ones [14], [19], [20], [21], [22], [24], [25], [26], [27], [28]. Other than underlining the *kampungs* as part of Indonesian urban history and existing reality, these scholars also emphasize the theme of housing injustice that architecture might have contributed to by elevating the questions of “Who owns the *kampungs*?”; “Who lives in them?” and “Why do their lives matter?”

The questions above highlight the reality of self-help housing as the manifestation of the low-income communities' housing rights of self-procuring their own housing<sup>2</sup> in the face of the affordable urban housing shortage. Figure 02 illustrates the issue of marginalizing, inequitable

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<sup>2</sup> Referring to the statutes of human rights on healthy, safe, and affordable housing in the UN Declaration of Human Rights (Article 25), Constitution of the Republic of Indonesia (Chapter 28H, verse 1), Indonesian Statute Nr. 1/2011 (point b, on Housing and Settlement), and Indonesian Statute Nr. 39/1999 (Chapter 40) on Human Rights [29].

urban redevelopment through the contrasting image of built quality between the informal *kampungs* in the foreground and the modern towers in the background.



Figure 2. Urban informal settlement against the backdrop of modern skyscrapers, Jakarta.  
Image Source: (<https://jakartaglobe.id/vision/urban-village/>)

At this intersection between mitigation efforts, redevelopment, urban upgrading, and the right to urban living are architecture and architectural professionals of research and practice with the potential to contribute their expertise to accommodate a more inclusive development (or redevelopment) approach in such humanitarian situations explained above. Promoting such an approach is centered on the idea of the inclusion of laypeople or non-expert communities in the planning and design processes [30], [31], [32], [33], [34], [35]. It has been argued that their inclusion into the process that generally has been the exclusive space of experts would give the communities the power to take part in the decision-making that would shape their built environment [30], [31], [32], [33]. Yet, laypeople's involvement and the participatory approach



are apparently more nuanced than what has generally been understood by most Indonesian architects. The following sections elaborate on how I arrived at that position.

## **1.2 Personal Engagement and Background in the Humanitarian Architectural Works**

My initial perspective on Indonesian hazard mitigation focused on architectural contributions shaped by my past work in the post-2004 Indian Ocean tsunami redevelopment. This experience exposed me to the real-world tension between two concerns that intersected in architecture and the built environment. Those two were 1) the need to quickly redevelop housing and infrastructure for the impacted communities *en masse* [36], [37] and 2) the concern to conduct the redevelopment that emphasizes the consideration of pre-disaster complexities from the overlapping of socio-cultural values, pre-existing local dynamics, legal land titling, and national political interests [38], [39], [40] as part of the post-disaster planning processes. The outcome of that tension could actually delay the establishment of permanent housing due to the protracted processes required to sort out the complex overlaps, especially when they involved land-reforming processes [36], [40], [41], [42]. The protracted processes of post-disaster complications often forced refugees to endure a prolonged sense of homelessness in temporary shelters lacking basic comfort and protective means for longer-term habitation [41], [43].

On the other hand, my personal background of growing up and practicing architecture in densely populated Indonesian cities also provided a first-hand observation of the phenomena of income inequality and the inequitable redevelopment of the urban *kampungs*. As an architect, I aspire to be able to contribute to the modernizing and improvement of Indonesian urban environments, but I also share the concern that architects and architecture should support more inclusive mitigatory

development and redevelopment plans that justly consider the needs and concerns of the low-income communities of the urban *kampungs*.

With more emphasis on the concern to contribute to a more considerate mitigatory redevelopment of the urban *kampungs*, inspired by the post-disaster involuntary prolonged temporary living phenomenon, I was motivated to conduct research in adaptive architectural innovation that can offer technological innovations in housing construction. Back then, I hypothesized that architectural technologies could provide a middle ground, a transitional solution for the challenges of more thoughtful, inclusive, and humane processes during the mitigatory redevelopment processes. My first aim for the innovative construction system was for it to offer technically sound, affordable, self-help housing technologies in urban areas to accommodate the transition from starter houses to larger, more permanent structures through low-cost and reusable structural modules.

I commenced with research works focusing on innovative lightweight structures and construction systems. The systems revolve around the use of renewable materials that the reusable and reconfigurable structural modular units to provide sturdier and safer starter or transitional structures while providing options to reuse the modules for more permanent housing [44], [45]. However, as I found out later, the research works that produced several disseminated prototypes had a rather disillusioning outcome: while the technologies worked as designed, the expected adoptions by the beneficiary communities were significantly low. This outcome incentivized me to communicate with several Indonesian experts who have experiences in Indonesian humanitarian settings and two other personal explorations. The learnings from these three

personal activities provided the background and the starting point for this dissertation. The following sections elaborate on the three explorations that include 1) the learnings from a series of personal communications in the Summer of 2021, 2) the learning points from a separate literature review on the implementations of transformable structures in humanitarian projects, and 3) the learnings from reviewing three of my past research work.

### ***1.2.1 Views from the Field: Summer 2021 Personal Communications:***

I had the opportunity to conduct personal conversations in the Summer of 2021 with nine Indonesian experts about the outlook on the area where architectural research and practice intersect with hazard mitigation and research in building technology. These experts were practitioners or researchers in their respective specific architectural sub-fields<sup>3</sup>. They have considerable experience in humanitarian settings between 2004 and 2019, focused on post-disaster rehabilitation of the built environment<sup>4</sup> in Indonesia. I intended to learn from their experiences and gain a reflective lens for understanding the relationship between humanitarian situations, the role of architects and their architectural practice in humanitarian situations, and the extent to which technological innovation in building and construction can contribute to solving inclusive humanitarian housing redevelopment.

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<sup>3</sup> Including architectural structure, low-cost housing construction, professional association, activism, and teaching and research.

<sup>4</sup> The term “built-environment” was introduced by Rapoport in 1980s [46]. It is an overarching term that describes human-made modification to the natural environment to accommodate the dwelling needs of human beings. It includes the planning and making of artifacts and corresponding tools to produce an integrated, supportive environment to enable the preservation and thriving of human lives [47], [48], [49]. The Current development involves sub-disciplines such as architecture, civil engineering, landscape design, interior design, and environmental engineering [48].

The conversations revealed cases of successful post-disaster shelter programs in Indonesia regarding beneficiary inclusions in the design and planning stages. On the other hand, the same conversations also provided insights about the inconsistent outcomes of the pre-disaster hazard risk mitigation projects regarding acceptance and usability by the end-users (i.e., the program's beneficiaries) that parallels the low acceptance of my research products. The inconsistency with respect to acceptance and usability persists that concern has arisen that the inclusionary projects involving the beneficiaries may not have implemented an appropriate approach that would genuinely tap into the actual needs or challenges of the communities [23], [30]. A project that was perceived as participatory might not truly address the needs of the actual end-users.

I further learned about two prevalent situations of architectural engagement in Indonesian disaster-related settings. The first comprises two opposing views on how architects and building experts could and should conduct their engagements in disaster-related Indonesian humanitarian settings. The second situation centers on what five of the experts pointed out as the missing knowledge and skill set of Indonesian architects to help them engage in humanitarian projects involving a community of beneficiaries as end-users. The two sub-sections below elaborate on the two situations.

#### ***1.2.1.1 Two Views on How Indonesian Architects Should Do Humanitarian Engagements***

I learned from my Summer 2021 conversations two general perspectives on how Indonesian architects typically should (and have) approach contributing their services to disaster-related humanitarian projects. These two views include the socio-cultural approach as the base for advocating built environmental products and one that focuses on the practical implementation of built-environmental design expertise and products.

### *1.2.1.1.1 The Socio-cultural Approach*

Godril D. Yuwono<sup>5</sup> viewed a dwelling as an embodiment of cultural nuances. As such, he highlighted architecture's current oversight: despite its cultural inclinations, it fails to embrace a user-inclusive approach. He suggested that mere technological solutions might fall short of addressing the intricate socio-cultural aspects of housing. Yuwono emphasizes the significance of grounded, data-informed, communal approaches when discussing hazard mitigation. He questioned the architects' potential role, especially in the larger framework of government interventions in such situations.

Drawing from his work in Aceh, Fitrianto<sup>6</sup> resonated with Yuwono's insights, emphasizing the profound cultural underpinnings of dwellings, aligning himself to the Heideggerian sense of the word [50], [51]. He identified a disconnect between the innate cultural process of homes<sup>7</sup> and the prevailing product-oriented mindset in the architectural domain. The gap was exacerbated even more broadly by Indonesia's "outdated and Modernist<sup>8</sup>" architectural education, compounded by humanitarian agencies' quota-driven agendas [36], [37]. In a separate discussion, Eka Hasfi

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<sup>5</sup> Mr. Godril Yuwono is a senior social worker (retired) for Global Shelter Cluster (GSC) Indonesia and the Indonesian Red Cross Society. He has decades of experience as a facilitator in various humanitarian settings across Indonesia.

<sup>6</sup> Mr. Andrea Fitrianto worked for the Urban Poor Consortium (UPC) in Aceh Province to advocate community-centered built-environment rehabilitation programs after the 2004 Indian Ocean tsunami. He and the UPC team remained in the area until 2012. He is a practicing Indonesian architect specializing in bamboo material and construction (<https://bambuso.id/>).

<sup>7</sup> Where home is a verb, architecture is a process and hence a cultural product

<sup>8</sup> Referring to the Modernist architectural movement in post-World War II Europe, emphasizing on mass production, industrialization, and standardization of housing to fulfill the rising housing demand quickly. Many scholars see that as a utopian goal that eventually failed [52].

Adha<sup>9</sup> also stressed the human-centric essence of architectural pursuits, advocating for designs that place beneficiaries at their heart. This approach, he argued, is vital to ensure that architectural solutions in humanitarian scenarios cater to the genuine needs and priorities of those they aim to serve.

Echoing Adha's perspective, Bonita Nainggolan's field experiences in Aceh Province, Indonesia, revealed the pitfalls of architectural interventions that are not culturally attuned. She observed numerous uninhabited, completed houses, signifying a misalignment with residents' needs. Nainggolan suggested that architects adopt a knowledge-sharing, inclusive approach that respects and understands diverse local socio-cultural and economic landscapes.

In short, these four experts see that architectural practices in humanitarian contexts must recognize that housing transcends mere construction and is deeply embedded in its inhabitants' cultural, social, and personal identities. A dwelling is not merely a shelter but resonates with the socio-cultural fabric of its community. Solving problems by pushing for technology-laden, product-oriented solutions risks becoming misaligned and even useless if they overlook these cultural nuances. Thus, the challenge for architects and humanitarian agencies lies in harmonizing technological innovation with a comprehensive understanding of the community's

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<sup>9</sup> Mr. Eka Hasfi Adha is an architect by training. From 2004 to 2014, he worked for The World Bank in the post-tsunami Indonesian Province of Aceh to supervise its rehabilitation programs. His job was to oversee technical experts assigned to assist community members in facilitating their housing needs at the District and Sub-District levels. He was also tasked with ensuring that the facilitation accommodated underrepresented groups in the patriarchal society of the Acehnesse population.

socio-cultural complexities, ensuring that efforts resonate with the intended beneficiaries and do not result in wasted resources.

#### ***1.2.1.1.2 Expertise and Product Implementation Approach***

G. Budi Yulianto<sup>10</sup> of *IAI*<sup>11</sup>, Rully Octavian<sup>12</sup>, and Andre Kusprianto<sup>13</sup> of *Yahintara*<sup>14</sup> offered a distinct perspective during our 3-party conversation. The conversation with these three experts revealed different points of view on how and what architects and building experts could contribute to in disaster-related situations. The three experts suggested a perspective that places architects as problem solvers whose best contribution to humanitarian settings is to provide pro bono architectural design expertise and products<sup>15</sup> on-site directly and as quickly as possible.

One of the experts further suggested his view on (Indonesian) academic research as lacking the practical orientation in solving real-world problems. In a way, he signaled dissatisfaction towards the current Indonesian architectural research that he criticized as too theoretical to effect practical implementations in humanitarian settings. My observations from previous experiences

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<sup>10</sup> Mr. Georgius Budi Yulianto has been the current President of the Indonesian Architects Institute (<https://iai.or.id/>) for the 2021-2024 term. He was the Head of the Indonesian Architects Insitute – West Java Chapter when the discussion took place in the Summer of 2021.

<sup>11</sup> IAI or *Ikatan Arsitek Indonesia* (<https://iai.or.id/>), the Indonesian Institute of Architects, is the professional association that advocates professionalism and standardization of practice and oversees and manages the pre-certification training for Indonesian architects.

<sup>12</sup> Mr. Ruly Octavian is a practicing Indonesian architect currently serving as the Chairman of *Yahintara*.

<sup>13</sup> Mr. Andre Kusprianto has been a professional architect since 1996 in Indonesia. He is also the Head of Community Engagement Division at *Yahintara*.

<sup>14</sup> *Yahintara*, *Yayasan Arsitektur Hijau Nusantara* (*Yahintara Foundation*, <https://www.yahintara.org/?lang=en>) is an Indonesian non-profit organization providing targeted architectural services for humanitarian needs. Its members are alumni of one of the architecture schools in West Java.

<sup>15</sup> Beyond contributing the detailed engineering drawings, works would include fabricating design prototypes, disseminating or implementing innovative technologies, working with simulations, tuning the bills of materials, providing cost estimation, preparing for construction tender, and supervising the design implementation.

during my past architectural practice show a similar, prevalent sentiment among Indonesian architects.

I also had the opportunity to converse with Mediatrich Triani, a current staff member and former country manager of Build Change's<sup>16</sup> Indonesian chapter. The international non-profit organization specializes in an “owner-driven” approach. They have been campaigning to raise awareness and change Indonesian homeowners' perspectives by advocating pre-disaster retrofitting individual houses to adhere to structural safety standards. They aim to minimize losses during disasters due to unsafe building structures. The NGO's methodology centered around motivating homeowners to volunteer for the technological improvement of their homes.

Build Change's methods include training programs for communities and partnering with local bankers to set attractive loans to fund their residential retrofitting<sup>17</sup>. Technologically, Build Change also develops digital tools to quickly assess residential structures and communicate the results in a more accessible way to layperson homeowners<sup>18</sup>.

Despite the innovative measures it has developed, Build Change still faces challenges. The biggest hurdle has been that the local population puts more trust in local builders than engineers

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<sup>16</sup> Build Change (est. 2004, <https://buildchange.org/>) is a non-profit organization founded by Dr. Elizabeth Hausler, a structural engineer, with a worldwide outreach. It advocates the Build Back Better concept [53] through what it addresses as the “owner-driven” approach. It advocates for communities and individuals impacted by earthquakes to rebuild or rehabilitate their lost houses by implementing constructions that match the building codes for structural safety. The NGO currently operates through an approach that combines technical advocacy in combination with the socio-economic considerations of the beneficiaries.

<sup>17</sup> In the publicly available interview in which Dr. Hausler touched on the Indonesian context at 08:15 timestamp ([https://youtu.be/1LLE-6-IU0g?si=XW84LnqULLP-jc\\_y](https://youtu.be/1LLE-6-IU0g?si=XW84LnqULLP-jc_y)).

<sup>18</sup> <https://youtu.be/H8b6K-tao-Y?si=iWTY7dawp5mXUP6R>



or architects for fear of inflating construction costs. The second most significant hurdle is the widespread misperception that structures designed by experts supposedly have zero damage during a disaster (which, according to Build Change engineers, is impossible). The third significant challenge is the priority gap between technical and social experts regarding what to prioritize in disaster mitigation. Technical experts, as the people at Build Change see themselves, emphasize getting homeowners to agree to retrofit their houses before any earthquakes hit as soon as possible. In contrast, social experts underline the importance of socially and culturally sound technological solutions.

Nevertheless, Build Change considers their advocacy through training programs for local populations as their most feasible approach, given the urgency to convince homeowners and local builders as many and as soon as possible to adopt the advocated structural retrofitting. They parallel that effort with collaboration with local government agencies to advocate for and eventually enforce the codes.

The dominant theme in this cluster of conversations revolves around the perception of the architects' role in disaster-related situations and the broader context of societal expectations from the architectural and technical professions. Considering the urgency of a humanitarian situation, architects might see their role as problem solvers by contributing their services and producing designs that are ready for implementation. This perspective suggests a desire for practical and immediate on-site applications of the pro-bono products.

On that note, the narrative introduced by Build Change sheds light on the challenges faced in bridging the gap between technical expertise and socio-cultural perceptions of hazard risks. While Build Change promotes “*owner-driven*” engineering knowledge, it recognizes the essential challenges of reconciling local socio-cultural perspectives with the standard implementation concerned by experts. Their innovative approach, which includes technical training, financial incentives like banking loans, and the development of new technologies to assess and communicate building risks, underscores the need for holistic solutions that combine technical know-how with socio-cultural awareness. Nevertheless, even with such comprehensive strategies, challenges persist, indicating the issue’s underlying complexity.

#### ***1.2.1.2 The Underdeveloped Knowledge of Architects to Engage Indonesian Humanitarian Settings***

From the same Summer of 2021 discussion, a theme emerged around the underdevelopment of the body of knowledge on the appropriate approaches for architectural research and practice in the humanitarian sector. Not all humanitarian agencies operating in Indonesia prioritize shelter and housing as their primary activities<sup>19</sup>This prioritization leads to a scarcity of dedicated in-house staff specializing in shelter and housing. Consequently, when launching a new shelter program, agencies expect to be able to recruit local experts with suitable backgrounds and experiences in humanitarian settings.

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<sup>19</sup> The IFRC’s 2015 document brings forward this concern, stating that only “*a mere dozen*” of around “*500 national and international humanitarian agencies who employ full time expert advisors with experience in shelter or housing reconstruction*” [36, pp. 10–11]

Ony Purwitasari<sup>20</sup>, who oversees engineer recruitments for several Indonesian and International humanitarian agencies, noted that recruiting such experts in Indonesia has been challenging due to their scarcity. She remarked on how recruits must undergo additional, specialized training to understand the proper ways and the outlook for getting involved in post-disaster housing redevelopment work. Her experiences highlight that such educational material was not part of the engineers' formal education. On the other hand, humanitarian work presents unique characteristics, particularly regarding the need for an inclusive approach to understanding how non-engineering factors could impact engineering-based housing solutions.

Purwitasari took part in co-authoring the Indonesian Red Cross's post-disaster guidelines for housing rehabilitation [54] as the current reference to address the knowledge gap above and provide a quick reference for training recruits. However, she also underlines that the guidelines focus on the Indonesian post-disaster situations, suggesting less attention to addressing the preventive or mitigatory engagement in the pre-disaster situation.

Nainggolan underlines the inclusive outlook required of experts engaging in humanitarian settings. She made an interesting observation during her role at ARCASIA conferences, in which she learned that Indonesian architects tend to approach humanitarian housing challenges as opportunities for experimenting with novel design forms. She noted how the Indonesians'

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<sup>20</sup> Ms. Ony Purwitasari had her undergraduate training in civil engineering. She previously worked at an engineering consultation group in Indonesia before joining the Indonesian Red Cross (IRC) as its full-time technical staff with a nationwide deployment area. Her job description centered on facilitating the IRC's shelter and housing efforts on post-disaster sites, typically starting 24 hours after the strike. She also served on the editorial team for the Indonesian Red Cross Humanitarian Shelter Guidelines [54]. She is now the consulting expert for the IRC and has been giving guest lectures at several build-environment schools in Indonesia.

approach contrasted with the Bangladeshi teams, whose proposals involved significant considerations of local socio-cultural contexts instead of design experimentations. She observed the lack of such consideration in most Indonesian architectural practices when engaging in humanitarian works. Her own experiences in the Indonesian Province of Aceh centered on understanding the beneficiaries' dwelling culture and determining suitable technologies that prioritize using local materials, techniques, and skillsets to afford opportunities for livelihood restoration.

Eka Hasfi Adha observed that the architects' role in humanitarian settings is not to prescribe technical solutions. The architectural output cannot be just about the technological solutions designed unattached to the lives of their end users. He remarked that humanitarian facilitators typically spend 50% of their time engaging in community engagement<sup>21</sup> to identify the community's aspirations. Mr. Octavian's observation sees the involved architects as more moderators than the sole prescribers of all the design decisions when planning the built environment products<sup>22</sup>. Such a perspective would usually suggest approaching the humanitarian built-environmental problems by observing the lack of essential services critical for impacted households during post-disaster recovery.

Even so, I learned from my experience that the general public's perception tends to equate architects to building contractors who produce physical products. More often than not, this

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<sup>21</sup> Albeit Mr. Adha did not specifically address this engagement as a "participatory approach."

<sup>22</sup> One interesting example he provided was Yahintara's recommendation to provide sewing machines first instead of permanent housing to a community that lost its settlement to the 2009 earthquake in West Java Province. His colleague in the same discussion did not comment on this statement.

perception unwittingly placed undue expectations on the architects to prescribe technical outputs. Local government, aid agencies, and community leaders typically expect material and physical products to replace the housing lost to the disaster as soon as possible.

While expedited replacement of the lost properties might be justifiable, such a motive might only relegate the housing provision to statistical figures. Technologically oriented innovations or design products, or pro bono, publicly accessible designs (license-free, low-cost, small-footprint residential prototypes<sup>23</sup>) might indicate the rather short-sighted contributions that unwittingly disregard “*cultures and contexts in which those solutions will be used* [55].”

### ***1.2.1.3 Learning From the Discussions***

The discussion above brings forward the two seemingly opposing perspectives. On the one hand, an outlook that sees architectural solutions as the result of the architects adhering to the actual needs of the beneficiaries by first understanding the socio-cultural context. On the other hand, the view that maintains architectural products and professional competencies, both in research and practice, as the core contribution to humanitarian emergencies calls for built-environmental interventions.

One important note that resonates with my learning process is the remark that the Build-Change made: that there is a gap of knowledge and skill to bridge between the techno-oriented perspective and the one prioritizing the social approach. There is a lack of techno-experts who

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<sup>23</sup> As suggested by Mr. Kusprianto, the Yahintara secretary.

can work in humanitarian settings by having the skillset to navigate social situations within impacted communities to complement their engineering or architectural proficiency.

Furthermore, I observed from the discourse above the lack of emphasis on developing participatory references for the pre-disaster context. The Sphere Standard<sup>24</sup> and the Indonesian Red Cross<sup>25</sup> guidelines emphasize a beneficiary-centered operation for post-disaster housing development. However, they do not necessarily cover community-based hazard mitigation housing projects. I argue that preventing losses by mitigating the hazard risks through a participatory approach is equally important as the one for the post-disaster situations.

### ***1.2.2 Learning From the Literature Review on Applications of Transformable Shelter Projects***

My pilot study explored the application of “*adaptable shelter designs*” [6, p. 34] in humanitarian efforts, particularly post-disaster, and hazard mitigation housing. By viewing shelter technology through the efforts of global humanitarian agencies addressing disaster-induced shelter needs, the research delved into how contextual complexities might affect the adoption of novel building technologies. The central hypothesis was that a transformable structure system<sup>26</sup> would epitomize the concept of an “*adaptable shelter.*” Its transformable nature is crucial for its

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<sup>24</sup> The Sphere Standard (<https://spherestandards.org>) is the current guideline referred by most humanitarian agencies in various regions working on programs for humanitarian shelter provisions.

<sup>25</sup> The Indonesian Red Cross ( or *Palang Merah Indonesia* (PMI), <https://www.pmi.or.id>) is the Indonesian chapter of the International Federation of Red Cross and Red Crescent Societies (IFRC, <https://www.ifrc.org/>).

<sup>26</sup> The transformable shelter here uses the definition proposed by Temmerman et al. [8] that signifies a structural system with kinetic capability that allows a movement to accommodate a degree of spatial adjustment or adaptation without changing or modifying its intrinsic physical parts.

widespread application in various settings and throughout different sheltering phases—from emergency shelters to permanent houses.

I used theories of architectural structure and transformable structures as the lens to study shelter implementations with at least some degree of embedded transformable characteristics. I referred to studies by Liapi [56], Durmisevic [57], de Temmerman et al. [58], [59], [60], [61], [62], Galle [63], Koumar [64], and Rivas-Adrover [65] for the definition and characteristics of the transformable structure. I also referred to Schodek & Bechthold [66] for the basic theory of architectural structure stability, complemented by views from Charleson [67] and MacDonald [68]. The characteristics of transformable structures will serve as reference points in the first analysis. The general required criteria for structural stability would complement the required attributes for a structure to function.

I also refer to the Sphere Standard<sup>27</sup>, the globally accepted guidelines for emergency relief and recovery shelter efforts, to learn what factors, procedures, or criteria the Sphere Standard recommended for implementing shelter technologies. The aim was to find out about the factors or criteria that might be non-technological in nature but considered influential or critical in shelter implementation. The learnings revealed factors such as geopolitical, social, and cultural background, stakeholders, and logistics that may impact a particular use of technology at a humanitarian site.

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<sup>27</sup> <https://spherestandards.org/>

For the analyzed objects, I referred to the reports by the Global Shelter Cluster<sup>28</sup> (GSC) from 2008 to 2018. I gathered the information by examining the reports for each relevant aspect in the summary, body of the text, photos, schematics, and material costs. Some data was collected by examining photos in the reports when the information was not well documented, referring to the same shelter implementations in GSC's reports.

The analysis was done by comparing the GSC data to the architectural structure theories and transformable criteria. Other than the presence of transformable characteristics, the analysis would consist of inventorying the utilized structural systems, materials, stabilizing elements, joinery, and fastener elements. The analysis included examining diagrams, schematics, and photos and interpreting them to discern the technical information captured in each report documentation.

The study found no evidence of any specific, cross-cutting technological implementation across the GSC's locations. Further, there was no evidence of extensive use of transformable systems to accommodate the "adaptable shelter." Instead, I learned that understanding "adaptability" or "adaptable shelter" should be adapted using a design process sensitive to the context.

Adaptability, in this sense, does not necessarily justify the use of a transformable structure system as a cross-cutting technological solution. The study further highlighted that the technical

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<sup>28</sup> The GSC (<https://www.sheltercluster.org>) is a network of multiple international organizations with experience in providing shelters for various humanitarian crises. They have been taking part in situations causing displacement of people, from post-disaster relief and recovery to post-conflict. The GSC's platform is expected to provide unhindered coordination across humanitarian and governmental agencies with intersecting needs, knowledge, expertise, and resources in and around post-disaster shelter efforts. The aim is to match the type of responses or assistance to the actual on-site needs by enabling organizations to learn from each other's relevant experiences in similar aspects [69].



decisions were developed by first considering multiple contextual aspects such as upholding the beneficiaries' fundamental rights, pre-disaster livelihoods, values, job creation, environmental impact, or how the shelter could benefit the local economy.

Thus, interpreting “*shelter designs that are adaptable* [36], [41]” should thoroughly consider the contextual aspects in play that (may) significantly direct the tangible shelter output, i.e., the physical design or the applied building technology and materials. Establishing priorities and the relevant technologies must be sensitive to the preferences, existing knowledge, values, and resources available to the affected communities.

### ***1.2.3 Learning From Reviewing Personal Past Works on Prototyping Bamboo***

#### ***Transformable Structures***

My past research works were part of a collegial roadmap that explored the use of bamboo material for transformable structural elements [60], [61], [62], [65], [70] in transitional shelter [69], [71] applications. It stemmed from the observed challenges to mitigate the hazard risks and meet the building codes for structural safety standards while keeping the construction costs reasonably low and making them all as ecologically sound as possible. Thus, my past research was based on the following keywords: low-cost materials, locally available, and low-cost technology. Bamboo and the corresponding technologies were the material of choice as an ecological, sustainable material entry point. The material is readily available locally in Indonesia and has seen multiple applications, such as sheds and hand-crafted non-architectural products [72], [73]. Nevertheless, my review identified relatively few local technological developments

that explore and harness the material's superior physical properties for architecture and transformable structural systems [74], [75], [76].

I selected three of my past works and evaluated them as part of the pilot study for this dissertation. I have conceptualized this evaluation since Fall 2021 and formally presented the findings from evaluating those three projects at the AMPS 2023 Conference<sup>29</sup> in December 2023. The projects included technologies that utilized the “*bundled bamboo slats*” construction for curvature structural forms [73] and the foldable, transformable modular structural system [44]. Their implementation scenario was in the post-disaster setting, where they could offer structural systems for transitional housing and public facilities. I evaluated the three constructed prototypes beyond their technical and structural performance. Albeit being spread between three sites and three distinct partnering communities, I maintained the same aim: to introduce a low-cost, innovative, safe, structural system that utilizes ecologically friendly material to benefit low-income communities. Of the three projects, we could now consider two of them unsuccessful, although they technologically performed as intended.

The first project (Figure 3) was a public prayer hall constructed with curved structural elements of bundled bamboo slats [73]. The partner in the first project was the head of a farmer's organization representing the community's local farmers. While we determined that the structure performed relatively well and provided the team with the first life-size benchmark for the next

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<sup>29</sup> (<https://amps-research.com/event/local-cultures-global-spaces/schedule/culture-place-ii/the-case-for-epistemological-shift-in-research-for-low-cost-housing-technology>)

exploration, we observed the lack of sense of ownership on the beneficiary's part<sup>30</sup>, even though we already had a formal project handover.

The second project was a two-story community pavilion (Figure 4). It was the first cycle in the research roadmap to explore the modular, transformable bamboo structural system [44] as an advance from the more static bundled bamboo slat construction because of the inherent physical movement of the “*scissor-like elements*” or SLEs [64] in the bamboo construction (Figure 3c & d). Again, while my colleagues and I concluded the structure to be a successful proof of technological concept, it did not achieve a sense of ownership from the local community. It was evident from the limited use of the space and the apparent neglect, with the local partners showing no interest or intention to maintain the structure.

The third project was a play hall for a kindergarten (Figures 6a & 6b), which was our second exploration cycle in transformable bamboo structural systems with integrated SLEs (Figures 5a & 5b) and was completed by the end of 2019. The intention for this one was to test and examine the mobile, reusable, and reconfigurable capabilities of the structural modules. As with the two earlier projects, this one was also technologically successful. However, in contrast to the previous two, our partner in this project displayed a stronger sense of ownership<sup>31</sup>.

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<sup>30</sup> This sentiment was observable from the apparent neglect with hardly any initiative to maintain the completed building and the infrequent use of the space.

<sup>31</sup> We observed frequent daily use and maintenance of the building. We saw the beneficiaries initiate upgrades independently. It contrasted with the previous two projects that required the research team to repeatedly initiate regular checking and maintenance.



Figure 3. The first project with an arch structural system in bundled bamboo slat construction.

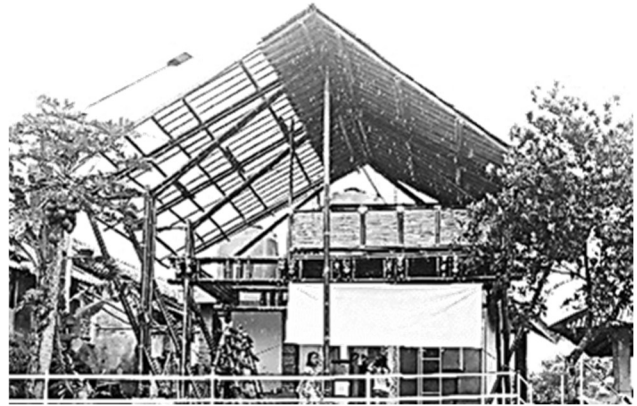
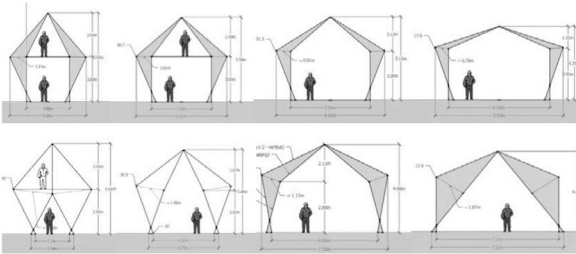
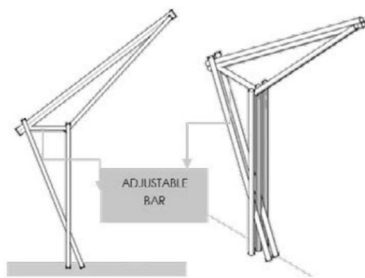


Figure 4. The second project that utilizes modular, bamboo transformable structure



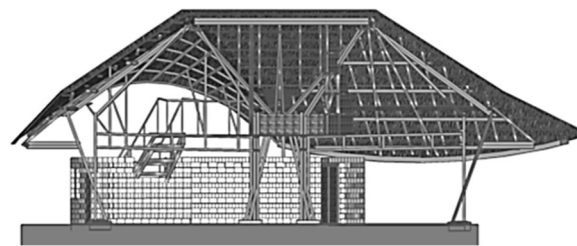
(5a)



(5b)

Figure 5. a & b, schematic drawings of the modular transformable structure

Image sources for figure 3-6: Private



(6a)



(6b)

Figure 6. a & b, the third project that utilizes the same modular structures as the second project.

One conspicuous finding stood out from the evaluation. Our consultations and discussions during the first and second projects almost always happened between us and the same individuals who were representing the local communities. Admittedly, that had always been my communication mode of choice, and I tried to simplify the consultation by opting to communicate with only select persons that I assumed to be the most appropriate for that position. In contrast, the beneficiary community in the third project organized themselves in such a way that they arranged rotations among themselves whenever meetings with the researchers needed to happen.

The fact that our engagements with the beneficiaries in the first and second projects involved only the same select individuals might have unintentionally pushed individual agendas into the partnership. It might have gravitated the discussions toward shaping the goals to serve exclusive interests instead of those of each of the first two communities. On the other hand, the rotating shifts that the third community arranged managed to distribute information and issues more equitably among themselves. I believe that enabled them to maintain higher transparency within their ranks and towards the research team. The different implementations of these non-technological aspects of individual versus collective engagements, openness, and equal access to information seemed to illuminate how and why the first and second projects exposed a deficient sense of ownership and a higher neglect rate than the third.

My past works have tended to approach the challenges of hazard mitigation in housing from a technological point of view, relying on lab-based experiments and prototyping. The evaluation revealed that making uneducated assumptions on human engagement solely on the premise of streamlining the process will not merit the research's implementability.

#### ***1.2.4 Learning Points From the Three Preliminary Personal Studies***

To recapitulate, the learnings from the three preliminary personal studies above brought forth several issues that significantly affected my previous perspective on approaching the challenge of conducting inclusive or participatory architectural services in Indonesian hazard mitigation and humanitarian settings. The first is the importance of thoroughly considering contextual factors that can significantly influence the tangible outcome of architectural research and practice for mitigatory shelter efforts. Collective engagement, transparency, and equal access to design processes shed light on why an inclusive project might garner higher acceptance and a better sense of ownership from the end-users. For the researchers and practitioners to make uneducated assumptions for their engagement with end-users for the sake of streamlining the research or design practices can undermine the feasibility and the chance of success of the product implementations.

The first issue above relates to the second one, which is the shortage of architects and experts in building technology who are adequately skilled in navigating social situations in humanitarian settings. The current redevelopment guidelines are well developed with a beneficiary-centered approach for post-disaster housing development, but much less so to address community-based hazard mitigation housing projects. This second issue can lead architecture professionals, researchers, and practitioners alike to commence their engagements in the mitigatory humanitarian settings uninformed and unprepared, risking to contribute their services that do not necessarily meet the end-users' concerns or needs.

### 1.3 Dissertation Structure

This dissertation attempts to address the issue of the underdeveloped knowledge about conducting a proper participatory processes in architectural practice for humanitarian works, specifically in disaster mitigation context in Indonesia. The dissertation is structured into seven chapters.

Chapter 1 (this chapter) provides the background of this dissertation, as explained in the passages above. This chapter also elaborates on the preliminary personal studies that provided the background and strong direction of this dissertation towards conducting research as a qualitative, constructivist research. Those preliminary studies include early discussions with Indonesian architectural experts,

Chapter 2 presents a literature review on the implementation of certain building technologies in humanitarian projects, and the evaluation of three of my past research projects that concentrated on technological innovation in architectural structures<sup>32</sup> for humanitarian architectural implementation. This chapter concludes by illuminating the discovered gaps, indicating the fundamental gap of the missing end-user inclusion into the research design through a participatory approach. The chapter further presents a strong recommendation to continue the

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<sup>32</sup> Architectural structure [77, Ch. 1], [67, Ch. 13] has been my area of interest before my doctoral studies. The field of architectural structure focuses on “structure” as an essential means of physically manifesting the architectural design of a building to realize the “*intended architectural concepts and qualities*” [67, p. 76]. Decisions concerning structural systems are tied to the project’s goals, safety codes, legalities, budget, timeline, and skills, which will drive the decisions on materials and construction types deemed suitable for the given limitations [78, Ch. 1].

research by shifting to the constructivist systems of thought as the foundation for the research design to learn from the experiences of the end-users of the architectural products, the proposition of a case study as the potential source of learning, and the formulation of three research questions: “What are the implemented CBPR principles that enabled and supported the architectural participatory processes?”; “To what extent has the implementation of those principles modified the conventional methodologies of architectural practice and impacted the technological outputs?”; and “What framework and adjustments can be proposed to conventional architectural workflow to integrate participatory approach?”

Chapter 3 explains the methodology utilized in this dissertation. Deriving from the invitation to consider the epistemological shift at the end of Chapter 2, Chapter 3 responds by elaborating on the research strategies and tactics that correspond to the suggested collaborative constructionist or constructivist systems of thought. One of the key strategies is to refer to the Community-Based Participatory Research (CBPR) Principles [79], [80], [81] established in the social science disciplines and utilized as comparative elements to analyze the studied participatory architectural practice through a case study research design. The strategies and tactics were planned and deployed through data collection, processing, and analyses with different levels of success. In this chapter, I also discuss the limitations of this research.

Chapter 4 discusses which CBPR Principles were analyzed as being present during the architectural facilitation for the two riparian communities in the case study. The discussion in this chapter attempts to answer the first research question: “What are the implemented CBPR principles that enabled and supported the architectural participatory processes?” Referring to the



CBPR principles, the findings showed that six out of nine were significantly observed throughout the data.

Addressing the second research question, “To what extent has the implementation of those principles modified the conventional methodologies of architectural practice and impacted the technological outputs,” Chapter 5 tracks the extent to which the architects at the two sites modified the conventional architectural project flow to facilitate the equitable inclusion of the beneficiaries’ voices within their design processes. Having laid out the observed CBPR principles in Chapter 4, Chapter 5 elucidates and explicates the strategies and tactics the architects implemented specific to certain phases of the project flow and allows for the different intensities of partners’ participation. This chapter illustrates the ways that participatory principles could inform architectural practice to produce outputs that answer the real concerns of the end-users.

Chapter 6 answers the third research question “What framework and adjustments can be proposed to conventional architectural workflow to integrate participatory approach?” by proposing a framework for the participatory architectural practice. Here, results from the case studies discussed and elaborated in Chapters 4 and 5 are then used to enrich and expand the phases of the conventional architectural project flow into a “participatory architectural project flow” to inform well-meaning architects aspiring to contribute their service in the humanitarian context. In addition to diagrams illustrating the adaptation, the chapter also elaborates on the established participatory principles and their corresponding strategies and techniques.

Chapter 7 concludes the dissertation by summarizing the background, methods, and significant findings, including the real-world benefit of integrating the CBPR Principles into the architectural practice by modifying the project flow. Central to the conclusion is the advocacy to architect for sharing their architecture authority with the end-users to achieve an effective participatory design processes. This chapter also reflects on the academic significance afforded by utilizing the constructivist methodologies, as well as the merits of adopting the constructivist epistemology for further architectural research focusing on innovation in building technology.

## **Chapter 2 Literature Review, Knowledge Gaps, A Success Story, and The Research Questions**

### **2.1 An Invitation for A Paradigm Shift**

This chapter discusses the process of finding the knowledge gap I discovered during my doctoral studies. The impetus, discussed in Section 1.2, was the observation on the unexpected outcome of my past research in building technology for the transitional housing, hailed from previous research on transformable bamboo structures, offering the versatility of material reuse and reconfiguration of structural modules, in. While the built prototypes were considered a technological success –most of the prototypes, erected on-site at locations matching the end users’ profiles– they appeared to draw little to no interest or sense of ownership from the supposedly beneficiary communities and were sparsely utilized by the local populations.

That observation of underutilized research products initiated a series of activities to explore the above phenomena , including some personal communications to gain insights from experts who are practitioners and researchers who have had considerable involvement in the post-disaster or other humanitarian housing efforts (Section 1.2.1). It also included two personal pilot studies in 2021 and 2023. The first was a literature review of transformable shelter applications worldwide (Section 1.2.2), and the second was a conference presentation that formally evaluated three of my past research projects for transitional shelter technology (Section 1.2.3).

The preliminary personal studies in Section 1.2 displayed that the architectural profession has lagged in developing the socio-cultural sensitivity of its graduates and practitioners for their practice in humanitarian settings, “*Even when (architecture) is the more capable discipline to do so,*” as Godril D. Yuwono suggested<sup>33</sup> because architecture intersects with many other disciplines [82], [83]. The preliminary studies above provided a valuable reflection on the research outlook that until then had been my preferred perspective in my architectural research and practice. It offered a different point of view in which the factors or the dynamics of the beneficiaries, laypeople, and non-architects who would typically be the end-users of architectural products could determine the outcome depending on the degree of their involvement in the architectural design process.

Thus, to achieve a higher degree of utility of the architectural products in the humanitarian sector, both architectural research and practice should consider expanding their worldview and approach to knowledge production. The pilot studies suggested that the key factor in the involvement of users in the architectural processes entails tapping into the community’s genuine interests. More than producing innovative products, one should reorient architectural research and practice to produce contextual innovations. Ideally, the architecture profession should develop that outlook by cultivating an awareness of the collective nature of knowledge co-production [84], [85] affected by factors outside their core competencies. For the output to have a higher degree of implementability, the knowledge cannot always be assumed to occur in a controlled laboratory environment or solely at the architects' command. End-users have equally

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<sup>33</sup> An Indonesian social worker with extensive work experience in humanitarian settings. See the earlier part of section 1.2.1.

valuable perspectives and concerns about the kind of built environment that will work best for them.

Thus, this dissertation seeks to understand how beneficiaries have been and can be engaged in architectural design processes that reflect the end-users' priorities and needs in a mitigatory, humanitarian setting. I consider this as a fundamental invitation for a conscious shift of the “*system of inquiry*” [82], [86], [87] in our humanitarian works as architectural researchers and practitioners, from a positivistic<sup>34</sup> paradigm towards a constructivist one [82], [87], i.e., an epistemological shift in the research and practice of architecture towards one that is more inclusive of the multiple viewpoints of those having their interests or stakes in the corresponding architectural works. Fundamentally, it is an invitation to shift from the top-down approach to the inclusive and participatory one.

## **2.2 An Overview of The Participatory Approach In General and In Architecture**

Burnes [88] and Chevalier & Buckles [89] named Kurt Lewin, a scholar in social psychology, as the one who established the term “*action research*”, a research methodology considered as where the participatory approach stemmed from. He defined action research as “*a comparative research on the conditions and effects of social action, and research leading to social action*”

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<sup>34</sup> Positivist paradigm: The belief system that considers the world as “one reality or world external...” relatively independent of context, and thus their coming into being, the way they are, can be known independently and deductively by leaving out aspects or factors considered not having direct impact on the object, thus producing the knowledge or truth assumed to be objective and generalizable [82], [86], [87].

[90]. The aim is to have the research output applied in real-world settings to effect or enact actual actions by the interacting groups or individuals.

The crucial way to do that is first by integrating multiple aspects of knowledge that might constitute, affect, or be impacted by the subject matter [90, p. 36]. I understand Lewin's proposition as one that urged researchers to take a more inclusive outlook in doing research towards the constructivist worldview [82], [86], [87], [91]. The second is how researchers should implement that integrated research. He suggested doing so by applying the iterative cycle of *planning, acting, observing, and reflecting* [90, pp. 37–38] to provide feedback to the initial plan, make adjustments, and then generate a new cycle informed by experiences from the preceding one, creating a spiraling, iterative pattern until the goal is achieved [88], [90].

The third issue concerns who should be involved in the action research. This point hinted that all impacted groups or individuals should be considered, even involved, democratically and equally in it. He talked about democratic inclusivity in aiming for a research outcome with practical contributions through actions in the participants' world [89, pp. 19–20]. In effect, it provided the foundation for what is currently known as the umbrella term of "*participatory action research*" (abbreviated as PAR) or "*participatory approach*" in research [88, p. 42], [92].

Arstein was Lewin's contemporary who examined the degree of citizen participation and the extent of power acquisition by the citizens, i.e., the less privileged, typically not being in the position of power to decide on policies impacting their group and the larger society. Her "*ladder*

*of citizen participation*” arguably was the first to illustrate the linear stages from zero participation to full empowerment of the previously powerless group of citizens [93].

Arnstein’s concept of participation had become a “*normative goal*” and was referred to as “*the benchmark metaphor for describing and evaluating participatory activities*” across disciplines [94, p. 358]. Collins & Ison offered their critical feedback by first critiquing what they found as Arnstein’s suggestion that attaining the state of full participation is the only success in the struggle for a democratic society. A second insight is the lack of consideration of the complexity resulting from multiple, intersecting, and overlapping relationships happening among individuals and groups in real-world settings [94, p. 359]. They proposed the recognition of context, the learning of that context, and the learning of the larger context of that context to gain a holistic take on participation. This three-tier acknowledgment can advance an understanding of the corresponding power distribution to include those contextual intricacies for more effective implementation.

Participants of all capacities of power should endeavor to engage each other through “*social learning*” that includes aligning goals and capacities towards mutual aims, collaborating to produce the shared knowledge that partners can use to plan for actions, and initiating and rolling into collective actions based on that shared knowledge and the collaborative corresponding action plans [94, p. 364]. Accounting for the relational nature of power distribution inherent in the actual setting (in which participation needs to happen), Collins and Ison’s elaboration of Arnstein’s model opened the way for a broader spectrum of possibilities that could promote more appropriate and accommodative participatory scenarios. I believe this lack of elaboration on

power relations in architectural practice encapsulates the discussions with architecture experts in Section 1.2.1.

Luck noted that the works in the participatory approach in the field of architecture and design itself are not new, citing Sanoff<sup>35</sup> and Cross<sup>36</sup> as some of the notable pioneers in the 1980s [97], along with Habraken<sup>37</sup> in Europe and Erskine<sup>38</sup> in the UK a decade earlier [35], [98]. Both noted as the impetus of the approach the unsatisfactory outputs attributed to the discipline's limitations of the design methodologies and the understanding of the social aspects<sup>39</sup> due to the prevalent specialization of scientific disciplines and their corresponding professions [101] [33]. That led a small number of concerned architects and designers to seek help and intersecting interests from other experts in humanities and environmental psychology disciplines.

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<sup>35</sup> Henry Sanoff is an architect, researcher, and author of several publications in participatory design. He was a Professor of Architecture at the North Carolina State University. He has worked with communities in many regions in the USA, Japan, and Brazil, advocating for the active participation of community members in the design processes [95].

<sup>36</sup> Nigel Cross is an author focusing on “*design thinking*” and the “*designedly way of knowing*.” He is also Professor Emeritus of Design Studies at the Open University, UK (<https://www.bloomsbury.com/us/author/nigel-cross/>). He and many others in the design and architecture field have been advocating for the concept of design discipline as equal to the scientific disciplines due to their positivistic rigors. He argues that although structured differently, design discipline is equally rigorous considering the many aspects and overlaps a designer needs to consider in their works. That complexity requires equally rigorous methodologies despite being non-linear compared to the scientific one [83], [96].

<sup>37</sup> John N. Habraken is an Indonesian-born Dutch architect who has been championing the “Open Building” approach that distributes the architectural control by letting end-users design the “infill” portions of a habitation, with the experts providing the “support” system, comprising the more generic, technological aspects of the building [34], [35], [98].

<sup>38</sup> Ralph Erskine had his architectural practice in the UK and Sweden during his active years. One of his notable participatory projects was the Byker Wall social housing in Newcastle, UK. It was a multistory redevelopment project to replace the old Byker community housing. Although the outcome was a mixed result since only 20% of the original Byker residents were re-housed in the new structure, the participatory process was considered a notable approach at the time [99], [100]

<sup>39</sup> considered outliers of, if not irrelevant to, the conventional methodologies



In his subsequent publications, Sanoff has championed the centering of social interactions and the participation of human end-users as the core of the successful, democratic architectural methodology [31], [32], [33], [95], [102], a linkage to Lewin's proposition for "*action research*" [97, p. 524]. In his editorial role, Cross identified several designers and architects who convened and shared their general sense of urgency for architecture to mitigate the disciplinary barriers [101, p. 11]. They advocated for practice methodologies that are more inclusive of the social areas, albeit admitting to challenges in arriving at a coherent understanding of the term "*participatory design*" and coordinated methodologies [33, p. 508] [101, p. 14] that I argue are essential to navigate the social complexities in which an architectural work is woven. It is something that their contemporaries also still observed and still try to elaborate [22], [30], [35], [103], [104], [105], [106], [107], [108].

Equally important is the positioning of architecture as an applied discipline with no strict separation between research and practice. Practitioners have been integrating research steps into their practice. Conversely, architecture and design researchers conducted works that were and will inform practice, inviting the researchers to have a degree of familiarity with the practical scope of work and its stages [82], [83], [96], [109], [110]. At this point, the architectural shortcomings above offer a chance to challenge the interdisciplinary barriers even more strongly by picking up the suggestions from Cross and Sanoff. It is a good opportunity to learn further the extent of the development of the participatory approach in social disciplines and explore the possibilities to inform architecture methodologies [82], [83] in that area. I argue that this understanding reveals a considerable overlap with action research that aims to produce relevant, usable applications.

Rooted on Lewin's works, I learned that the current works in social disciplines such as psychology, social works, and public health have developed Lewin's model into what they address as "*participatory action research*" (PAR) and later "*community-based participatory research*" (CBPR) [92]. It explores and proposes a set of principles that researchers and practitioners could refer to in planning for their works requiring the involvement of multiple partners. The aim is to deliver outcomes that benefit all involved parties and their actual situations<sup>40</sup> by promoting equitable, non-exploitative research through the active participation of the beneficiaries in all research stages [79], [92].

The progress in CBPR in the social & health disciplines, in particular, has developed the "*nine principles of CBPR*" [79], [81], [92], [111] recommended for researchers to utilize in preparing or evaluating their participatory works. Several notable points that emphasize strong consideration of the complex, relational, and contextual aspects within the relationships of human actors, partners, and research participants could inform both architecture research and practice. One point touched on the criticality of equity in relation to defining participating communities, who should represent them, and how [112], [113]. Others expanded that relationship aspect and elaborated on the topics of positionality, group dynamics, power difference, politics, and the corresponding inequality, as well as how those related to and impacted the process of trust-building [114], [115]. Further elaboration on the principles is found in Chapter 4.

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<sup>40</sup> As in Lewin's proposition of "*action research*" [90]

Wallerstein & Duran, in their other publication, provided the historical background and theoretical development of CBPR stemming from the earlier mode of research practice in health and social disciplines that tended to embody the extension of the exploitative, extractive, and discriminatory worldview of the dominant cultures towards the subjected ones [92]. On the methodological plane, other researchers have explored the potential implementation of various methods for specific contexts [116], [117], [118], altogether showing the contextual sensitivity required for fair and equitable research with impactful and meaningful benefits to laypeople. One interesting development was achieved consecutively by Belone et al., 2016, Wallerstein et al. 2020, and Sanchez et al. 2021, who developed a visual map that explains the relationships of key factors in CBPR [80], [114], [119]. I learned their diagram as an effort to systematize and bridge the principles towards the more implementative format without being overtly prescriptive. I also found it helpful to expedite familiarizing myself with the conceptual plane of CBPR and started to expand my learning from there.

The development that built on the “*nine CBPR principles*” [79], [81], [92], [111] itself has seen an important review from Mosurska and Ford. Similar to what Collins and Ison addressed earlier towards Arstein’s [94], Mosurska and Ford constructive critiquing on Israel et al.’s definition of “*community*” and “*participation*” [79] that they addressed as a “*Western construct*.” The Western Construct would be problematic in terms of power difference when implemented in non-Western local settings. Mosurska and Ford proposed three takeaways for researchers to be even more critical of their own research design to offset that shortcoming [81]. One of them is by describing

the “*positionality of researchers*”<sup>41</sup> [81, p. 359] in the design, parallel to what Wallerstein et al. addressed as understanding “*the role [of] power within partnerships*” [119]. I further argue that this is the area of discussion and development that could positively inform architecture methodologies to expand the participatory approach in the discipline.

### **2.3 A Contemporary Success Story to Expand the Study of Architectural Participatory Approach**

The successful architectural facilitation in two Indonesian riparian settlements, the *Kampung*<sup>42</sup> *Kunir* and the *Kampung Tongkol-Lodan-Kerapu* (abbreviated as TKL in this dissertation), offers a compelling case study of participatory approach in the context of urban hazard mitigation. Situated in Jakarta's Old City District [21], these settlements faced eviction in 2015 under the guise of flood control measures [19], [120], [121] following urban flooding in 2012. However, through grassroots resistance and support from local authorities, the communities successfully overturned the eviction order starting in 2018. Rather than succumbing to displacement, the communities proposed alternative solutions, including voluntary clearance of land encroaching on inspection roads, waste management initiatives, and commitments to environmental stewardship [19], [28], [120], [122]. This transformative effort, driven by a collective desire for improvement, reflected a transformation from past practices of squatting and polluting to the more environmentally responsible community-based development.

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<sup>41</sup> Or experts, as in architecture practitioners

<sup>42</sup> *Kampung* means village in the Indonesian language.

Central to their success was a well-organized grassroots movement informed by an understanding of political mechanisms and regulations impacting their built environment. Both *Kampung* TKL and *Kampung* Kunir employed participatory approaches in planning and design facilitated by a common network of coordinators [120], [122], [123]. Notable outcomes included the iconic bamboo house (completed in 2019) in *Kampung* TKL and a multistory apartment building in *Kampung* Kunir (inaugurated in 2022), provided as compensation for property losses during forced land clearance. While both communities continue their redevelopment efforts, their experiences underscore the efficacy of participatory approaches in empowering marginalized urban populations to shape their environments and improve their living standards [19], [21].

The recent achievement of the two communities showcases a contemporary implementation of the participatory approach in architecture facilitation in the Indonesian hazard mitigation context. This dissertation is aimed to contribute to and expand the Indonesian architectural discourse on this subject by learning from the experiences of the actors involved in the *Kampung* TKL and *Kampung* Kunir endeavors (further elaboration of those experiences will be provided in the corresponding chapters). Architectural practice and research can benefit from learning, particularly the principles that enabled the success and the extent to which they modified, informed, and adapted the disciplinary working logic.

## **2.4 Knowledge Gaps**

In Section 1.2.4, I elaborated on the learning points from the three personal preliminary studies. The first is the centrality to consider contextual factors that significantly impact the outcomes of any architectural research and practice in mitigatory humanitarian settings. The practitioners’

uninformed assumptions may compromise the implementation success of the architectural products. The first point is compounded by second point, which is the lack of architecture and building experts with skills to approach the mitigatory humanitarian not only from technological perspective, but more importantly, from the socio-cultural point of view. The current hazard risk mitigation tend to prioritize much less and less on engaging end-users due to the urgency to expedite the mitigatory works before a disaster strike.

The two points above lead to elucidating the fundamentals that humanitarian architectural works need addressing. The first is the underdeveloped knowledge and skills that enable architectural experts to work in the humanitarian setting effectively. Particularly, the issue is one that revolves around the nuances of power sharing in terms of who gets to make the final, impactful architectural decisions. That first gap continues to the second one that specifically highlights the positionality of the architects as the experts with greater architectural capacity (i.e. power to make architectural decisions at all stages of architectural workflow), and the extent that power in that positionality could impact other participants. Building on and learning from the development of PAR theories and CBPR principles<sup>43</sup> on the role of power relations in PAR or CBPR partnership, my dissertation seeks to better understand the elements necessary for the participatory architectural practice through three research questions elaborated in the following section.

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<sup>43</sup> Discussed in Section 2.2.

## 2.5 The Research Questions

The study is set in the pre-disaster setting in which challenges to technological applications for hazard-risk mitigation have been inadequately addressed. This is the area where the architecture discipline is operating. The knowledge and know-how encouraging end-users' involvement, strategies navigating the contextual entanglement, and accommodating the genuine concerns of the communities of interest (in contrast to imposing external agendas).

While participatory design [33, p. 508], [101, p. 14] has been actively discussed for decades, it remains on the fringe of research and practice, often underutilized and even underdeveloped within the discipline. Thus, the focus is on elaborating a participatory approach to vulnerable communities living in poorly built structures to contribute to architectural planning and design practice as part of pre-disaster mitigation strategies. Arguably, development of such participatory approach should make the architectural product more meaningful and useful for the end-users, and therefore, more sustainable.

Thus, this study is asking the following research questions:

- “What are the implemented CBPR principles that enabled and supported the architectural participatory processes?”
- “To what extent has the implementation of those principles modified the conventional methodologies of architectural practice and impacted the technological outputs?”
- “What framework and adjustments can be proposed to conventional architectural workflow to integrate participatory approach?”

Systematically learning about the presence of values in those two participatory architectural projects could help expand the architectural knowledge base, specifically in humanitarian and community development projects. Further, this study will contribute by fleshing out of the role that expertise could play in the relationships between participants by giving power to the experts at the expense of acceptability and usefulness for the end-users. Any interested experts could consider utilizing this study to inform their humanitarian works, especially the ones dedicated to hazard-risk mitigation efforts.

The following chapters are structured around answering these three questions. Chapter Three presents the research methodology utilized to collect data and conduct the analysis, leading to the formulation of the findings. Chapters Four, Five, and Six elaborate on the discussions that answer the first, second, and third questions in that order. The last chapter concludes the study and offers possible future follow-up research directions.



## Chapter 3 Methodology

### 3.1 From Positivist to Constructivist: An Epistemological Shift and The Methodological Consequence(s)

"A common tendency in architecture has been to divide "knowledge" into domains associated with particular subdisciplines. As a consequence, insights derived from research in energy-efficient technologies cannot easily be integrated with insights drawn from aesthetic analyses of exemplar buildings. ... Yet, we believe that much innovative and needed research in architecture will require integration across such apparently discrete topic areas" – Groat and Wang, 2013 [82, p. 24]

This dissertation is an opportunity to explore the possibilities of “*integration across discrete topic areas*” through an interdisciplinary approach, learning from different systems of thought and methodologies from disciplines that could inform research in the building technology field. The dissertation opens a way to view the challenge above and realize the plausibility of addressing the gap by utilizing the previously overlooked worldview and methodology(s). This avenue consequently asks for a different way of knowing, i.e., an epistemology [82] that translates into a different way of asking questions, strategy, and methods to bring forth new knowledge.

Moving from the phenomena of successful implementation of the participatory architectural approach as a source of learning in the two riparian communities in Section 2.3, Section 2.4 of

Chapter 2 follows with the learning points and the highlighted knowledge gaps. The success of the two riparian communities is a valuable case study of how practitioners could effectively integrate the communities' agency to inform, influence, and eventually determine the equitable processes appropriate for producing meaningful architectural technologies for their housing situations. Thus, referring to Rendell [83] this is a study on the implementation of the participatory approach by learning from the two settlements. Hence, the arrival at the following research questions in Section 2.5.

- “What are the implemented CBPR<sup>44</sup> principles that enabled and supported the architectural participatory processes?”
- “To what extent has the implementation of those principles modified the conventional methodologies of architectural practice and impacted the technological outputs?”
- “What framework and adjustments can be proposed to conventional architectural workflow to integrate the participatory approach?”

The first research question aims to identify the CBPR Principles [79], [81], [111], [112] in the facilitation work by the involved architects throughout their engagements with the two riparian communities. The second question aims to learn how far implementing the principles (or some of them) pushed/nudged/required the architects to modify their conventional architectural project flow [124], [125] to adapt to the unique situations stemming from the preexisting power relations, as well as the ones that arose when external experts got involved more intensively. For

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<sup>44</sup> CBPR is the abbreviation of Community Based Participatory Research. See Section 2.4.1 for an expanded discussion on CBPR and participatory approach in architecture.

the third research question, I aim to arrive at the kind of framework that Belone et al. visualized through their diagram(s) [114].

<b>Epistemology:</b>	<b>Constructivism [82], [86], [126], [127]</b>		
<b>Methodology/ Strategy:</b>	Case Study [82], [128], Constructivist Grounded Theory [129], [130], [131]		
<b>Research Questions</b>	<b>Methods/Tactics</b> (Constructivist Grounded Theory)	<b>Data Source</b>	<b>Expected Output</b>
“What are the implemented CBPR principles that enabled/encouraged and supported the architectural participatory processes?”	Primary: Individual & Focus Group Discussion; Mini design workshop; Community surveys ;  Secondary data: Project documents study, published literature and articles	Experiences of the community (representatives), facilitating experts, community organizers, and municipality staff during past processes at the two settlements  PI’s facilitated mini design workshop  Design documents and photos compiled in experts’ archives  Settlement sites at the two <i>kampung</i> s.	Conceptual categories that indicate important principles in the successful participatory processes and adaptations or modifications of the architectural project flow
“To what extent has the implementation of those principles modified the conventional methodologies of architectural practice and impacted the technological outputs?”	Field notes  Transcribing audio recordings of discussions  Coding the data (transcriptions, field notes, photos, drawings, observation remarks  Iterative constant comparison of coded data points to learn and find the relationships between data points, codes, and early categories toward theoretical categories  Memo writing to record analytical thoughts during all stages		
“What framework and adjustments can be proposed to conventional architectural project flow to integrate participatory approach?”	Modeling the ( <u>theoretical</u> ) framework of the participatory approach and building on the model of engagement in conventional architectural practice		

Table 1. The relationship between epistemology, strategies, tactics, and the expected outputs for this dissertation.

Section 2.1 summarizes the invitation for the epistemological shift on the premise that architecture as an applied discipline needs to be contextually sensitive and inclusive of its end-users' active agency in the architectural processes in the humanitarian setting. It signifies the active agency of both architects and the end-users in co-creating the reality, i.e., the architecture outputs. It is an invitation for architectural research and practice to embrace the constructivist paradigm [82], [86], [127] to have meaningful and impactful outcomes.

### **3.2 Constructivist Strategies: Case Study and Constructivist Grounded Theory**

Through this dissertation I aim to learn from Indonesian architectural projects that have successfully integrated the participatory approach in Indonesian humanitarian settings. If “*co-constructing truth*” would mean learning from experiences that involve multiple perspectives, or voices, from relevant actors, then methodologically, qualitative research characterized by such inclusion of voices would serve as the vehicle of choice for this dissertation to move forward. To be more specific and considering the aim to learn about power relations, it would serve this study better to parallelly utilize methodologies that include *case study* and *constructivist grounded theory* [82], [129], [130], [131] to help construct the knowledge by tapping the multiple experiences from the ground in the case study.

The case studies selected for this dissertation examine the work of architectural facilitators in providing much-needed architectural services to underprivileged communities to address their built-environmental challenges. I elaborate on the two settlements that I selected as case studies in Section 3.2.1. I use constructivist grounded theory as a strategy to collect, process, and

analyze data derived from the lived experiences of people in the case studies, elaborated in Section 3.2.2. I also refer to the qualitative research rigor to foster the trustworthiness of this dissertation that relies on qualitative data and analysis, elaborated in Section 3.3. The qualitative methods utilized in this dissertation involve interviews, focused group discussions, design workshop sessions, field observations, qualitative coding, studies on secondary data, and constant comparisons of data points. Section 3.4 discusses these methods more elaborately.

I also use the CBPR theories in the health and social disciplines [79], [81], [111], [112] and the guidelines for Architectural Design Project Flow [124], [125] as points of reference to analyze the field data comparatively to find the extent to which the case studies exhibit the implementation of the CBPR Principles from Israel et al. [79], [132] in the architectural practice. I further refer to the CBPR theories when mapping the findings back into the Architectural Project Flow as part of my attempt to formulate and propose a participatory framework for the architectural practice in Indonesia's pre-disaster humanitarian situation.

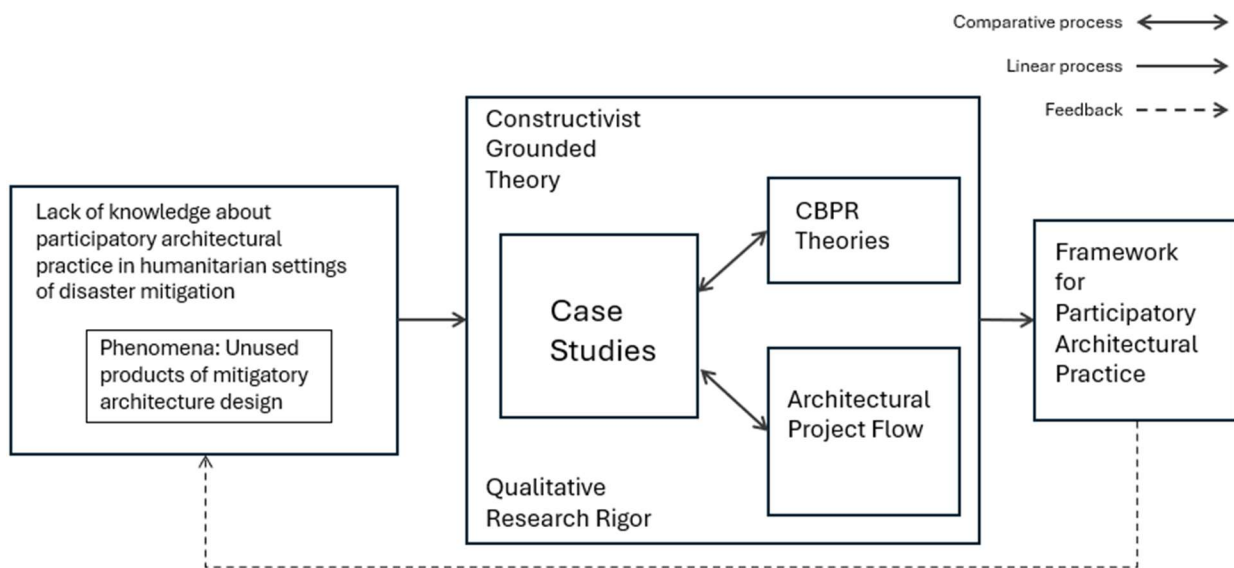


Figure 7. A diagram to illustrate the logic model of the dissertation.

### 3.2.1 Case Study

While Groat & Wang propose a case study as a methodology or strategy<sup>45</sup> [82, Ch. 12], Stake defines a case study as more of the decision to include a case or cases to be studied and less of a “methodological choice” [128]. Both references infer that a case study involves selecting one or more subjects from which a researcher could learn about the subject or topic of interest. This research studies the successful participatory approach at the two riparian urban settlements as case studies to learn about the inclusive processes developed for the two housing redevelopment projects facing an eviction order that had hazard mitigation as their pretext.

The two informal settlements in this dissertation's case study are *Kampung*<sup>46</sup> Tongkol-Kerapu-Lodan (abbreviated as TKL)<sup>47</sup> [133] and *Kampung* Kunir [134]. The two communities successfully challenged the eviction and forced relocation orders (sanctioned in 2015) by offering resident-centered counter-solutions from 2015 through 2022<sup>48</sup> [19], [21], [24], [28], [121], [133], [135], [136]. They significantly redeveloped their built environment, allowing them to adhere to the technical and planning codes while remaining in the area and accommodating disaster risk reduction [36], [137]. The redevelopment at TKL was already completed by the time I commenced my fieldwork on-site in June 2022, while at the same time, the Kunir Apartment

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<sup>45</sup> See the nomenclature section at the beginning of the chapter.

<sup>46</sup> A *kampung* (*kampong*) means a hamlet or a village (<https://www.merriam-webster.com/dictionary/kampong>), usually with its community or residents having rural socio-economic and cultural characteristics, even in *kampungs* that are physically urbanized. Dovey et al. offer a more elaborate definition and background of the Jakartan *kampungs*, building on the term's development from time to time [19].

<sup>47</sup> This *TKL* settlement is a system of three smaller ones: the *Tongkol*, the *Krapu*, and the *Lodan*, all of which are local fish names. They are adjacent to and across each other, sharing the same river segment. In this dissertation, I address the three names as TKL for conciseness.

<sup>48</sup> The cited scholars and journalists indicated the success by describing the outcome as successfully channeling and accommodating the bottom-up processes of reinventing the previously decrepit conditions of the built environment facing the imposed government eviction and relocation order.

was seventy percent completed. The New *Kampung* Kunir was completed in early October of 2022.

The context was the informal, low-cost settlements in Jakarta, Indonesia, typically comprised of self-built, non-engineered residential structures. The two communities' marginalized backgrounds were characterized by low incomes, most working in the blue-collar sector or informal jobs, with some high school education or less, and living in grey areas where the legal occupancy was not necessarily clear or established. Both are located in flood hazard areas of the same Ciliwung River and, at one point, were evicted and received orders to relocate to give way to a flood hazard control plan, i.e., a government-mandated mitigation plan [19], [135]. While the *Kampung* TKL managed to maintain the original land-based individual plots and portions of their row houses, the *Kampung* Kunir lost all of their original residential units in 2015 due to the forced demolition. The *Kampung* Kunir community had to live in temporary shelters near their foregone settlement until they moved into the new, government-funded apartment block built on an adjacent government-owned plot [121], [134].

The two communities were facilitated by several concerned architecture experts who constituted academicians and practitioners. Interestingly, the public could observe two distinct technological outputs while it could have otherwise been given uniform products. I believe that signified two different situated processes within each community. The *Kampung* TKL community opted to maintain the physical typology of row houses in conventional masonry construction with concrete frames, except for a sample house in a bamboo structure [28], [136], [138]. The *Kampung* Kunir was a multi-story apartment with a reinforced concrete frame and masonry

construction [42], [134], [139]. The difference between the two physical outputs demonstrated differences between the communities in formulating the appropriate solutions for each.

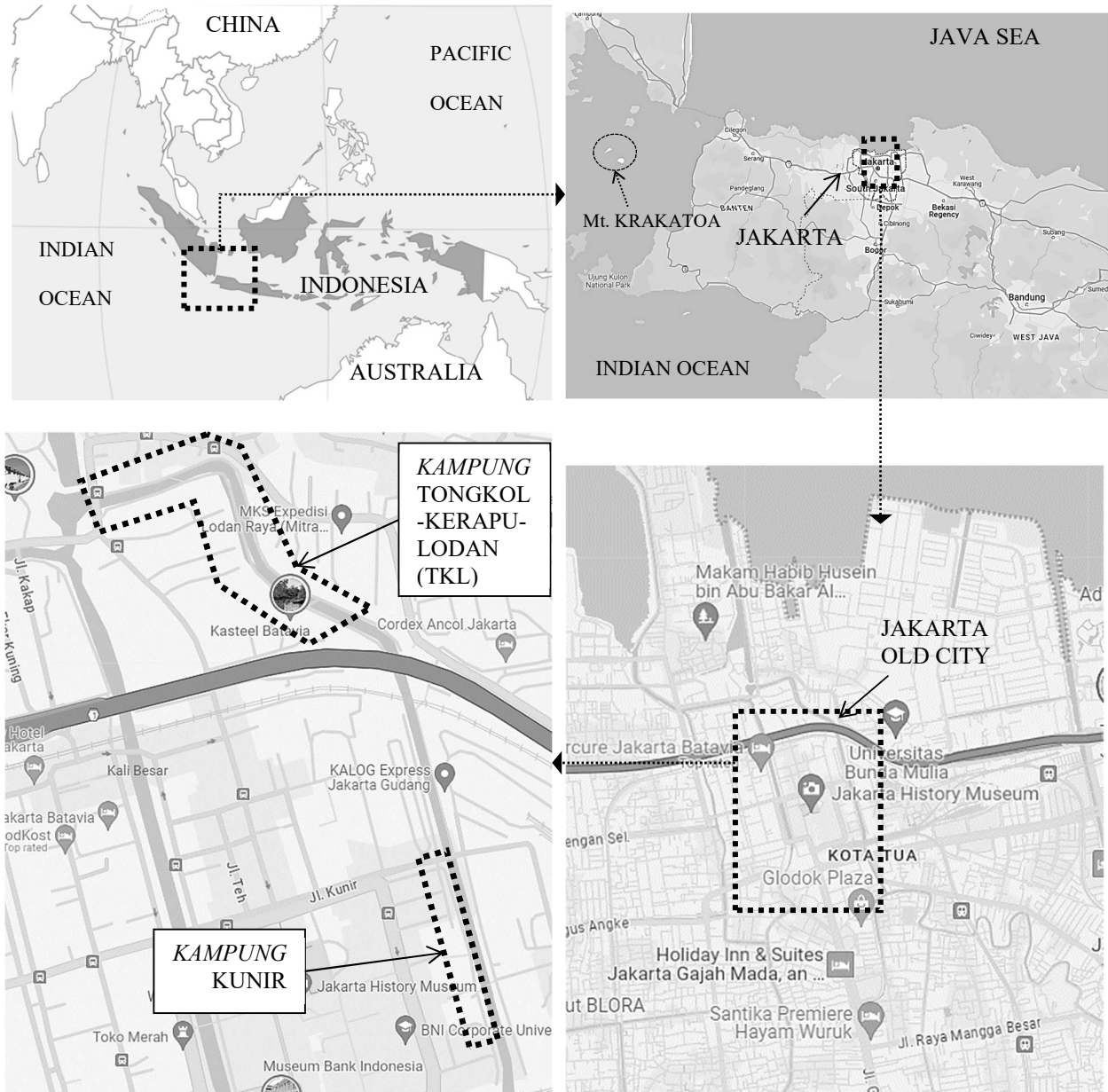


Figure 8. Maps showing the locations of the case studies relative to the larger areas and regions.





Figure 9. Illustration of the pre redevelopment condition of the riparian slums in Jakarta.  
Image source: <https://konservasidasciliwung.wordpress.com/sempadan-ciliwung/berita/>.



Figure 10. Post-redevelopment conditions at *Kampung* Tongkol-Kerapu-Lodan (TKL).  
Image source: private.



Figure 11. Post-redevelopment condition at *Kampung Kunir*.  
Image source: private.

### 3.2.2 *Constructivist Grounded Theory*

“In [the positivistic view], theory means ‘a general proposition, or logically connected system of general propositions, which establishes a relationship between two or more variables’. ... In this view, the objectives of theory stress explanation and prediction. ... With their emphasis on parsimony, positivistic theories aim to be elegant in form and direct in their statements. In the social sciences, however, these theories can result in narrow explanations with simplistic models of action such as theories that leave out emotions and cultural contexts when explaining individuals’ economic behavior.

... An alternative definition of theory emphasizes interpretation and gives abstract understanding greater priority than explanation. Proponents of this definition view theoretical understanding as gained through the theorist’s interpretation of the studied phenomenon. Interpretive theories allow for indeterminacy rather than seeking causality and aiming to theorize patterns and connections. ... Interpretive theories aim to understand meanings and actions and how people construct them. Thus these theories bring in the subjectivity of the actor and may recognize the subjectivity of the researcher.” – Charmaz, 2014 [140]

The “*constructivist grounded theory*” approach developed by Charmaz [82, pp. 235–241], [129] is utilized as the operational strategy to learn the processes occurring in the two sites. The constructivist grounded theory underlines approaching the data analysis through the understanding that knowledge is socially co-constructed through the collaboration between the researcher and research participants (i.e., interviewees and discussants). The co-construction occurs through interactions shared by the former and the latter affected by each other’s backgrounds, positions, intentions, and, thus, worldviews [129], [131]. The aim is to understand rather than to explain, the latter of which Charmaz argued has a positivistic tendency [140, pp. 230–232].

Constructivist grounded theorists explain their understanding of phenomena by learning from the perspectives of those who have experienced them. They also acknowledge their own preconceptions, which might have influenced how they understood the world, perceived the issues, collected and analyzed the data, and ultimately arrived at their conclusions. There is always subjectivity since it is impossible to conceive or understand the objective truth in its entirety. Charmaz and Thornberg see this process as a contrast to the notion of “explaining,” which tends to identify the phenomena and the corresponding research as objective, independent, unrelated, or unaffected by the researchers’ preconceptions [141, p. 315].

In comparison, the Glaserian & Straussian Grounded Theories aim to produce objective output from their qualitative methodology [129]. A positivistic lens would serve to understand the laws of nature governing the physical world better to arrive at an objective truth. On the other hand, Charmaz found that understanding human experiences could be challenging to objectify even

through a qualitative, inductive approach as grounded theory [129], [130], [131]. Babchuck and Boswell further pointed out that the Straussian Grounded Theory, promoting step-by-step, rigidly systematic methods, is too prescriptive and deductive in practice such that it risks tipping the qualitative study to the nature of work closer to the positivist methodology. Charmazian Grounded Theory is also distinct from the Clarkian Situational Analysis, which utilizes cartographic mapping to collect and analyze qualitative contextual data<sup>49</sup>.

The constructivist grounded theory approach utilized here is characterized [129] by the following:

- “*Simultaneous & iterative data collection and analysis* [129, p. 111], [142].”
- Constant comparison technique that involves making comparisons throughout analysis at “*increasingly more abstract levels to develop the relationships between categories, concepts, and theories from which new understandings emerged* [129, p. 111]”.
- Memo writing activities, “*whereby the researcher engages in a reflective process on the data to help guide the ongoing analysis* [82, p. 238], [129, p. 111],” as elaborated in Chapter 3, Section 3.5.1.4.
- Selection of sample or samples that include sites or locations, participants, and artifacts [129, p. 112] intended to represent the field of architectural housing mitigation programs, as detailed in Section 2.1 in Chapter 2 and Section 3.5 of this chapter.

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<sup>49</sup> On that note, I understand that the on-site facilitators had done cartographic studies in the past during their facilitation works that I could refer to. As explained in Section 2.3., I included studying various documents recorded during their community cartographic workshops and archived reports.

- Theorizing as an expression of the researcher’s interpretive understanding of the phenomena, resulting from the iterative, cyclical, constant, and simultaneous data collection, coding, and memo writing that “blurs the strict separation between data collection, analysis, and theorizing phases” [142].

Charmaz’s proposition is aligned with the experiences during the fieldwork, where, for example, an interaction with the researcher took place in a setting that might let the participants feel free to opine about a particular subject but might not do so in a more formal setting. There were also relationships based on the needs of the community members and me (as the researcher) that could be fulfilled by mutual collaboration. Their experiences would be my research’s primary data, and conversely, the community would benefit from having more external entities to acknowledge, support, and publish their causes and achievements. I also collected as secondary data the archived project documents, scholarly papers about the endeavor, and news articles on the same topic.

The methods I planned for collecting data included focus group discussions, interviews, a mini design workshop, and surveys or questionnaires. The mini design workshop was a bi-directional, mutual engagement that benefitted the communities from the architectural engagement I facilitated during the workshop. I also collected data<sup>50</sup> by studying accessible project documents and site observations to support the previous tactics. The aim was to understand the essential

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<sup>50</sup> Collected project data included the technical documents, meeting minutes, visual recordings, and other forms of recorded data. Local building codes and planning regulations provided project-related administrative context and as the supporting references.

themes of the studied topic from multiple sources of information. It involved note-taking, memo writing, and finding emergent patterns [140], [143] that would be helpful for interpreting and theorizing them in answering the research questions [140, pp. 230–232].

### **3.3 Constructivist Qualitative Research: Research Rigor & Trustworthiness**

A researcher bears the burden of ensuring the trustworthiness of one's research and, thus, the reliability of the knowledge product. I refer to Merriam & Tisdell's strategic proposition to "*focus on methodological rigor*" to ascertain the trustworthiness of constructivist qualitative research as the equivalent of validity and reliability [144, p. 242]. In comparison, a quantitative study answers the challenge by interpreting reality (i.e., the data) through numerical variables and statistical lenses [144, p. 6] to aim for logical validity and procedural reliability. Merriam & Tisdell, building on Lincoln & Guba's 1985 conception, proposed the "*credibility, consistency/dependability, and transferability*" of qualitative research in place of "*internal validity, reliability, and external validity*" issues that characterized, even demanded of, scientific research [91], [144, pp. 239–242].

I elaborate on my attempts to implement the above conception of trustworthiness factors of methodological rigor in my dissertation in Sections 3.3.1 to 3.3.5. Furthermore, since I opted to utilize the "*Constructivist Grounded Theory*" as the methodology of choice, I refer to Charmaz's proposition that pointed to grounded theory, which "*explicitly unites the research process with theoretical development*" and thus blurs the separation between phases of data collection,

analysis, and theorizing [142, p. 497].” I describe the processes implemented in this research in Sections 3.4 and 3.5 below.

### ***3.3.1 Credibility in Place of Internal Validity***

Since qualitative research understands reality as plural, ever-changing, and multi-faceted, reliably understanding the subject matter or phenomena of interest in that reality is contingent upon understanding multiple, subjective points of view of people experienced, enacted, interconnected to, or impacted by it [144, p. 242]. Qualitative research attempts to assure the audience of its validity, or “*credibility*,” as the authors addressed it, by providing adequate details that support a coherent understanding of the multidimensionality of the “*people’s construction of reality*” [144, p. 243], [82, Sec. 3.3.1], [141]. To do that consequently requires “*sufficient relevant data*” not only to enable those details, vignettes, and fine layers that constructed the topics or phenomena of interest but also to aid the researchers in “*asking incisive questions about the data and making systematic comparison*” and lead to the “*originality*” [141] of the findings.

Understanding human experiences would mean collecting their stories, opinions, and perspectives on the studied subject, phenomena, or topic in context, i.e., the data. I utilized the strategy of “*triangulation*” [144, pp. 244–259], [82, pp. 84–85] and the corresponding methods to provide “*credibility*” [128], [144, pp. 244–245], given the subjective nature of the researcher's interpretation of the data. The method I used for the triangulation was the use of “*multiple sources of data*” [140], [141] that I collected from different sources that included experts, resident leaders/activists, regular residents, government staff, and community organizers as the

primary data. The secondary data I collected included published academic and news articles, project documents, and site observation.

The second method was “*multiple methods of data collection*” [144, p. 245], [82, pp. 84–85], [140, Ch. 2], which corresponded to the first one. As the primary collection methods, these included direct human engagements (through individual and focused group discussions), multiple site visits that covered as much ground as safely possible, and a mini design workshop as a small-scale learning medium to provide a structured opportunity to learn about positionality and power dynamics in actual public engagement. Studying published academic and news articles, accessing, and studying project documents were the secondary data collection methods. The aim was to enable triangulation by comparative analysis between the primary data, the secondary data, the codes, the researcher’s memos, the tentative categories emerging from the analysis, and other additional information collected as the data collection and analysis progressed. The “*respondent validation*” [144, p. 246] or “*member checks*” [82, p. 84] was the third tactic to support the triangulation. See section 3.5.1.5 for further elaboration.

I also included the data generated by the community facilitators from their previous community mapping<sup>51</sup> workshops as an addition to the multiple data points. I aimed to reach data saturation to have “*adequate engagement in data collection*” indicated by repetitions of the same

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<sup>51</sup> I learned that the mapping workshops format was closer to the Clark’s Situational Analysis that utilize cartographic mapping to collect voices from the ground up and put them based on geographical location to visually map and locate needs or concerns [129].



information across data points, as in “*hearing and seeing the same thing over and over again*” [144, p. 248].

Merriam & Tisdell underlines the importance of acknowledging the relationship “*between the research and the researcher*” that shapes the research output. The researcher’s “*reflexivity*” is then crucial to conveying the notion of credibility of the study by being transparent about the underlying factors that might have shaped the research [144, p. 251] that I elaborated on in Section 3.3.4 below. I understand this as how my background, experiences, current status, capacity, and biases might be advantageous but also limit the research design and drive the data collecting and processing (See Section 3.4 and 3.5 below).

### ***3.3.2 Dependability, Consistency, and Resonance Instead of Reliability***

The positivistic view sees that a reliable research result must deliver the same output when replicated multiple times; otherwise, the output will not be worthy of generalization. This premise could be true for experimental or scientific studies but is especially “*problematic*” for studying human experiences, given the dynamic nature of human behavior [144, p. 250].

Merriam and Tisdell further argued that reliability is challenging even in scientific fields since ensuring the “*constancy of phenomena*” [144, p. 250] relies on measurement tools or techniques

that are “*reliable, but not at all valid*<sup>52</sup>” [144, p. 251]. I believe that reliability in the positivistic sense would be unsuitable for this research to learn the factors driving the successful community-based processes at the two settlements by learning from their experiences. Instead, I referred to what Merriam and Tisdell proposed as “*consistency between the findings and the data presented*” in place of credibility [144]. Charmaz and Thornberg proposed the criteria of “*resonance*,” which I believe complements the dependability [82, pp. 85–86] of the understanding of the subject matter in that it “*provides insights to others by fitting their data-gathering strategies to illuminate the participants’ experiences*” [141, pp. 316–317]. Furthermore, I argue that the study should resonate with the researcher’s and the audience’s experiences to make it meaningful for both, which would align with the criteria of “*transferability and usefulness*” below.

Qualitative researchers are encouraged to aim for consistency by applying “*triangulation, peer examination*,” reflecting on “*investigator’s position*,” and “*audit trail*” [82, pp. 85–86], [144, p. 252]. An audit trail means providing detailed explanations of the research methods’ plans, procedures, and aims, as well as their implementations during the data collection, categorizing, processing, and analysis as the actual unfolding during the research. Those explanations should offer clear relationalities on how the situational factors affect the collected data, the analysis, and

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<sup>52</sup> I offer my interpretation of this notion through the following simplified illustration: a positivistic study employing a survey with numerical rating scales might yield figures representing the preferences or sentiments of the surveyed individuals in answering the questions. However, the questions themselves might not fully represent the core concerns or priorities of the survey participants or the socio-cultural nuances at play while answering the questions. It could also be that the way the survey was administered provided motivation that was different from what was presumed by the researchers of the participants. The research might yield what looks like a reliable output based on the input numbers but essentially misses the underlying issues of concern. Thus, triangulation is important as a strategy (See Sections 3.4 and 3.5 on “data processing & analysis” for further elaboration).

the eventual conclusion [144, pp. 252–253]. I strive to achieve that level of detailed explanations through memo-writing activities throughout the research processes and by providing supporting notes throughout this document. I seek to be as specific as possible through the memos that are now integrated into this dissertation, explaining the strategies, the reasoning, the timeline, and the corresponding tactics congruent with the qualitative strategies and epistemology.

### ***3.3.3 Transferability and Usefulness Instead of External Validity***

External validity requires that the output be applicable to other settings (locations, situations), i.e. “*generalizability*” [144, pp. 253–260]. The idea of having output capable of being implemented across cultural, social, and economic contexts is tempting, and it is the aim of the positivistic approach since it aspires to have research that impacts humankind en masse. That aim has its merit to some extent.

However, conditions vary between geographical places and cultures and hardly resemble the controlled environment of a lab. Simulating and recreating that ideal setting en masse would be nearly impossible regardless of the situational context at each locale. At best, the output would be implemented by providing the closest possible emulation of that controlled environment, which would never be the same as the ideal one. That brings into question the notion of “*generalizability*” or “*external validity*,” especially for constructivist qualitative research that considers contextual specificity as the fundamental methodological factor.

Hence, the concept of “*transferability*,” as proposed by Merriam and Tisdell<sup>53</sup>, referring to Lincoln and Guba, “*shifts the burden of proof*” from the original researcher to those seeking to utilize or implement the research output [144, pp. 253–260]. “*Transferability*” then asks the implementors to reflect the given output to their own situation and gauge to what extent the said output could be “*transferred*,” i.e., applied and implemented in their context. Consequently, such a scheme asks that the researcher “*provide sufficient descriptive data*” to allow the assessment and then the eventual “*transferability*” possible [82, p. 85]. I find this concept to be in line with the criteria of “*usefulness*” suggested by Charmaz and Thornberg that emphasizes the accommodation and provision of information of the study that, in turn, would help the researchers, participants, and audience understand, relate, and adapt the subject matter and the findings for use in their respective contexts [141].

Thus, the recommendation is to use and provide a detailed, “*thick description*” of the original context in which the researcher conducted their study [82, pp. 85, 240], [140, p. 23], [145], which I also attempt through this dissertation. One interesting revelation is that because “*transferability*” asks for, recommends, or suggests the situational and contextual assessment before the implementation, providing a detailed description actually opens the opportunity to make minute adjustments to adapt the output to the specifics of different contexts.

It is also important to highlight that I selected two settlements, and not more, as samples for the case study probably do not exactly parallel the recommendation to provide “*maximum variation*”

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<sup>53</sup> Also discussed by Groat & Wang, 2013 in Section 3.3 of their book [82].

[144, p. 257]. Hence, I aim to provide as “*thick description*” [82, pp. 85, 240], [140, p. 23], [145] as possible throughout the fieldwork and in the following sections.

### ***3.3.4 Preconception and Biases as Personal Advantages and Challenges***

Referring further to Merriam and Tisdell’s strategic recommendation to promote research rigor [144, p. 259], this section elaborates on my positionality [146] as a researcher relative to the contributors and other parties involved or impacting this dissertation's conception, preparation, and conduct. In line with Charmaz’s proposition, being transparent about my background and current positionality underlines Charmaz’s constructivist proposition that the resulting output of research is always a product of the researcher’s worldview and “*preconceptions*” formed by their background in engaging the data, despite the latter initially being a separate entity from the former [129], [130], [131], [140], [145]. Moreover, transparency in my positionality is crucial in that it empowers me to be aware of my capacities, limitations, and subjectivity, thus enabling me to place myself as equal relative to the contributors to this study, who also view and even experience the subject matters through their subjectivities. This acknowledgment helps to equalize me with the other parties, specifically those from marginalized backgrounds, who impacted this dissertation.

My past experiences practicing as an architect afforded a sense of pride in my accomplishments, supported by my unique skillset in designing built environments. It rendered a self-perception of myself as an architect who accommodated users’ needs more than my peers. As a matter of practical experience, it would have been second nature to assess the environment through an expert’s point of view during the site observation. I realized that, if unchecked, that pride could

have affected how I perceived and understood the situational context of the two riparian communities. I could have unwittingly exercised interrogative engagement instead of a more neutral exchange of information. I could have created a significant positional gap between myself and my local contributors.

I understand that my position as a doctoral student studying at one of the best<sup>54</sup> public universities in a developed country can present a social and cultural barrier that can discourage truthful communication, genuine engagement, and trust cultivation [114]. My position within the institutional (power) structures<sup>55</sup> imposes constraints on the general timeline of my doctoral study, with my total duration capped at a maximum of five years. That could have impacted the genuine trust building between the on-site individual contributors and myself.

On the other hand, my brief involvement in the post-2004 Indian Ocean tsunami<sup>56</sup> redevelopment effort (1.5 years) was a formative real-world experience in the humanitarian setting. My experience as a junior research assistant allowed me to work in community settings on previous research projects, albeit with little to no sharp awareness of the power relations<sup>57</sup> that could have dictated the projects. It provided me with an understanding of the pre-existing social dynamics at play that might determine the research's planning and progression.

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<sup>54</sup> <https://www.timeshighereducation.com/world-university-rankings/university-michigan-ann-arbor>

<sup>55</sup> As a doctoral student at the University of Michigan and as an employee at my Indonesian workplace (I am currently tasked on an “*educational assignment to pursue a doctoral degree*”).

<sup>56</sup> [https://www.scdf.gov.sg/home/about-us/media-room/overseas-missions/asian-tsunami-disaster-aceh-indonesia-\(2004\)](https://www.scdf.gov.sg/home/about-us/media-room/overseas-missions/asian-tsunami-disaster-aceh-indonesia-(2004))

<sup>57</sup> These experiences at least gave me a glimpse of the complexities posed by the situatedness of the project.

My cultural background as a person of a minority group<sup>58</sup> who grew up in one of the urban riparian settlements<sup>59</sup> has lent me the experience of being socially disadvantaged and the complexity that a marginalized community faces in such a situation. My formal education unintentionally presented the situation through which I experienced (and then acquired a crude understanding of) positionality. The capacity allows me to adapt to multiple Indonesian social settings when required. That would include deciding what level of local vocabulary, tones, and words to use when addressing particular groups. I believe it was supportive of my field engagements for this study. On the other hand, those traits can incentivize a rather partial stance on my part towards empathizing with the disadvantaged groups and antagonizing the privileged ones.

To mitigate, I believe an iterative, spiraling loop inspired by the one described by Lewin [90] as the “*plan – act/execute – reconnaissance/observe – reflect*” should be in place. The loop would include:

- Plan
  - Defining the scope of research (starting with the issue considered of shared importance).
  - Defining the “*community*” or “*communities*” [112] of shared issues and concerns to collaborate with. Included in this research are the residents (or their

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<sup>58</sup> a product of intercultural, interreligious marriage shunned by the majority of Indonesians, non-Muslim in a country that has 95% of its population claims as Muslims, a student of minor ethnicity in schools with most of the students were predominantly, almost homogeneously, identified themselves as belonging to one ethnicity).

<sup>59</sup> I have lived for most of my life in a place exposed to the same hazards that the two affected communities experienced, albeit on the edge where it met with more established urban settlements, in which policies and situations often would favor the dominant class or those with access to safer locations.

representatives) of the two riparian settlements, the facilitating experts (some of the architects and other experts from different disciplines), and the government staff (or their appointed representatives from relevant agencies).

- Act
  - Discussing and proposing the issue of concern to see whether the “*community*” members indeed share it. In its iteration, this point could be where the participants could gauge the direction of the work and whether any adjustments would be required).
  - Formulating what issues and which solution or research outcome could benefit those with the shared concern.
  - Defining & agreeing on what starting point should be acted on to commence the work, when, how long, what the goals for the phases are, and the expected outcomes of the overall work in what time range.
  - Sharing the knowledge, expectations, limitations, timelines.
- Observe
  - Observing how the plans unfolded in minutes, what interactions took place, what kind of information was shared or collected, and to what extent
  - Pay attention to what they think about it and their inputs, and find ways or common ground to allow the integration of the inputs into the plan or work.
- Reflect
  - Reflecting on the plans and the eventual actions of engagements and observation, how that contributed to or affected the research and the contributors/participants



- Reflecting and evaluating the best ways or adjustments to allow each to contribute to the collaboration or how to sync the efforts/contributions, and how to maintain commitments best

Section 3.4. discusses the corresponding methods and elaborates further on the steps above for the fieldwork activities I utilized in this dissertation.

### ***3.3.5 Participants or Contributors to This Study***

The Indonesian experts were the initial contributors to this study by participating in the Summer 2021 discussions<sup>60</sup>. The information and insight gathered from these discussions shaped the general direction of this dissertation. Their experiences provided the groundwork on which I built and proceeded with the development of my topic of interest.

The success of the two communities was the outcome of multi-layered, multi-sectoral efforts initiated and facilitated by the social workers and community organizers from several community organizing entities, such as the Urban Poor Consortium Indonesia<sup>61</sup> (UPC), the *Jaringan Rakyat Miskin Kota*<sup>62</sup> (JRMK), and Rujak-Center for Urban Studies<sup>63</sup> (Although Rujak-CUS did not participate directly in this dissertation). Their works with the riparian communities provided the fundamental groundwork for the architects and for this dissertation. As such, this dissertation

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<sup>60</sup> See Section 2.2 in Chapter 2.

<sup>61</sup> <https://www.urbanpoor.or.id/profil-upc>

<sup>62</sup> Urban Poor Network (<https://lib.ui.ac.id/detail?id=20494867&lokasi=lokal>)

<sup>63</sup> <https://rujak.org/about/>

collects insight from discussions with some individuals from the above entities who had significant involvement throughout the processes. The partners/contributors include architecture experts, community organizers, community leaders or representatives, and individual community members who are available and willing to contribute.

I have been acquainted with two of the architecture experts since 2013<sup>64</sup>. The two of them provide access to secondary data and connections to other contributors and sources within their network. One of the contributors to my Summer 2021 personal communication also provided contact to government personnel familiar with the case of the two riparian communities. Some government staff also contribute their perspectives during the fieldwork to the best that their administrations allow. My dissertation committee members were also part of my academic community during this dissertation and provided insights and feedback on the planning and execution of this study.

### **3.4 Relevant Methods (or Tactics): Activities and Their Participants**

For the data collection activities, I utilized the following formats. The first was the discussion (or interview) with institutional and individual actors involved in the two participatory projects. Both focus group and individual discussions were utilized to collect opinions at the individual and group levels. I offered those two options to accommodate spaces where discussants could feel most comfortable. The second format was a mini design workshop with the Tongkol-

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<sup>64</sup> We were three of seven co-founders of the non-profit organization Architecture Sans Frontieres – Indonesian Chapter, or ASF-ID (<https://asf.or.id>) in 2015. ASF-ID is the Indonesian chapter of its international body, the Architecture Sans Frontieres International (<https://asfint.org/en>)

Kerapu-Lodan (TKL) community representatives. The workshop was prepared during my fieldwork and is a response to the impromptu, on-site request by the representatives. I saw this as an opportunity to learn further about the social dynamic and thus agreed to facilitate them.

For the third activity, a survey (questionnaire) was arranged to collect opinions on technical adaptations that I planned to distribute to the two communities. The idea of the survey was also to capture pieces of information not emerging during the first two activities. The survey focused on two goals: 1) the adaptations the community members needed to adjust and get used to new technologies presented by the new or modified residential units, and 2) the secondary aim of checking the preliminary findings back to those who have informed the initial discussions as a form of *members check*<sup>65</sup>.

### ***3.4.1 Focus Group and Individual Discussions***

The focused group discussions [147] included several identified groups involved in the planning, design, and construction processes. The categories for the groups were the experts (architects and other facilitating professionals), the community organizers, the government staff, and the residents (user groups that include leaders, activists, and regular residents, including homeowners and renters)<sup>66</sup>. Both focus group and individual discussion formats were expected to provide different avenues to channel opinions and expressions from their experiences.

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<sup>65</sup> See Section 3.5.1.5 of this chapter.

<sup>66</sup> I initially planned to include the building contractor at the *Kunir* project and requested their participation, to which they did not respond.

### ***3.4.1.1 Data Collection & Multiple Data Points***

Each discussion took between 40 and 60 minutes, with group participants ranging between three to five people. The discussions utilized a semi-structured format, and I referred to the research questions and rephrased them to suit participants' mother tongues and backgrounds. The questions were administered as open-ended queries. On the other hand, I also prepared a list of about 40 specific questions to anticipate the participants' challenges when invited to elaborate answers. The discussions focused on the factors that dictated the technological adaptations or adjustments from the building codes and standards conventionally referred to by the experts in their consulting works in designing the structural systems and the related construction technologies.

In total, I managed to talk to 42 individuals who agreed to participate and contribute their stories.

They were:

- Eight experts (academics and practitioners); five of them facilitated the Kunir community, three the TKL
- Two of the community organizers who worked with both Kunir & TKL communities
- Nine government staff; six of them from the municipality-level housing agency, three from the provincial-level
- 23 residents from the two settlements, 11 from Kunir and 12 from TKL, comprised of resident leaders/activists and regular residents

I took written notes, memos, and audio recordings during the discussions with the consent of individuals or everyone in groups. I clearly stated and explained that data would be anonymized.

The recordings and notes did not record individual names. Code numbers were assigned to groups and individuals to de-identify the data. Highlights and learning points from the conversations I needed to triangulate with the other participants in separate sessions contained no names of individual or group sources.

Discussions were conducted in location(s) agreed by each group participant and individuals to be quiet, easily accessible, safe, and secure. The discussions invited individuals aged 18+ who speak Indonesian. The individuals other than the experts were actively involved in various roles or positions in the planning, design, and construction phases. They recognized the building experts as the ones who facilitated the two communities with their expertise and knowledge in architectural design, building technology, codes, and basic know-how to enable community members to participate in the conception and formulation of the new residences.

Considering the Indonesian socio-cultural context and the sensitive situation in which the two projects were, I decided that the best and safest way to initiate engagement was through the contacts I was already familiar with. Since I have been acquainted with two leading architects, I gained access to the other facilitators, community organizers, and community leadership through them. The leading community organizer was my initial contact person in the community. The organizer then recommended individuals who would meet the criteria for each category group. I acquired a contact person in the municipality agency from my Indonesian collegial network. During one of my site visits, I gained further contact with the other government agencies at the provincial level.

Once I received the recommendations, I started by recruiting discussion participants from the community representatives. I then made arrangements for the time and place of the discussions. I also asked for the discussants' recommendations to nominate others who meet the criteria. As recommended by the community organizer, I compensated participants with the equivalent of 6.9 USD of dried groceries instead of cash or vouchers.

I acquired consent through verbal agreement, considering the socio-cultural backgrounds of the individuals. Although verbal, I referred to the Informed Consent Form I prepared beforehand<sup>67</sup>. I strived to explain the consent form as clearly yet straightforward as possible on the nature of my work, aim, positionality, the learning points I was hoping to get from the engagements, the way data was handled related to personal identification, other participating groups that I planned to engage, and to an extent how the data processing would look like. I clearly stated my intention to discuss with them and learn about the participatory processes they went through. I provided multiple opportunities before, during, and after every engagement session for all participants to ask questions regarding the consent form, the topics, data handling, or other aspects of the study that might concern them regarding safety, security, benefits, and other future consequences as far as related to their contributed opinions. I also asked for their consent to take field notes complemented with memos to record my thoughts, commentaries, impressions, and important points about any particular situation.

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<sup>67</sup> The written version of the consent form was prepared for institutional review and submitted to the University of Michigan IRB (University of Michigan IRB coded HUM00219419).

I provided my work phone number and email address so that each could reach out to me regarding their concerns, both as individuals or groups and regarding the research or the topics after the sessions concluded. I also kept in touch with most of the participants on a monthly or bi-weekly basis by text messages or impromptu personal drop-ins whenever possible during my site visits and asked for their additional opinions or feedback.

#### ***3.4.1.2 Data Handling & Storage***

Information, reflexive opinions, and perspectives gained from the experiences during the project involvements were collected on recording files and information sheets (including notes and memos) identified only by the group and assigned numbers, site numbers, and codes of category groups. Once a discussion session was completed, the consent forms and the information sheets with those numbers were digitally scanned at my temporary workplace and stored at the University of Michigan's secure Google Drive™ data server, accessible only to me. I archived hard copies at a secure storage location that only I could access. Temporary scanning images on the temporary computer's physical drive were deleted immediately once the upload was completed and checked for errors.

#### ***3.4.2 Mini Design Workshop***

The mini design workshop was an impromptu opportunity to learn the facilitating process firsthand. It was co-arranged by the community organizer, community representatives, and myself at the Tongkol-Kerapu-Lodan (TKL) settlement. The workshop facilitated the need for

the community's co-op<sup>68</sup> office. The community established its co-op in 2021 as its legal entity, representing the community's socio-economic interests. After a year of nomadic workplaces, the caretakers decided that it was time to settle down and house the co-op's administrative operations in a designated office space. The workshop responded to that need in conjunction with my presence at their settlement for the fieldwork in the Summer of 2022. The community organizer first approached me with the idea of facilitating this design workshop. They contacted the co-op managers upon my interest and agreement to proceed with the idea. They then asked them about possibly having a design workshop I had already agreed to participate in.

### ***3.4.2.1 Data Collection***

The design workshop took the conventional architectural service format [148], [149] with which I am familiar. The difference with my conventional architectural practice was that I would request that I communicate and consult my design with only 1 (one) individual representing themselves or their social units (family, group, company, community). The reasons for this practice are to secure a reliable source of client information, streamline communication, simplify consultation sessions, and expedite decision-making<sup>69</sup>. On the other hand, while the aim and the general conduct of the facilitation were primarily similar to the regular architecture consultation projects, there were not one but seven, sometimes nine, individuals who were regulars at the design workshop meetings. The intention was to emulate the more extensive, community-wide

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<sup>68</sup> "The Statement on the Cooperative Identity states that a cooperative is an "autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise." ICA (<https://ica.coop/en/cooperatives/cooperative-identity>)

<sup>69</sup> In short, the aim of having only one contact point aim was to warrant simplicity and a (somewhat) controlled timeline throughout the architectural production pipeline.



past workshops facilitated by the involved architects. In turn, I had a first-hand experience and learned about the dynamics that might present during the dialogue between meeting participants.

Workshop sessions were conducted in location(s) agreed by each group participant to be adequately quiet, easily accessible, and secure. The sessions invited individuals aged 18+ who speak Indonesian (aside from local dialects). Since the workshop aimed to produce an architectural design for the coop building, the workshop participants were all elected coop managers except for one individual who was a professional builder<sup>70</sup>. The managers invited him to enable the group to view and comment critically on my design from the project construction aspect. I facilitated the community with my architectural skills and know-how, utilizing hand drawings, digital sketches, and scaled models to mediate the design proposals and stimulate dialogues.

Instead of compensation for participation, the co-op managers and I agreed to have the workshop as a mutually beneficial arrangement. Although the managers were ready to receive any architectural drawings I could provide, I decided to facilitate them with the work typically rendered in conventional professional service. In exchange, I gained first-hand experience and a new data collection point in place of any monetary payment.

Mediated by the community organizer, the community representatives consented to start the design workshop and understood what was expected of each other and what benefit all

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<sup>70</sup> Thus, these individuals were the “*community*” who agreed to participate in the workshop.

participants would get. However, instead of a written, formal, on-paper contract, verbal agreement in the presence of the witness was deemed more appropriate for the level of relationship I was in and the socio-cultural norms observed by the community.

As with the individual and focus group discussions, I clearly stated and explained that data would be anonymized. The recordings and notes did not record individual names. Code numbers were assigned to groups and individuals to de-identify the data. Highlights and learning points from the conversations I needed to triangulate with the other participants in separate sessions contained no names of individual or group sources.

#### ***3.4.2.2 Data Handling & Storage***

Information, reflexive opinions, and perspectives gained from the experiences during the project involvements will be collected on information sheets identified only by the group and assigned numbers, site numbers, and codes of category groups. I also took field notes complemented with memos to record my thoughts, commentaries, impressions, and important points about any particular situation. Once a discussion session was completed, the consent forms and the information sheets with those numbers were digitally scanned at my temporary workplace and stored at the University of Michigan's secure Google Drive™ data server, accessible only to me. I did not record the personal information of individuals as the research data. I archived hard copies at a secure storage location that was accessible only to me. Temporary scanning images on the temporary computer's physical drive were deleted immediately once the upload was completed and checked for errors.

### **3.4.3 Community Survey**

The survey was planned in the 3rd month of my fieldwork to expand the collection of individual or household experiences adapting to new technologies imposed by both the new and modified residential units. I aimed to see and learn what kind of new layouts, technicalities, and types of equipment were entirely new to the households and how community members made adjustments to utilize them (or not). There were always possibilities that the discussions and interview sessions could have skipped pieces of information, specifically the more technical ones, because of availability, endurance, memory lapse, differing priorities, or power dynamics during group meetings.

#### **3.4.3.1 Data Collection**

The survey was planned as an additional medium to collect information missed in earlier in-person sessions. I prepared a digital platform on Google Forms™ for collecting the photos and respective opinions. A set of questions was prepared for the two settlements, with the general topics as follows:

- what significant technical newness, changes, or additions they experienced in their respective residential units; and
- what the participants opted from the two categories of adjustment:
- adjust themselves and adopt new habit(s), i.e., “requiring minimum or no spatial or technological adjustment” or
- modify the technical settings to adjust to their pre-existing habit(s), i.e., “requiring major or significant spatial or technological adjustment.”

I tuned the specific questions to match each community since each of them was situationally unique. The data collection technique was based on the idea of a “*photo diary* [116],” where participants were invited to upload photos based on a prompt and two preceding questions. Photo upload(s) then was followed by two questions. I capitalized the tools available in Google Forms™ to implement the questions, utilizing the following functions: “*checkboxes*,” “*multiple choice*,” “*file upload*” (set to image files), and “*paragraph*<sup>71</sup>”.

I transformed these topics into prompts or questions that matched the community’s language and capacities. The data would be organized into groupings of opinions based on the two categories above. The survey participants would have the option to see the summary of the collected information for transparency and two-way knowledge sharing.

I designated the interior spaces in participants’ residential units as the primary source of information on the users’ dwelling habits. The aim was to learn the shift (or the lack thereof) from the old ways of using spaces with similar functions in their previous residences to the new ways based on what was provided through the new residential functions.

I further designated common areas such as corridors, stairwells, multifunction hall, gallery, communal spaces, parking, and utility rooms as the secondary source of information for the Kunir community living in the multi-story apartment. The aim was to learn the shifts or

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<sup>71</sup> To accommodate answers longer than a few words.

adjustments by the building users to recognize and develop capacity, or lack thereof, to use the shared functions with their respective technologies.

I initially planned to administer remotely by distributing a Google Forms™ link to the community WhatsApp™ groups. I requested the coop managers to review and provide feedback on the draft first. I also consulted them, the architecture facilitators, and the community organizer who had successfully conducted past online surveys in the community. Their experiences indicated that the two communities have acquired adequate familiarity with the online survey formats.

The Google Forms™ were prepared to present questions in the local language. I consulted the community facilitators on the choice of words to ensure ease of comprehension and neutrality and provide adequate open-ended characteristics to the questions. Photo uploads were to illustrate critical learning points on how and to what extent the space and the corresponding technologies stimulated the users to adapt to the new living environment. There would be no identifying images or characters in the photos (I would crop or blur identifiable sections). I clearly stated and explained that data would be anonymized. The responses would not ask individual names. Code numbers were assigned to groups and individuals to de-identify the data. Highlights and learning points from the conversations I needed to triangulate with the other participants in separate sessions contained no names of individual or group sources.

The plan was to invite individuals aged 18+ who speak Indonesian (aside from local dialects). More specifically, I aimed to invite individuals with the following roles in their households:

- homemakers who use the kitchen and wash areas frequently
- heads of family who are well informed about the activities and corresponding ease of use or challenges during the use of the residential units and the building in general

I envisioned that these individuals would, ideally, already possess smartphones and operate them daily as part of their routines. The alternative to that was that they would have someone in their households who had access to smartphones and were familiar with interacting through applications, specifically Google Forms™. I coordinated with the community organizer, representatives, and facilitators to distribute invitations to community members to participate in the study. I prepared compensation through raffles to win three prizes for each community. Each prize was the equivalent of 13.8 USD in gift cards or vouchers usable at the local grocery(s).

#### ***3.4.3.2 Data Handling & Storage***

Information, opinions, and perspectives gained from the experiences engaging with the new residential buildings would be collected on digital information sheets identified only by participant number, site number, and codes of category groups. Considering that the survey participants would be given the option to see the summary of the collected information, identifiable information or characters would be eliminated either by cropping, blurring images of facial expressions, unit numbers, and other indicators that identify a specific individual or family accidentally captured in the uploaded photographs to de-identify the visual information or replacing names with code or numbers.

The consent form was integrated into Google Forms™ in the first section before proceeding with the request to upload photos and the questions. Considering the social and educational background of the community members in general, I used the simplified format to minimize the

reluctance of willing participants when challenged with a detailed consent form. Once consented, the participants could proceed to the proceeding sections. The consent form for each participant would de-identify individuals and not record individual names. The data collection would not include collecting personal information that would relate to the opinions of individuals. Phone numbers would be collected separately, solely to notify compensation (raffles at the end of the survey period).

The consent forms and the information would be stored at the University of Michigan's secure DropBox™ or Google Drive™ data server, accessible only by me. Any temporary scanning images on the computer's physical drive would be deleted immediately once the upload was completed and checked for errors.

Considering the survey's online platform and the reported community's capacity to use Google Forms™, I planned to distribute the survey at the end of my fieldwork on the second week of October 2022 and then access the data upon my return to the US. I engaged all individuals that I requested for reviews both by texts and voice calls, although text format was the most preferable one by many. I first distributed the draft survey at the end of September, only to receive feedback from two facilitators within a week. It was not until the 2nd week of October that the other facilitators provided their reviews. Coop managers, as the community representatives, did not provide any feedback. Even into November, I could not get any response and decided to call it off and concentrate on data processing.

My analysis of the probable cause of the failure was that the administering time overlapped with the then-increasing activities in communities' activism towards the mid of October and the following months. The gubernatorial tenure was scheduled to conclude at the end of October 2022. The communities' umbrella organization<sup>72</sup> planned a public presentation in mid-October 2022, presenting a community-wide assessment of the governor's performance in fulfilling the political contract<sup>73</sup>. It was a critical milestone for the communities trying to maintain their presence and secure its legalization at their locations.

The community activists and the two communities, in general, considered the moment as highly important to ensure there would be no rollback on the agreement following Mr. Baswedan's concluding tenure. The anticipated worst-case scenario was that Mr. Baswedan would bail from the deal to accommodate the said legalization in time. Hence, the high priority is to carefully prepare the presentation by the community leadership and hold the governor accountable publicly in a high-exposure event.

#### **3.4.4 Site Observation**

I conducted the site observation to learn firsthand about the physical artifacts I previously learned only from collegial discussions and published articles. The site visits were integral to the

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<sup>72</sup> The Urban Poor Network (in Indonesian: *Jaringan Rakyat Miskin Kota* (JRMK))

<sup>73</sup> An agreement that Mr. A. Baswedan (the then-running gubernatorial candidate) made with the Urban Poor Network (JRMK) to trade their votes with the promise of pro-marginalized-groups policies if he won the position, which he did in 2017 (<https://setkab.go.id/resmi-jabat-gubernur-dki-jakarta-2017-2022-anies-sekarang-saatnya-tunaikan-semua-janji/>).



meetings with community organizers and contributors. The community members preferred on-site meetings to accommodate safer discussion spaces.

The redeveloped built environment provided information on the current quality of space and the general environmental condition. It taught how residents applied their consensus to cut, modify, and redevelop their individual houses at the TKL settlement. At the Kunir settlement, I observed the then-current temporary shelters where the Kunir residents lived while the apartment was under construction. It was also the opportunity to learn what the pre-redevelopment condition looked like by comparing the two settlements with the adjacent ones still in the slum<sup>74</sup> condition. The corporeal experience of the density, climate, ambiance, and other environmental characteristics, as well as the social-cultural realities within the two communities, helped me understand the previous situation experienced by the residents for generations compared to the current one.

Other than confirming the written articles and informing my perception, the built environment at both sites was my entry point to lead to the open-ended conversation and discussion on the past and ongoing processes, sense of ownership, and community integrity following the redevelopment. It was especially helpful when discussing the architects' roles as perceived by the residents. The aim was to understand how the architect's facilitation was pivotal in adapting technologies to the residents' capacities.

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<sup>74</sup> UN-HABITAT defines a slum as “a heavily populated urban area characterized by substandard housing and squalor” [17]

As with the other methods, I also clearly stated and explained that data would be anonymized. The recordings and notes did not record individual names. Code numbers were assigned to groups and individuals to de-identify the data. Highlights and learning points from the conversations I needed to triangulate with the other participants in separate sessions contained no names of individual or group sources.

#### ***3.4.4.1 Data Handling & Storage***

I recorded the environmental observation by taking photos of public outdoor areas in TKL and indoor and semi-outdoor public spaces in Kunir. I also took field notes complemented with memos to record my thoughts, commentaries, impressions, and important points about any particular situations to explain the visual records and the experiences of the place. There was no taking of detailed measurements of plots and structures taken, only on-site visual estimation to confirm the information I collected during the discussions. All facial identification or other personally identifiable information or characters were erased by cropping or blurring.

The site-observation data was stored at the University of Michigan's secure Google Drive™ data server, accessible only by me. Any temporary scanning images on the computer's physical drive would be deleted immediately once the upload was completed and checked for errors.

#### ***3.4.5 Project Document/archive Study***

I initially expected to be able to collect quite a significant amount of data in this category. In my experience during professional practice, architects typically would produce preliminary sketches to explore conceptual ideas of how the building design would look like. I expected to be able to source three-dimensional drawings or models showing several design alternatives resulting from

various inputs the architects received during the co-design. Complementary to the sketches would be the physical scaled models (maquettes) that architects utilize to easily communicate their design to the lay-person users or clients. Both drawings and maquettes would be the conventional, standard medium in every architectural design phase except for the turnover. Another type of medium to go with the two of them would usually be minutes of meetings, lists of specifications, and bills of quantity. I imagined that I would be inundated by these documents.

That was not the case, though. I have repeatedly requested the architectural team to grant me access to them. Other than the principal, I also asked two of the other involved architects about the possibility of accessing the architectural data. None of my requests yielded substantial access. The two architects admitted to having their working files on the facilitation works scattered in multiple digital storages of different personnel. My understanding from their explanation is that they did not prioritize archiving the files for long-term purposes. I could only guess that this was in part due to the fact that the architects reserved their archiving capacity for commercial projects.

#### ***3.4.5.1 Data Handling & Storage***

The architect considered the final, for-construction documents confidential since he entered a formal contract with the government as the project owner. Nevertheless, I could source partial information on some earlier design alternatives and some photos during a session of co-design workshops that I could access from their cloud storage shared with me a few years ago. I missed

the opportunity to collect one of the data points that I can use to triangulate data. On a positive note, it reduced the amount of data that I would need to process in my limited timeline<sup>75</sup>.

The project data was stored at the University of Michigan's secure Google Drive™ data server, accessible only by me. Any temporary scanning images on the computer's physical drive would be deleted immediately once the upload was completed and checked for errors.

### **3.5 Data Processing, Analysis, and Theorizing**

Data triangulation was used extensively since the first batch of data was collected. Based on the understanding of data triangulation as a way of comparing data gained from multiple, different sources [82, pp. 81–86], [144, pp. 244–246], my initial triangulation was between the data I got in the first two weeks from three of the experts, a community organizer, one of the community leaders, a group of government staff, and site visits to the two sites. Other than triangulating topics of importance between results from those contributors and site observation, I reflected on my prepared list of trigger questions and adapted them to the on-site situations I encountered.

I continued to utilize the triangulation for the rest of the gathered data from multiple individuals and focus group discussions with the rest of the participants/contributors. I compared those primary data points to the secondary ones from published news, academic materials, and accessible architectural project archives. Taking field notes and creating memos continued to

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<sup>75</sup> See Section 2.4.

accompany the data collection and triangulation processes, in what Charmaz described as the “*blurring of strict separation of data collection, analysis, and theorizing*” [142, p. 497] since the act of triangulating itself already consisted of, even catalyzed, the analyzing processes that continued into theorizing. I noted that I kept comparing data points throughout the analysis, which I believe aligns with the “*constant comparisons*” method [129], [143]. Essentially, the analyses comprised these iterative, constant comparisons of data, codes, and categories towards the more conceptual categories that could answer the research questions. These activities were accompanied by “*memo writing*” [141], [143], which became essential to record all the thoughts during and out of them.

### ***3.5.1 Coding and Analysing***

All the discussions were in the Indonesian language and recorded into voice recordings. Converting them into clean transcriptions was essential for the next key processing technique: coding the data qualitatively. Here, “*coding*” is a process of understanding and conceptualizing the raw data gained from the attempt to understand personal experiences, often dispersed or fragmented through participant’ sentences throughout their stories<sup>76</sup>. It takes the form of assigning labels, or the “*codes*,” to sentences or excerpts from the transcribed recordings, which are interpretive comprehensions of what was happening that were conveyed through the

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<sup>76</sup> It is different from coding as in writing computational scripts using computer programming language such as Python or others to enable human-computer or human-machine interfaces (<https://www.computerscience.org/resources/what-is-coding-used-for/>; <https://yearofcodes.tumblr.com/what-is-coding>).

participants' remarks [140, Ch. 5], [141, p. 307], [143, pp. 163–165]. Hence, the “*coding*” technique.

The aim is to understand, reveal, and develop a comprehensive understanding of the empirical events and attempt to arrive at the multi-perspective<sup>77</sup> conceptual abstraction of the subject matter. Being interpretive, I became aware that the entire coding process would be bias-prone, especially my own. Hence, the triangulation through multiple data sources, types, and “*constant comparisons*” [129], [143] between data, notes, and memos contains the analytical relationships that make up the analysis processes. Comparing data to data begets codes at a conceptual level. Comparing codes to data begets focused codes that were at the more conceptual, abstract level. Memo writing is again utilized to record the thoughts on emerging patterns of themes/topics, actors, and relationships between them coming out of comparing them. In the coding process, comparing between codes simultaneously takes place with the analysis when moving towards “grouping” and “categorization” towards focused coding.

I utilized HappyScribe™ transcribing software that provided automated transcription for the initial voice-to-text transfer. I processed them manually by listening to the records and revising the automated outputs into clean textual transcriptions formatted into digital text files<sup>78</sup> for upload into the Nvivo™ qualitative coding software. I also input most of my field notes and memos as well as relevant images, articles, and links into the software, which enabled coding of those formats other than text.

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<sup>77</sup> Parallel to what is understood as “*objective truth*” in the positivist paradigm [82], [86], [140]

<sup>78</sup> Mostly in .txt extensions with a small number in .docx or .pdf formats.

The use of Nvivo™ afforded the data digitization. More importantly, the software makes it easier to trace the analyzing points in the analytical memos back to the corresponding primary data points. Further, the digital medium provided an expedited, comprehensive platform, specifically when the analysis has grown more complex from all the analytical relationships between several data points that reveal, brought into “*emergence*” a particular theme, subject, or topic of interest that pertains to answering the research questions [141], [142], [143].

I utilized Grammarly™, ChatGPT, and UM GPT as assistive writing tools. I found these online applications helpful to write in English as my second language. I found the Large Language Model applications<sup>79</sup> easily contestable, unreliable, and thus unjustified tools for basic academic tasks. On the other hand, their recommendations on writing styles and suggesting certain academic vocabularies or tones in English helped expedite the actual writing process.

### ***3.5.1.1 Coding Stages Towards Categorizing and Theoretical Development***

Overall, I coded the data in three consecutive stages: initial coding, focused coding, and categorizing [140], [141], [143]. I did the initial coding by assigning labels to most of the sentences or lines in the transcribed interviews or discussions, i.e., “*line-by-line coding*” [141]. Some passages only required highlighting the entire paragraph to code to encapsulate the basic idea. While tedious and time-consuming, this helped me gain an in-depth understanding of the stories, as I had to read and compare them to the voice recordings to grasp the spoken intentions conveyed in verbal intonations and expressions.

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<sup>79</sup> Abbreviated as LLM; ChatGPT™ is one of them.

I continued the initial coding by “*focused coding*” [141]. This activity comprised grouping and merging initial codes with similar narratives or topics into a new, more conceptual-level code. This activity also included “*weaving, deleting, splitting, and rephrasing*” the codes or group of codes upon comparing to other groups or focused codes, as well as moving and reinterpreting codes as the constant, repetitive comparison occurred. This is where digitalization became immensely helpful since it was easier for me to record reasons for actions or decisions regarding the coding operations in the integrated memos and notes attached to the data and codes.

### ***3.5.1.2 Categorizing Activities, Theoretical Categories, and The Use of Theory of CBPR***

#### ***Principles and Architectural Practice Guidelines in Categorizing Activities***

I understand categories resulting from the iterative, back-and-forth, and exhaustive comparison of data points, codes, and focused codes that eventually lead to several salient points that offer convincing answers to the research questions, i.e., the theoretical categories. These finding points are “*credible*” since they are derived from and traceable back to the “*sufficient amount of*” data [129], [141], [142], [143]. In this dissertation, I utilize the CBPR<sup>80</sup> Principles as the theoretical categories to compare with the emerging categories from the data and the Guidelines of Architectural Practice [124], [125], [150] as another comparative benchmark. The aim is to further the comparison, analysis, and reflections on the categories towards ones that are useful for the context of humanitarian architecture.

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<sup>80</sup> Abbreviation of Community Based Participatory Research



I grouped the initial and focused codes based on the categories of actors: *the residents*, *the experts*, and *the government staff*. I also made two other categories based on the factors in implementing the participatory approach in the case study: *the supporting* and *the undermining* factors. I also tried to further categorize the actors based on their institutional affiliations. However, I ended up with tentative categories that might be interesting to follow up on but not necessarily lead to directly answering the research questions. Perhaps the exploration of those initial categories would eventually lead to another interesting theory worthy of another research design. I would also like to note that the limitations of this dissertation (See Section 3.5.2) were also instrumental when reflecting and deciding on those tentative categories.

I then utilized the Nine CBPR Principles theories [79], [81], [111], [112] as the analytical benchmark to compare the data, codes, and tentative categories. Additionally, I utilized the points in the guidelines for architectural professional practice as another data to compare with the tentative categories and the new categories adapted from the Nine CBPR Principles.

In essence, I analyzed the data, codes, the earlier tentative categories and triangulated by comparing them to the CBPR Principles to find the indications of the extent those principles were present in the empirical experiences that took place in the case study, i.e., the two architectural projects at the two settlements and were utilized to modify or adapt the conventional architectural practice. In other words, the Principles helped this study as the lens to compare, examine, and relate the architectural practice guidelines [124], [125] that I and my professional colleagues have been trained on to what happened at the two sites between the actors. Hence, the analysis by looking at the data points that indicate how the situated

architectural practice at those two sites explicitly or implicitly aligned, or not, with the CBPR principles. This is perhaps where I did what Charmaz noted on Glaser's nod to Phyllis Stern's notion of theoretical coding as "*simply means applying a variety of analytic schemes to the data to enhance their abstraction*" [140, p. 149].

I found out that this decision helped me gain better abstraction, which helped in answering the research questions in a way that adhere to the notion of "*emergence*." These were not just conceptual ideas that emerged from what was told through the data but also "from successive levels of analysis through hypothetical and deductive reasoning." It helped me establish relationships between the codes and the earlier categories relevant to developing answers to the questions. This step enabled me to develop relationships previously obscured by the seemingly diverging categories.

"In grounded theory studies, the researcher's analytical focus emerges during the research process rather than being determined before the empirical inquiry begins. Increasingly, grounded theorists assume that the method is a way of thinking about, constructing, and interacting with data throughout the research process." – Charmaz & Thornberg [141, p. 305]

Reflecting on Chapter 2, I started this dissertation with the pilot studies to understand the current housing development situation in humanitarian settings, specifically to learn how building technology played a decisive role (or not) in determining the type of structures and construction implementation in the relevant projects. It turned out that the pilot study pointed the research direction to the discourse of end-users involvement in humanitarian architectural research and practice. It brought the exploration towards the design of this dissertation that revolves around the learning of the Nine CBPR principles already established as the reference for inclusive

research in health and social disciplines and the potential adaptation in architecture. Crucially, the outcome of these initial studies encouraged the learning of the constructivist paradigm, which I learned was the epistemological outlook of the CBPR Principles.

I planned for this dissertation to utilize the constructivist methodology that involved doing the case study that picks the phenomena of a successful participatory approach in two housing projects that fit the intention to study the potential adaptation of the CBPR Principles into architecture. I planned to utilize grounded theory to approach and learn from the phenomena in the case study to construct the conceptual theory for architectural adaption.

Chapter 3 (this chapter) elaborates on the constructivist methodologies and methods I utilized to implement the constructivist grounded theory. I elaborate on the data processing involving the coding stages of the data towards categorization that compares to the 9 CBPR principles in health and social discipline. The aim is to answer the research questions by conceptualizing an adaptation of the conventional “*architectural workflow*” [124], [125] and integrating the CBPR principles into its phases to make it a participatory architectural workflow.

The summarized description above might not look parallel to what Charmaz and Thornberg proposed in the citation above or to Charmaz’s cautionary messages that urge grounded theory researchers to “*avoid forcing their data into preconceived codes and categories* [140, p. 155].” It might seem that I already have my hypothesis (that the systematic participatory approach was the gap to address) and try to find matching data that could corroborate that hypothesis. However, I also attempted to be critical of my preconceptions by constantly reflecting on my emerging codes

and evaluating the direction of the study, principally by continuously looking back into the research questions and comparing them to the emergent findings from the codes and analysis. I argue that it was a process that aligned with the “*constant comparison*” [129], [141].

Charmaz and Thornberg elaborated on that caution by focusing on socially or culturally constructed preconceptions and biases. Their concern was that they could restrict a researcher from being open to the information collected during the fieldwork that individuals with different worldviews might deliver. Preconception could impair the researcher's ability to collect and analyze data that matches one’s preconception and overlook otherwise completely new and important information that actually offers them new knowledge [141]. Other than the primary data, I considered the theories of the CBPR Principles another new piece of information that I got from interaction with my “*community*” (See Section 3.3.5 on contributors and participants of this study). While the theories of the CBPR Principles themselves were not new in the health and social disciplines, I argue that they were inadequately systematically discussed, if at all, as an integral part of the architecture discipline.

I believe comparing the emerging, tentative categories or subjects from the earlier categorizing to the theories of Nine CBPR principles conforms to Charmaz and Thornberg’s remarks to “*do a systematic search of the literature as they complete their study*” [141, p. 309]. I also believe it parallels the constructivist methodological approach, in what they suggested as the “*contemporary versions*” of the grounded theory that:

“...appeals to researchers who (1) engage in reflexivity throughout the process, (2) aim to make their standpoints, starting points, and research actions as transparent as possible, (3) read theoretical and substantive literatures on their topics before engaging in research, but

do not necessarily take these literatures as true or final statements, and (4) assume every methodological approach, including grounded theory assumes an epistemology.” - [141, p. 311]

The quote above nudged me to rethink the initial research questions so that I needed to revise them and match the findings instead of coercing the latter to match the former. I further argue that the pilot studies helped me construct the important conceptual issue(s) that eventually condensed into the highlighted gaps in the research and implementation of building technology and architecture in general, as parallel to the criteria of “*resonance*” [141, p. 316].

I examined the nine principles and utilized them as the categories into which I again compared, populated, and grouped the focused codes, initial codes, and data. I put focused codes that are in line with the principles into the relevant categories. Conversely, I continued to reflect on the data and the codes to be critical of the nine CBPR principles. One challenge is maintaining self-criticism and reflexivity during this categorizing, using the CBPR Principles and the benchmark and tentative categories. It was tempting to populate all nine of them to make the study look good. In reality, I could not populate all nine because I could not find a strong, meaningful relationship to relate the data to some of the principles.

### ***3.5.1.3 Theoretical Sampling***

“Look for data that will inform their categories. Nothing to do with representative sampling. Aiming for theoretical saturation of the emerging conceptual categories. Achieve theoretical saturation when they seek more data while theoretical sampling but find no new properties or characteristics of their categories.” – Charmaz and Thornberg, 2021 [141]

“Grounded theorists conduct theoretical sampling only after they have tentative categories to develop or refine. For grounded theorists, emergent categories form the basis of theoretical sampling, and they cannot anticipate where their theoretical inquiry will take them. Their tentative categories arise through the analytic process, and thus theoretical sampling may take them into new research sites and substantive areas.” – Charmaz, 2008 [143, p. 166]

I would like to believe that I have achieved the level of the theoretical sampling process as conceptualized by Glasser and Strauss (Charmaz 2020, Charmaz 2008). I speculate that instead, I might have achieved “*data saturation*” within the limitations of this study. Did I seek more data and find no “*new properties or characteristics*” of my categories? I attempted to have second sessions with some of the individual contributors, in which I asked several trigger questions on building technology that I did not ask or only briefly touched on during the first sessions. It resulted in information that did not actually provide the depth of technological implementation. Instead, it offered affirmative insight that building technology was not the residents' primary concern, i.e. it was not among their top priorities. Thus, persistently maintaining the research questions around building technology could be misleading and might incentivize me to find corroborating data that is “*valid but not reliable*.”

The second and third sessions with the community members at Kunir Community<sup>81</sup> did not yield significant elaboration, fleshing out the centrality of the specific processes concerning building technology. The two sessions informed that the experts facilitated some forms of training for the community representatives or activists to provide them with basic construction knowledge that

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<sup>81</sup> The one with the multi-story modern apartment.

enabled them to be delegated as ad-hoc oversight for the architects when the latter could not perform the supervisory tasks directly. However, that elaboration always circled back to the notion or emphasized the training itself as part of the overall capacity-building effort to empower the residents to wrestle (back) their rights of self-determination and their demand to be participated/included in the formal planning and development practice typically reserved only for the government agencies and their appointed consultants, and contractors in the top-down scheme.

The elaboration on the process above is the attempt to find the parallels between the process in this dissertation and the concept of “*theoretical sampling*” in which “*no new properties or characteristics of their categories*” [141] were emerging. It further incentivized me to review the initial research questions and adjust the research direction as the theoretical relationships through the codes. I understand that my “*theoretical saturation*” process above might not match the theoretical notion advocated by Charmaz [143]. Nevertheless, given the limitations and circumstances on the ground, that was the best outcome I could muster.

#### **3.5.1.4 Memo Writing**

*Memo writing* (or “*memoing*”) was an instrumental, transcendental analytical activity or platform throughout every stage of grounded theory research. It captures a wide array of relevant thoughts and observations that I encountered and developed during those stages. These memos encapsulate exploratory ideas, analytical remarks, commentaries, and summaries derived from interpreting the empirical data and trying to understand the phenomena that the data presented [82, pp. 235–241], [129], [140], [141].

During discussions, site visits, data processing, and coding phases, I engaged in the process of memoing to document their reflections and insights. This includes recording thoughts on prevailing conditions, conducting on-the-fly analysis while comparing data points, and coding the data using tools such as Nvivo™. Simultaneously, I created memos to capture reflective insights, notions, and potential relationships discerned from comparing the data, the codes, the emerging tentative categories, and further additional data.

The coding process, influenced by methodologies like Ground coding, emphasizes action-oriented categorization and iterative analysis, following frameworks like Charmaz's [140]. Coding and analysis are depicted as reciprocal and iterative rather than strictly sequential, with myself oscillating between confirming insights and revisiting primary data sources. The coding duration and the categorization depth are contingent upon the emerging insights and the need to validate them against the primary data source.

In tandem with discussions and interviews, I attempted to clarify my understanding by comparing field notes and reflective memos. Memoing activities occur intermittently and, at times, simultaneously between engagements, providing opportunities to review and compare previous memos with recent observations and insights. This cyclical, iterative process facilitates the synthesis of new insights and the refinement of my interpretive understanding.

#### ***3.5.1.5 Members Check***

This method is utilized after I processed all the data and did the analysis that produced the preliminary findings. I managed to present them to some of the contributors and reflect and



review them collaboratively. Three of the experts and I were able to do this review through a virtual meeting, in which they provided their affirmations and commentaries.

### **3.6 Limitations**

This dissertation is limited to the Indonesian urban contexts, specifically in the settings of urban informal settlements with relatively high density. This study is also limited by the number of cases selected for the case study, in this case, the two urban communities described above. The successful experiences reported in the two communities may have explicitly worked for them and were not meant to be generalized and applicable to other locations with differing contexts. Thus, outputs of this dissertation that might look like generalizing the findings should be taken critically and contextually adapted when referred to for works with different communities of unique sociocultural backgrounds and geographical situations.

The planning and execution of this study were limited by the available timeline, funding, logistics, and other circumstances, which led to the fact that I was in the dominant position in this research, especially relative to the contributors at the location of the case study. Even inviting project actors or stakeholders to participate in conversations, discussions, or workshops eventually forced me to prioritize my priorities and timeline. Hence, it was important to reach back to the contributors and invite them to provide their reviews on the preliminary findings, noted the “members check” process in Section 3.5.1.5 above.

Several complexities emerged during the implementation of “*constructivist (constructionism) grounded theory*” [129], [130], [131], [140] as the chosen method for the case study. Challenges

include achieving “*data saturation*,” performing “*theoretical sampling*,” and other methodological setbacks. However, one evaluation point stands out in regards to maintaining the coherence of utilizing the constructivist system of inquiry: the element of member checking<sup>82</sup> [129], [130], [140], as the essential part of the methods that could have been done better. Related to 3.5.1.5, which elaborate on the degree of success (or the lack thereof) of this member-checking, reaching back to as many research contributors as possible to discuss and confirm findings and the tentative conclusion is crucial to uphold methodological coherence.

The challenge became more pronounced when I had to continue preparing the members-check workshop remotely due to the full-time requirement to continue my doctoral studies in the US. Remote communication was proven very limited due to time zone differences and other pressing collective agendas the contributors needed to address locally, which led them to push the preparatory work to a much lower priority.

Discussions with the staff from two government agencies revealed the nature of the collaboration between this group and the other two that I characterize as more instructional, top-down, and procedural. It was unlike what I perceived from the theories of the CBPR Principles as one between equal partners. Further, I could not collect adequate variations of data points from the discussions with the government other than what they were willing to disclose during our limited meetings.

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<sup>82</sup> through which a constructivist grounded theory researchers could invite and request their contributors or participants to review and discuss the analysis, preliminary findings, or the tentative conclusion to confirm them back to the corresponding experiences shared earlier.

## Chapter 4 The Implemented CBPR Principles That Encouraged and Supported the Participatory Architectural Practice

### 4.1 Introduction

The case study for this dissertation is the implementation of participatory architectural approaches in the redevelopment of two Indonesian riparian settlements, the *Kampung* Kunir and *Kampung* Tongkol-Lodan-Kerapu (TKL). Facing eviction in 2015 due to flood control measures following urban flooding in 2012, the communities resisted through grassroots movements and finally gained support from local authorities, leading to the overturning of the eviction order in 2018. Instead of relocation, the communities proposed alternative solutions such as voluntary encroachment clearance, waste management, and environmental stewardship. Participatory approaches in reimagining and materializing their built environment, facilitated by a composite group of facilitators, led to the now notable outcomes of the two settlements: the revitalized row houses of *Kampung* TKL and the new multistory apartment of the *Kampung* Kunir. These experiences highlight the efficacy of participatory approaches in empowering marginalized urban populations to shape their environments and improve living standards.

#### 4.1.1 *The Nine CBPR Principles and Their Extent In the Case Studies*

“CBPR in public health is a partnership approach to research that equitably involves, for example, community members, organizational representatives, and researchers in all aspects of the research process and in which all partners contribute expertise and share decision-making and ownership.” – Israel et al., 2012 [79, p. 12].

At its heart, the Nine CBPR Principles advocate the sharing of the deciding power that drives research planning and operations. It is the equal sharing of that power between the researchers and the involved laypersons, the latter previously placed as “...*objects of study*...” to the ones who are “... *participating in the inquiry* [92, p. 28].” This inclusivity ensures the aversion of exploitative, demeaning, dehumanizing, and hence unjust and inequitable practices throughout the research processes in studies that involve human subjects. It aims to deliver outputs that mutually benefit all the research partners by respecting and integrating their situations, needs, or concerns as part of the research design [92, pp. 28–29]. It effectively made the non-expert participants equal stakeholders and partners to the researchers. In the case of *Kampung Kunir* and TKL communities, the architectural experts shared with the residents, i.e., end-users, the power of making architectural decisions, typically the experts’ professional trade.

The Nine CBPR Principles, showing the original wordings by Israel et al. [79], [81], [111], [112], [132] for the health and social discipline, are:

- CBPR acknowledges the community as a unit of identity
- CBPR builds on strengths and resources within the community
- CBPR facilitates a collaborative, equitable partnership in all phases of research, involving an empowering and power-sharing process that attends to social inequalities
- CBPR fosters co-learning and capacity-building among all partners.
- CBPR integrates and achieves a balance between knowledge generation and intervention for mutual benefit of all partners

- CBPR focuses on the local relevance of public health problems and on ecological perspectives that attend to the multiple determinants of health
- CBPR involves systems development using a cyclical and iterative process.
- CBPR disseminates results to all partners and involves them in the wider dissemination of results.
- CBPR involves a long-term process and commitment to sustainability.

As elaborated in Section 3.5.1, I utilized the CBPR Principles above as the benchmark to analyze the coded transcripts narrating the experts' participatory engagements in the two housing redevelopment projects. In general, the participatory processes were successfully implemented in both TKL and Kunir communities because the residents, the experts, and the government agencies managed to implement some of the 9 CBPR principles in various degrees. The analysis reveals different concentrations of each principle, looking at the volume of the initial codes that built up the focused codes. Further, since the study aims to learn about the implementation of CBPR principles in the case study, I adapted the wording of some of the Nine Principles above by replacing the words “health” with “architecture” or “built environment” to jump-start the momentum for the comparative analysis.

Three major groups assumed the role of partners and were actively engaged with each other during the architectural processes. First were the communities of residents of the two sites, the *Kampung* Kunir and the *Kampung* Tongkol-Kerapu-Lodan (TKL). The second was the group of

facilitating experts, mainly comprised of architectural practitioners and academics<sup>83</sup>. The third actor, the Government of Jakarta Province, played a key deciding role as the one with formal executive power<sup>84</sup>.

Thus, I coded the data from all three groups and decided to focus on the largest amount of data I could collect from my interactions with the residents and experts<sup>85</sup> while weaving the data from the governments into the data from the residents and experts. Throughout the coding and categorizing, I examined how their actions in the processes paralleled the CBPR principles, although they did not necessarily refer to the exact theoretical body of Israel et al. [79], [112], [132]. Nevertheless, I maintained the codes from the discussions with the government throughout the comparative process throughout the coding stages to keep being open to any potential relevance that revealed plausible relationships<sup>86</sup>.

From the analysis and categorizing, I found six points with significant frequency to highlight that paralleled the six of the Nine CBPR Principles. They were:

- acknowledges community as a unit of identity,
- facilitates collaborative, power-sharing, and equitable relationships throughout the partnership,

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<sup>83</sup> It is important to note that the architects collaborated closely with the community organizers and other facilitating experts throughout the processes as a reference to the high complexity of the work.

<sup>84</sup> The Government was also addressed as “The Project Owner” of the construction projects since it was legally acknowledged as the public land’s caretaker (if not the legal land-owner). The Government also funded the larger portion of the physical infrastructure and implementation of the redevelopment plans.

<sup>85</sup> Understandably, the government personnel approached my requests for discussions rather guardedly. Hence, I could not get more substantial learning that equals the learning I got from the interactions with the other two groups.

<sup>86</sup> See Sections 3.2.2, 3.3.1, and 3.5.1 in Chapter 3, which discussed the comparative process involving the “*constant comparison*” through “*triangulation*” to draw relationships out of field data.

- focuses on the local relevance of the built-environmental problems,
- fostering co-learning and capacity building among all partners,
- building on strengths and resources within the community
- involves systems development using cyclical and iterative processes.

The following sections elaborate on these six parallels in the following sections.

#### 4.2 Acknowledges Community as A Unit of Identity

“The first issue is the basic question of what is community participation. Who is participating? Who is not participating? What interests are being served or not served?” – Wallerstein & Duran, 2006 [92]

Israel et al. defined a community as a “*unit of identity*” that is marked by the commonalities shared by its members that signified the “*sense of identification with and emotional connection to others...*”. The manifestation of the commonalities includes geographic locations, ideologies, values, interests, and “... *commitment to meeting mutual needs*” [79]. Nevertheless, the emotional relationships, plausibly cultivated through undergoing shared experiences across the community members, seemed to be the underlying factor contributing to developing the community’s sense of identity. The identity is such that it unifies the community and distinct it from the other ones

On the other hand, I also discovered another important point from Israel et al.’s reference to Gaffikin & Morrissey: a community within a geographical site “... *may comprise multiple overlapping communities of identity*” [79, p. 9]. It implies that even with a community's common

identity sharing the same geographical location, there would always be the potential for differing shared interests within that community. In other words, the existence of multiple, different groups of interests in a community is always probable.

I planned the grouping of participants based on groups of people with similar interests or backgrounds, referencing Israel et al. definition of a “*community as a unit of identity*” above. The grouping then continued during the simultaneous data collection, processing, and analysis activities<sup>87</sup>. While cleaning up, transcribing, and coding, the notion of “*overlapping communities of identity*” that might exist in the two locations provided a constant reminder that wording for the codes should adequately link to “who does what, when, and why?” [92], [113] in order to reveal the multiple communities of identity and potentially their overlapping interests. It is part of the work to truly understand, from looking through their different perspectives, what made the partnership work.

On this note, Mosurska and Ford [81] offer an important additional consideration that understanding the “*community as a unit of identity*” should also go as far as understanding the community as comprised of individuals and groups, along with their positionality within the community. That understanding involves recognizing situations, constraints, and the external entities affected and shaped different constituencies, worldviews, concerns, and decisions, thus considering each unit as a unique position of power (or the lack thereof). Thus, understanding “*who the community is*” is essentially the initial step to understanding the relationships between

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<sup>87</sup> See Section 3.2.2 on Constructivist Grounded Theory, Chapter 3.



concerns, priorities, decisions, and actions that would paint the extent parallels to the other CBPR Principles could be found. Understanding the community is also the foundational stage in assessing the possibility of implementing the participatory approach in architecture.

#### ***4.2.1 The eviction as the unifying identifier for the resident community***

The TKL and Kunir communities were among several others living along the Ciliwung River in the Jakarta Old District<sup>88</sup>. They shared the common history of starting out their settlements by squatting illegally on undeveloped lands, typically state-owned. The communities also have the common characteristics of being low-income, low-education people who migrated from less prospective regions of the country. Most people found livelihood serving as blue-collar laborers or earning incomes from informal sectors.

Physically, the living conditions common to these communities matched the UN-HABITAT's description of a slum [17]. The communities were known to have lived in precarious conditions typical of slums or shanty towns, with poorly constructed structures with little to no regard for building codes or planning regulations<sup>89</sup> [19], [20], [120]. The typical conditions can be described as high population density and overcrowding, with some families living in single-room residential units. Environmental health conditions were marked by poor sanitation, with households discharging solid and liquid wastes directly into the river or any untended spots.

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<sup>88</sup> Locally known as “*Kota Tua Jakarta*,” or Jakarta’s Old City

<sup>89</sup> Figure 6 in Chapter 3 illustrates the poorly built environmental conditions typical of Jakarta's urban riparian slums.

These communities have been living as such since the 1980s. Some families have been there for over two generations [27], [151], [152]. They paid official land taxes<sup>90</sup>, and despite receiving some basic services, including electricity and clean water, the residents repeatedly claimed that the government was rather ignorant of their existence, indicated by the minimum to no supervision or enforcement of building and planning codes, except for two or three attempts of sporadic land clearing in the past [27], [120], [135], [151], [153]. The 2015 eviction order was the latest government effort that massively impacted multiple riverbank communities simultaneously.

The office of the then Governor Purnama<sup>91</sup> justified the eviction order impacting the *Kampung Kunir* and *Kampung TKL* communities as a mitigatory policy to reduce hazards, particularly urban flooding, environmental health risks, and crime rates. My dissertation does not investigate the possible underlying motives or the stakeholders that might benefit from these evictions. Nevertheless, because of the limitations outlined above, it was evident that the order was mandated unilaterally across several sites along the Ciliwung River [19], [20]. The policy overlooked the local relevance and the fine nuances on the ground, i.e., the complexity of the multi-layered aspects that actually have made the dynamic urban life in that district possible<sup>92</sup>.

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<sup>90</sup> See Section 4.6.1.3 for more detail on this topic

<sup>91</sup> Mr. Basuki Tjahaja Purnama, popularly known as Ahok, was Jakarta's former Governor from 2014 to 2017 [154]. He was well known for his business-like approach to public issues during his tenure. He was famous for championing accountability and transparent operations of governmental projects and budget use. He was notorious among the government ranks at the provincial levels for publicly broadcasting internal meetings as well as harshly openly reprimanding subordinates for perceived ineptitude or incompetence. The Indonesian public was polarized between those favoring his way or otherwise. Many implicitly considered his ethnicity, religion, and hard stance as a threat to "integrity" or "values" dear to predominantly Muslim Indonesians. He was imprisoned for two years following the heavily politicized public protest and legal allegation of religious blasphemy against the Islamic Quran [155], [156], [157].

<sup>92</sup> See Section 4.4 on "focusing on the local relevance" of the built environmental decisions.

#### ***4.2.1.1 Incapacitation from Prolonged Patronizing, Exploitation, and Oppression***

One of the community organizers, Z1, offers their observation on the marginalization and patronization of the *kampung* residents, quoted in Box 1. Z1's summary of the typical condition of the low-income residents above represents the general sentiment that the residents have towards external establishments. They address this resentment mostly when the conversations involved the government's handling of their situation until just before their alliance with Mr. Anies Baswedan<sup>93</sup>, the then-governor in office. Even with that, they testified to continuing to experience patronization from various provincial government agencies.

“Because of their repeated experiences of forced eviction & residential demolition, their long list of experiencing government's oppressive behavior made them apathetic. They didn't believe (that they deserved better). Because they got booted every time they tried to stand up, they were no longer sure whether they should think far into the long-term future. ... And then there were also patronizing experiences, right? Having political candidates coming & distributing groceries and telling the people to vote for them. I think that is condescending.” – Z1, one of the community organizers

Box 1. A quote from a community organizer describing the marginalization and patronization of *kampung* residents.

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<sup>93</sup> Mr. Baswedan replaced Mr. Purnama in the gubernatorial election to lead Jakarta Province and started his office in 2017, following the latter's legal sentence [158], [159].

In another discussion, the community organizer shares the prevalent cause of disempowerment throughout. They point to the repetitive patronization of the poor, coupled with the unaccountability of civic administrative operations, as the primary causes. These are two main factors that strip low-income communities of their ability to have confidence and a sense of control over their lives.

The typical treatment the poor, disenfranchised residents experience when dealing with government agencies has been to acquiesce to decisions passed down through the civic administrative structure<sup>94</sup>. The same structure is also utilized to channel development funds budgeted at the provincial level based on proposals from either neighborhood or sub-village levels made a year prior. A history of relaxed accountability has marred this supposedly bottom-up budgeting process, with individuals at various power levels taking personal advantages with little benefit to those residents who most need it.

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<sup>94</sup> In Indonesia, local administrative power is organized into units within village-sized communities. These units are the *Rukun Warga (RW)* and *Rukun Tetangga (RT)*, respectively, representing sub-village and neighborhood levels. Community members elect these administrators, who are then formally appointed by the Village Head (The *Lurah*) [160]. The *Lurah*, functioning under the oversight of the Head of the Sub-District (The *Camat*) [160], plays a pivotal role by directly managing *RW* and *RT*. This allows for close engagement with the foundational community units, and these leaders receive government stipends for their coordination roles and for relaying official government directives.

This administrative structure is significant as the government's method of officially recognizing specific community units, locations, and associated settlements. This recognition not only legitimizes a community but also entitles it to government services, including funding for infrastructure and maintenance through the municipal budget. If a community's official status is revoked, they lose these benefits.

Budgeting decisions are rooted in proposals from the *RT* heads, aggregated at the *RW* level, and then submitted to the *Lurachs*. Once these proposals are approved, the funds are channeled through this hierarchical framework. However, this system can sometimes become mired in personal biases of community leaders, affecting decision-making. This dynamic between the *Lurachs* and the heads of *RTs* and *RWs* can sway the latter's allegiance, causing them to oscillate between serving their immediate communities and aligning with broader governmental objectives.

Previous sporadic land-clearing orders<sup>95</sup> gave squatting residents short notice to vacate the lands passed down through the said structure. Even the heads of neighborhoods and subdistricts typically would have difficulty resisting such orders. The RTs and RWs often ended up being seen as the agents that take sides more with the government than with the communities they came from.

The administrative patronization above at times got compounded by multiple, occasional non-governmental operations of handing out perishable or consumables to the communities. Those doing this were either entities and individuals with charitable intentions or political figures who asked residents for their votes. These activities usually occur during religious seasons or holidays, national celebrations, or electoral cycles<sup>96</sup>.

The experience of having little to no agency in important decisions, no control over circumstances, and that they should take every instruction and periodic gift from people trying to exploit them for their own personal benefit created a pervasive distrust. This experience led to the perception that every form of material distribution comes with vested interests that the givers plan to collect sooner or later. In other words, the riverbank communities saw their relationships with outsiders as transactional and likely not to their benefit.

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<sup>95</sup> Typically, such evictions were done without any follow-up on how the disruptions impacted the evicted poor community's livelihood. Small compensations typically would be provided if they were lucky enough. As such, it has encouraged the affected persons to repeat the squatting cycle and speculate on getting some compensational cash from the next iteration [20].

<sup>96</sup> <https://www.cnnindonesia.com/kursipanasdki/20170218110033-516-194407/warga-akuarium-kami-digusur-tapi-juga-didata-untuk-pilkada>

PI: “What happened back then?”

KNY1: “Promises, promises, more promises.”

PI: “What, (the government) did not keep their promises?”

KNY1: ” ... we had to meet with them, like... twice a week. But nothing came out of it! First, there was no result whatsoever. Second, we’re taken as fools! They see us as stupid people!”

KRX1: “During Ahok’s rule, even houses (on land) with ownership certificates were bulldozed to the ground!”

KRX3: “Like in Kampung Pulo, right? The folks had certificates, but still they got evicted, right?”

KRX5: “(Ahok) said (the clearance) was for inspection roads.”

KNX4: “It was suck!”

Box 2. An excerpt on injustice perceived by the residents through the government’s mandate.

As the community organizing team found out, the result was that the communities did not see themselves as likely to receive equal treatment like any other members of civil society. That, in effect, disabled low-income individuals to envision a long-term situation where their being does not have to depend on the external agendas of privileged entities, individuals, or groups. It encouraged the residents to cultivate self-serving interests that exacerbated the power difference

already existing among themselves<sup>97</sup>. This situation, in turn, resulted in chronic distrust towards external entities, specifically those perceived as the ones with greater capacity or access to resources who are offering any form of assistance.

When viewed through the situational lens described above, one can better understand the skepticism communities might have about architects or building experts who advocate for specific designs or construction technologies. These external professionals could be seen as potential exploiters or patronizers, driven by their own agendas, which might not align with the genuine needs and priorities of the community. This perception challenges the experts to build trust by ensuring their interventions truly cater to the people's aspirations and concerns.

The experiences above reveal how the two communities I talked with had acquired their positional identity. It was shaped by the prior experiences. The situation produced a shared sense of exploitation among the community members. Their perspectives acknowledged their position at the lower, if not the lowest, rung of Jakarta's society, and they felt powerless to effect significant change to their lives and thus would not bother to do anything other than to subsist from day to day.

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<sup>97</sup> I found out during the discussions with the residents that a number of them actually owned second or even third properties at different locations. Z4, one of the facilitating architects, confirmed this finding and underlines that property ownership as such afforded the owning individuals a better, stronger social status among the other residents. It effectively earned them the more advantageous position that enabled them to champion their perspectives, concerns, and hence interests as representing the other community members with less social status.

#### ***4.2.1.2 Acknowledging Residents' Different Priorities***

The impacted residents were aware that, despite being the nexus of their needs, the issue of their housing solution was one of many competing priorities they had to pick to subsist. Their understanding of “a house” might differ from architects' ideal or optimized version. The residents' primary concerns revolve around their basic survival needs, such as securing employment, providing for their families, evading eviction, settling bills, equipping their children for school, and repaying debts. In the face of uncertainties like unstable incomes, meeting housing standards, building codes, or the quality of formal design is often not prioritized.

Relating to the conditions described in 4.2.1.1, it is worth noting that residents may initially appear receptive to architects' interventions, not necessarily out of genuine interest, but with the hope of immediate consumable benefits<sup>98</sup>. Their apparent enthusiasm might be more transactional than genuine, especially if they believe there is something immediately beneficial in exchange for their cooperation. Furthermore, certain privileged individuals might attempt to steer the architects' efforts toward serving their personal interests.

#### ***4.2.2 The Well-Meaning Architects as Units of Identities***

Architects understand themselves as professionals trained according to an established set of codes of conduct to enable them to provide standardized services. The standardized professional

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<sup>98</sup> These typically would include material assistance (cash, groceries, garments, shopping vouchers) and superficial infrastructural repairs (filling up potholes, replacing pavement surface, façade repainting, redecoration of entrance gates). Usually, the events or the physical project would be highly publicized to serve various agendas rather than addressing the core concerns of the beneficiaries [20].



guidelines [124], [125], [148], [149], [161] established the convention of architectural practice<sup>99</sup>, developed around the commercialization of the profession through a fee-for-service, timeline-sensitive consultancy format [163], [164]. That standardization contributes to shaping the worldview and collective identity of architectural practitioners at large.

Regarding the mitigatory humanitarian context, some architects are willing to volunteer their time and services to help the impacted residents because they see an opportunity to contribute that is relevant to and in line with their skills. In the case of the *Kampung Kunir* and *Kampung TKL* communities, the architects' mutual concerns revolved around the initiative to provide service to improve the two *kampungs*' built environment. My discussions with the involved architects made me understand that their philanthropic enthusiasm is rather significant in shaping their shared identity as "a group of well-meaning, facilitating architects."

#### ***4.2.2.1 Different Perspectives Between Facilitators***

Despite the common good intention described above, I discovered the difference in perceptions between them and the beneficiaries, as well as among the architects themselves, regarding the scope of work involved and the best way to deliver their contribution to the beneficiaries. As an example from my fieldwork, I learned that Z11, a facilitating architect, was involved in the projects through a formal appointment by being commissioned from the get-go by the government to work on the riverbank revitalization and redevelopment plan. Z11's remark reveals their perception of their commissioned architectural work that focused on

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<sup>99</sup> And the corresponding research that would be part of and inform the practice [82], [162].

“*beautification*” that prioritized addressing the problem of the built environment by providing good physical design and pleasing aesthetics. This differs from the avenue taken by the other architecture facilitators<sup>100</sup> who viewed the social approach as the foundation for any proceeding architectural design works. The excerpts in Box 3 show those varying perceptions between each speaker.

“Yeah so... like, he gave us some advice, right. Like, giving us some inputs (about buildings).” – KNY8 (a community representative)

“Even between... between ... so like... between facilitating architects, there are differences. But mostly, it's about differing methods. About methods and ideology, you see. That's how I see it.” – Z3 (a facilitating architect)

“Well, architects' role and our colleague in urban design were very important. So first, like I said earlier: it's about beautification. So people could see it first as visually pleasing. The second, so that people could feel comfortable being there. The next one, it's about eliminating spaces for immorality. Then, providing space for urban farming. And then, what material to use. It should be those that reduce glare and heat conduction, because it's not likely that low-cost housing could use air conditioners.” – Z11 (a facilitating architect)

“Terms like ‘environmentally friendly,’ that kind of thing is relatively new for most of the people here. We only knew that we should build our houses with the cheapest but good enough material, as in strong enough.” – Z1 (one of the community organizers)

Box 3. Excerpts from discussions on which aspects the architects' role could contribute.

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<sup>100</sup> Z3, Z7, or Z8 to name some of them.

The architects' other challenge is to recognize themselves as a community of identity with inherent internal variations of viewpoints and interests, as addressed by Israel et al. and Mosurska and Ford [79], [81]. I learned that the architects involved in facilitating the two communities were comprised of groups distinguished by their professional occupations. First was that of professionals practicing architects with backgrounds from various architecture schools. These are young architects in their 20s and 30s who happen to be members of the architectural NGO whose activism is to advocate "community architecture" [165], [166], [167].

The second category is the architectural academics, who are faculty members of one respected architectural school in Indonesia. They have an academic interest in pro-poor urban development, which they bring into their activism and advocate for using a participatory approach for regional and local planning works for areas with low-income urban populations. These academics were among the few experts who have worked with the impacted communities since the early eviction period.

From my discussion, illustrated by excerpts in Box 4, I learned about the presence of inherent bias or partiality between the facilitating academics and their professional counterparts regarding the better model for their participatory architectural engagements with the two riparian communities. Z8, one of the facilitating academics, criticized their professional counterparts by underlining the tenet that addressing the housing needs of a community group could not be done by advocating only a specific technological solution. They likened the facilitation by their

practitioner counterparts to conventional practice that renders professional services to exclusive clients<sup>101</sup>.

On the other hand, there was the perception among the facilitating practitioners that such criticism signaled the urge for acknowledgment and maintaining a reputation among the facilitating experts. Z7, one of the facilitating professional architects, suggested that such perception implies the presence of apprehension among some experts of losing their influence as the reference for “*truth*” in the community. Such criticism of others' work could also strongly indicate that there were indeed facilitating individuals or groups who felt like they were being sidelined or not referred to for certain aspects of what was supposed to be collaborative facilitation work.

However, given the complexity of the presence of multiple units of identity and their overlapping interests on-site, with uncertain timelines that tend to characterize humanitarian works, the architects' challenge is to what extent they can contribute their time and resources without compromising their own stability and sustainability. The potential implication is that the architects may hastily provide their services without understanding and addressing the on-site complexities.

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<sup>101</sup> One of the facilitating architects, Z8, expressed their criticism that arose around the discussion on implementing bamboo material in the prototype house in Kampung TKL. Offered as an example of the use of appropriate technology by the practitioners, Z8 signaled disagreement with how their practitioner counterparts operated in or with the residents in what they perceived was supposed to be community-based participatory facilitation works. The bamboo prototype house was disagreeable<sup>101</sup> because the original building belonged to only one extended family (Confirmed in my discussion with TKX5, another resident neighboring the prototype bamboo house). Z8 did not see this as addressing the wider resident community by catering to “a community of one family.”

PI: “What do you think about the bamboo prototype house, how does it perform [to convey the ideas of bamboo construction as an appropriate technology]?”

Z8 (one of the facilitating architects): "Do not ask me how the (bamboo house) prototype has performed! Ask the residents instead!”

PI: “When this bamboo [prototype] house was built, there were some [experts] who helped with the technical [advocation]. Did they inform you about bamboo [technologies] as well?”

TKX5 (one of the residents): “Nope. They were here, but then I never saw them again after [the prototype] was completed.”

“So, from the perspective of architecture activism, as done by for example the architects or other facilitating groups ... how should I say it ... it could be said that it is admittedly with competition, there exist the competition (between groups), you see. ... So (the question of) ‘whose work is this’ were indeed a sensitive issue ... for certain experts from certain groups or entities because the work was heavily associated with their competence or expertise.” – Z7, one of the facilitating architects

Box 4. Two quotes from two facilitating architects indicate different world views between facilitators.

Either way, for the two groups of involved architectural experts, the residents' unfortunate realities—the dire living conditions and the forced eviction—are closely aligned with their training and practice in architecture and the built environment. In turn, this motivated them to act. Thus, it is important for the facilitating experts to have adequate knowledge and knowhow in navigating those differences and potential dynamics within and between the communities of architects and residents to harness the potential combined strength and resources. Sections 5.2.2

and 5.4 in Chapter 5 elaborate on how the architects navigated those differences during the facilitation processes.

#### ***4.2.2.2 Cultivating the Awareness of Different Worldviews and Priorities Among Collaborators or Partners***

Acknowledging the variations of worldviews and priorities among potential partners should be initiated by being transparent and upfront about each other's motives to get involved and collaborate, as illustrated in Z3's reflection in Box 5. Z3 is one of the facilitating professional architects who eventually entered a contractual relationship with the government – a mandatory legal procedure to enable the formal commissioning of government-funded projects. Z3 decided to comply with this regulation to ensure that the architectural design and construction would undergo an official review and adhere to the building permit procedure while maintaining the architectural design gained from the collaborative co-design workshop. Given the building's nature as a multistory apartment, this was also a necessary step toward its formal safety certification<sup>102</sup>.

While the architectural team at the *Kampung* TKL facilitated the community without having to enter a contractual agreement, interpreting Z3's statement sheds light on the involved architects' dilemma as trained professionals and activists. While their activist idealism urges them to involve beneficiary residents throughout the design and construction process actively, the “*architectural project flow*” [124], [150], [161] and the mandatory bureaucratic administration,

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<sup>102</sup> Indonesia's Certificate of Occupancy (*Sertifikat Laik Fungsi*, or SLF) is a required government certification for newly constructed buildings. Inspectors check for a building's compliance with all mandatory technical standards for building and construction safety [168], [169].

as of the time of my fieldwork, did not require such grassroots engagement. The professional setup positions the design team, in this case, represented by a leading architect, as the sole entity responsible for the project's deliverables. This structure –and challenges in actively involving the residents– could have easily encouraged architects to exclude residents from the process or, worse, falsely perceive consultation as bonafide participation of the residents<sup>103</sup>.

“The community organizer once asked me this one thing: ‘What’s your interest in this building? Do you need it to be erected?’ That question got me thinking: If I were to put on my architect’s hat, I think the erection of this building is a certainty because it is a direct consequence of this being a project with a signed contract in the governor’s agenda. Right? This building will materialize. My role is to ensure it will be as good a product as possible. But at the same time, I’m thinking, if that is not happening, then why do my major decisions –in terms of not only outward ones but also the ones impacting internally, like some organizational warrant of (our) idealism– become a troubling burden?”  
– Z3, one of the facilitating architects.

Box 5. A quote from a discussion with Z3, one of the facilitating architects, on motive and intent.

### **4.3 Facilitates a Collaborative, Equitable Partnership in Phases of Architectural Practice**

“... all partners participate in and share decision-making and control over all stages of the research process, such as defining the problem, collecting and interpreting data, disseminating findings, and applying the results to address community issues – Israel et al., 2012 [79]

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<sup>103</sup> Discussed further in Section 4.3.1.

Collaboration may initially sound appealing, yet Israel et al. pointed out the existence of "*overlapping communities of identity*," as discussed in the earlier part of Section 4.2. This notion implies that collaboration often occurs amidst competing interests between sub-communities, each striving to advance its own. In such a situation, there's a tendency for sub-communities to advocate for their concerns as if they represent the concerns of the broader collective.

The dynamic described above contrasts with the professional collaboration typically seen between architects and their sub-consultants or clients. In such professional relationships, the primary objective is simply to provide high-quality architectural services commensurate with the agreed-upon fee, with the leading architect(s) at the helm of the power structure [124], [125]. However, with no clear, upfront project objectives, a much less hierarchical decision-making structure among the involved experts, and the absence of monetary incentive or bond as a signifier of contractual commitment and accountability, sorting through these proved to be an organizational challenge, specifically in the earlier stages.

#### ***4.3.1 Uncovering the Positionality Within the Collaboration for Humanitarian Works***

“Israel et al. (2017:32) identified the recognition of the “community as a unit of identity” as a key principle of community-based participatory research (CBPR); although they highlight positive attributes of community, they do not consider internal power structures. Furthermore, they highlighted that CBPR seeks to strengthen a sense of community through collective engagement (Israel et al., 2005), which can be problematic given that apparent cohesiveness within communities can reflect the interests of dominant groups or be a means of excluding subordinate groups (Coleman, 1961; Rieder, 1995; Jewkes and Murcott, 1998; Brint, 2001).” – Mosurska & Ford, 2020 [81]

“People’s positionality, the power inherent in their immediate respective social positions, greatly influences the differences in what individuals have access to in society.” --- Misawa, 2010 [146]



The citation from Mosurska & Ford above indicated that the foundation of equitable partnership for a mutually beneficial partnership is the inclusion of the marginalized, or “*subordinate*,” individuals, groups, or sub-groups into the collaboration. Echoing the point that Mosurska & Ford addressed [81], my discussions with the facilitating architects and observations during the mini-design workshop revealed the presence of in-group heterogeneity and relationships.

Two facilitating practitioners working with TKL and Kunir communities acknowledged observing different individuals and groups wary of losing their influence. The practitioners were aware of the said individuals or groups circulating insinuations, alleging the facilitators intended to exert influence that could undermine the pre-existing influence of those individuals or groups. Parallel to that innuendo, the two architects received approvals from different individuals or groups within the resident communities, citing their support for the architects to redistribute the pre-existing power inequalities perceived by those with less influence in their communities.

It was so apparent to me that Mrs. X (a person of influence in one of the two kampungs) and Mr. Z1 (one of the community organizers) have powerful political positions [despite their seemingly different goals] ... some saw me as trying to encroach position [for myself] ... but for some other, they saw my presence will help to untangle the current power concentration faster.” – Z3, *one of the facilitating architects who was involved since the earlier stages of the architectural facilitation at the two kampungs.*

Box 6. A quote reflects on observed pre-existing power and positionality in a community.

I began to understand these internal dynamics and various interests only by spending considerable time interacting with and observing the communities<sup>104</sup>. From my experience during one session of the mini design workshop. The attendees were co-op caretakers holding leadership positions as representatives and leaders at TKL communities. However, one of them was closely related to a person who was skilled as a builder and was invited to the meeting. The builder reviewed the design proposal rather aggressively. While their know-how on building construction helped technically keep the design in check, I could not help but feel cornered by their aggressive way of inquiring. I happen to know –from my separate discussion with the builder– that the builder previously had ambition and aimed for a leadership position in the community but failed to secure an appointment for that position. Reflecting on that situation, I interpret that interaction as a way for the said builder to display their leadership capacity, which was no less significant than that of the other individuals in leadership.

What the architects might have seen on the surface during their grassroots engagement might not represent the fundamental dynamic addressed by Misawa [146] as the “*positionality*” that existed within the Kunir and TKL communities. Learning from the architects’ and my experiences, individual and group interests are heterogeneous and could be either conveyed straightforwardly or vaguely. Further, vested interests might not necessarily be aligned with each other. Conflicting interests are plausible, could be a feature in a community, and should be expected.

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<sup>104</sup> Community meetings, representative meetings, individual discussions, as well as multiple presences on location for site observation were several modes other than the said mini-design workshops that allowed me to see and experience those dynamics first hand.

Enter the altruistic architects, offering their specialized expertise, which would be prohibitively expensive for these residents under normal circumstances. For these well-meaning architects, there is a risk of becoming self-congratulatory. Providing architectural designs pro bono is always seen as good conduct, strongly suggested in the architectural professional code of ethics [124], [125], [150]. However, without truly aligning with the beneficiaries' genuine concerns, architects might leave the project with a sense of fulfillment, believing they have bestowed a solution, even though it does not genuinely resonate with the community's actual needs or priorities.

From the residents' side, to receive even irrelevant designs is better than none. Welcoming the architects' input would at least afford them potential allies, though it might unintentionally perpetuate the patronization cycle. Thus, acknowledging these “*power relations*” [81] within the supposedly collaborative partnership in the participatory approach that involves the residents in architectural processes is critical to avoid the unintentional amplification of the preexisting gaps between partnering entities.

Another critical learning from the data is the revealing of the similar “*positionality*” and “*power relations*” among the facilitating experts themselves. During the initial phases of working on the data, I clustered the initial codes related to learning about the facilitating architects around the two geographical locations to identify which architecture group worked on which site. However, switching to grouping them according to their professional basis allowed me to recognize the distinct operational modes between academics and practitioners.

Through conversations with architectural facilitators<sup>105</sup>, distinct viewpoints emerged between academicians in architecture and their practitioner counterparts. That realization led to understanding the dynamics among the facilitating architects themselves. These differentiations are not merely a matter of contrasting professional opinions but are deeply rooted in each group's experiences, biases, and preconceptions. It turned out that the architects themselves were a community with internal dynamics in the sense that was addressed by Mosurska & Ford [81] and Misawa [146].

The TKL and Kunir communities and the group of architects emerge as a multifaceted patchwork of individual stories, drives, and priorities. Recognizing and effectively managing these sometimes convergent, sometimes divergent priorities is the key to a productive collaboration. The community organizers did the foundational work of developing and promoting a democratic, equitable system to organize the heterogeneous riparian communities. Fundamentally, they developed an organizing system to consolidate multiple interests of individual community members and sub-groups around core concerns shared by all. They did this by devising a methodology that fostered an awareness of the communities' heterogeneity and emphasized forming a united front while addressing the internal pre-existing inequalities that impact the marginalized population within the riparian communities<sup>106</sup>. Section 5.4. elaborates this systematic methodology.

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<sup>105</sup> see Section 4.2.2 on the community of “well-meaning architects” as the unit of identity

<sup>106</sup> The grassroots movement at the two settlements in this research was part of the larger, concerted effort by the network of several other low-income communities facing similar eviction and relocation challenges. Riparian communities other than the two case studies also worked with facilitating architects from different groups and other experts from other disciplines. The experts' placements resulted from the consensus between the community organizing entities (JRMK, UPC, RUJAK-CU - See Section 3.5.5 for their respective website links), the experts, and the community representatives.

Uncovering and understanding these dynamics and positionality early in the collaboration is crucial. Without a proactive approach to identify and address the internal dynamics and positionality, they could remain latent, only to introduce unnecessary challenges later. Such dynamics can exert additional pressure on the participating experts, making collaboration challenging. It was evident from the interviews that the professionals and academics acknowledged experiencing these dynamics during their facilitation works. Appreciating and managing these divergent yet occasionally overlapping priorities for effective collaboration is essential. The locally grounded shared concerns and goals, as discussed in Section 4.4, serve as the foundation. Section 5.4.1 and 5.5 offer a deeper exploration of how the collaboration adapted the conventional architectural workflow to the above positionality in this intricate cooperation landscape.

#### **4.4 Focuses On the Local Relevance of Built-environment Problems and On Ecological Perspectives That Attend to the Multiple Determinants of Architecture**

“CBPR focuses on the local relevance of public health problems and on ecological perspectives that attend to the multiple determinants of health.” – Israel et al., 2012 [79]

Local relevance, local grievances, local concerns, local interests, and local agendas are all related, emanated, and pivoting around the communities of identity who champion them as their causes. While those items are locally relevant for each respective group, they could be intersecting, overlapping, or conflicting. Israel et al. emphasize the crucial connectedness of identifying the problems to the local situation and context in the public health sector, but the same can be said for the architectural and built-environmental challenges. The following section

explores and unpacks the area where multiple, locally relevant elements intersected, which then affected the participatory architectural processes in the two settlements.

#### ***4.4.1 Having their location-bound livelihood threatened (by the eviction)***

The residents viewed the 2015 eviction and relocation order as a significant threat to their well-being. Their current location's close proximity to their workplaces and essential services means convenience and economic feasibility. Relocating would entail a longer commute and increase daily expenses, especially if they cannot find alternative employment options nearby. This, combined with Jakarta's notorious traffic conditions [170], [171], [172], could compound their daily financial and social burdens [20]. Widyarningsih and van den Broeck presented these compounding burdens through a map of Jakarta showing the distance between Jakarta Old City and the mandated relocation areas at the city's periphery, which were part of the government's plan [20].

Firsthand accounts showed that this is not merely an externally imposed perspective. Many residents, particularly leaders and activists, have seen firsthand how similar communities suffered due to extended commutes.

The added financial strain and the government's scant support<sup>107</sup> for livelihood restoration make relocation an unappealing –if not unfeasible– option. TKX5, an elderly widow living in the sub-

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<sup>107</sup> The government has not offered guarantees or support to replace or sustain income sources for relocated families, as told by LDX1 (one of the community leaders at sub-*kampung* Lodan) in Box 6.

kampung Tongkol, critically questions the potentially dire prospect of the government's plan to move them to a new, distant location, as quoted in Box 7. The question underscores a vital concern shared by other residents: the potential loss of location-specific income. Many residents, like TKX5, live by themselves and have spent years nurturing home-based, small businesses.

The residents have built their homes and communities for generations, often without strict adherence to local codes but with resilience and determination [19], [20], [21]. While they might have skirted some regulations, the community interpreted the government's provision of utilities and occasional services as tacit approval of their settlement. They even paid property taxes collected formally by the government agency<sup>108</sup>.

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<sup>108</sup> See Section 4.6.1.3.

PI: "What was the residents' reason to insist on staying here?"

KNY1 (a community leader at *Kampung Kunir*): "First (our) reason was the jobs; second is our kids' school; third, (their) proximity (to our current settlements)."

KRX1 (a community leader at sub-*kampung Kerapu*): "Well, basically we refused to be evicted and relocated. We want to remain in our kampung here. If we're relocated, we'd be too far to get to work and for our children to go to school."

LDX3 (a community member at sub-*kampung Lodan*): "We refused to be relocated to the (government-assigned) apartment because it's too far. ... Most of us have jobs in this area. At the factory, seaport, Old City, marketplace, business centre, all in close range. If we were We'll have to spend extra costs, extra time. Even with the busway, we still have to go through Jakarta's traffic jam."

TKX5 (A community member at sub-*kampung Tongkol*): If relocating, where to? It's hard! And if (the government) demolish (my home), I have no idea to whom or how I should get by, I just don't know ... I was saving to start my own business. I kept saving. ... I started a noodle stall at home after work. Every day. I gradually expanded by selling other dishes, too. ... I got the starting money from years of savings.

LDX1 (a community leader in sub-*kampung Lodan*): "Those (government-assigned) flats ... I once visited one of them, you see. ... The government gave them flats on the other side of the city. I was concerned by learning about, one of the cases, a widow... she relies solely on her small stall at her house. That's her only source of income. She got quite a number of customer before being relocated. Mostly passerbies. Her customers were not limited to only her neighbors. It's different in the flats. It's harder when she got placed on upper floors. Her stall business couldn't survive. ... The government never considered this kind of impact to people! Not a thought!"

Box 7. Excerpts from multiple residents on their reason for staying at their current locations.



The excerpted discussions in Box 7 show the locations' life-supporting function for the residents because of their proximity to workplaces and essential services. Relocating imposes on them the plausibility of entirely losing their means of income.

Beyond the risk of losing their livelihood or swelling of economic or operational costs, the community's reluctance to move is also about uprooting a deep-seated sense of belonging cultivated over generations. While the government might view the relocation as a simple logistical exercise, for the residents, being relocated to government-owned rental units overlooks the deeper emotional, cultural, and social implications such relocations have. For the residents, the forced relocation represents a loss of their sense of belonging, pride, self-sufficiency, and independence (see Box 8). Thus, any expert facilitation or assistance by any "well-meaning architects" should build on the two communities' concerns to maintain their presence at their current locations.

“... even though we have to fund the halving of our houses by ourselves, but thank goodness, this [redevelopment] will be better for our descendants. Before, well, if you say [this place] was a slum, it was! But now, thank goodness, you can see how different this settlement is! Hahaha, yeah, it's a stark contrast! Way better!”  
– LDX2, one of the community members at sub-*kampung* Lodan

“We will become renters if we move to those (government) flats! Renters! We no longer own our houses! That's not what we want!” –  
LDX1, a community leader at sub-*kampung* Lodan

KRX1: “Here, we own our houses, no matter how small. Right? And we have this established bond with our neighbors, this society, right?”  
– KRX1, one of the community leaders at sub-*kampung* Kerapu

Box 8. Quotes from the residents expressing their pride, sense of belonging, and self-sufficiency.

#### 4.5 Fosters Co-learning and Capacity-building Among All Partners

“CBPR is a colearning process that fosters the reciprocal exchange of skills, knowledge, and capacity among all partners involved, recognizing that all parties bring diverse skills and expertise and different perspectives and experiences to the partnership process. ... The collaborative efforts of the partners as they worked together to address challenges illustrate the emergence of trust and trustworthiness on the part of both the academic and community partners as they learned to understand and value the contributions that each made to the success of the project.” – Israel et al., 2012 [79]

Parallel with the theoretical definition of “*fostering the co-learning and capacity building among all partners*” by Israel et al., a community organizer offered their insights on the nature of collaborative processes. As quoted in Box 7, they underline the acknowledgment of the knowledge capitals of partners and their exchange between partners at the two riparian communities. It is important to note that the organizer also highlighted the cultivation of trust<sup>109</sup> as the outcome of the collective activities derived from co-learning and capacity building.

Picking up from the discussion about “*collaborative, power-sharing and equitable partnership*” in Section 4.3, the works at the two settlements reveal that the effort of acquiring or building that trust was the outcome of the slow, reciprocal, iterative processes that gradually developed the trustworthiness and accountability<sup>110</sup> of each partner. Instead of advocating legal means first, it

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<sup>109</sup> Time and again, other colleagues and I who are eager to contribute to humanitarian causes find trust-building an appealing yet abstract term. Professionally, the architect’s accountability as a professional rests on maintaining the trust his/her clients give them through the latter’s financial investment in the former’s services bound by legal contracts. The former’s accountability depends on the fulfillment of those contracts. Trust is built and earned by being faithful to the clauses agreed by both parties. In contrast, no legal contract was typically entered between the facilitated beneficiary community and the facilitating architects or other building experts assisting their housing needs.

<sup>110</sup> They adhered to the bit size commitments and delivering incremental, tangible results that meet the consensus. See Chapter 5 for how they implemented this strategy and adapted the architectural workflow.

started as an intentional, mutual effort by the facilitators and the facilitated to learn about each other. It was the learning to recognize and acknowledge the current situation, the past actions that shaped that situation, and the larger context affecting and affected by the communities' conditions. It was also about learning about the other partners and stakeholders within that context to provide the community with contextual awareness. Thus, capacity-building started with and was built on this equalizing co-learning platform.

The ensuing capacity-building activities were built on and around the aim of reversing the condition of extended patronization and exploitation<sup>111</sup>. The community organizing team carried the bulk of the organizing work that advocated for the residents to organize themselves and adopt the collective mindset: what the residents lacked in material resources, accessibility, and privileges could be leveraged by working together as an organized collective. What power the residents lacked as individuals could be leveraged through collective actions for the collective benefit.

The community organizers were instrumental in shaping the foundation of the co-learning process above<sup>112</sup>. Their primary achievement was earning the community's trust, which they made the most of to proceed and establish the community-based organized platforms.

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<sup>111</sup> See Section 4.2.1.1

<sup>112</sup> Their consistent presence and engagement with various stakeholders afforded them a holistic understanding of the residents' challenges and concerns.

“(The organizers) wanted us the residents to understand and can resist the unfair (government) policies.” – KNY1, one of the community leaders.

“Both (architects and residents) possess knowledge. And so, they give input and feedback to each other. There are perspectives that the residents don’t have, but there are also perspectives that the architects don’t have because the architects don’t experience them directly and don’t live there as residents. The residents might have limited access, possession, or perspective on other forms of new knowledge. ... So it shouldn’t be just the architects following up the standards or norms or simply providing whatever the residents ask. It’s not like that. Not like that. ... The first thing to do is to identify the data and all ... to understand the social (situation) and other aspects. ... The second is to establish the social entity as the subject responsible for doing programs or activities ... It would accommodate the collective planning and conducting activities that facilitate collaboration, distribution of responsibilities, and, in turn, cultivate trust among its members. So basically, we build the people and (introduce) the (collective) tradition. Then it would be a shared work that hopefully would deliver results (as the output of the collective work) that would develop more trust.” – Z1, one of the community organizers

Box 9. Quotes on what was expected of the architects’ engagements.

In the two case studies, the agreed format for their platforms was a resident-run cooperative entity (a resident co-op) to exercise the organizing efforts within each resident community<sup>113</sup>.

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<sup>113</sup>. The co-op also functions as the legal steward to represent the community’s interests in its relationship with the extended network of the Urban Poor Consortium or other external entities. Other smaller, at times ad-hoc, organizing platforms were established as organizing committees for community actions or events and typically would mimic the structure and behavior established in the co-op.

These platforms facilitated skill-building and negotiations with external stakeholders such as government agencies or contractors.

As an organized entity, the resident co-op plays a critical role in fostering and maintaining accountability and equitability, ensuring that residents are involved in architectural decision-making by collaborating with their expert facilitators. The agreed way to cultivate trust was for the collaboration to deliver piecemeal tangible results that residents could quickly notice and understand. Earning the residents' trust was crucial, first, to reverse the condition of distrust resulting from the extended patronization<sup>114</sup>, and second, correspondingly, for the residents to be able to trust the well-meaning expert facilitators and the collaborative, empowering processes that can gradually capacitate the residents to make key decisions that will impact their lives.

It is important to note that the facilitating architects benefitted immensely from the earlier organizing efforts of the community organizers. The trust and cohesion established by the organizers means that architects could gain relatively less challenged access to the communities because of the organizers' endorsement. Technically, they could work more efficiently with a relatively united and receptive community. The organizers even facilitated and helped the architects organize themselves<sup>115</sup>. On the other hand, it is also crucial to understand that these advantages did not necessarily mean that the architects were able to quickly earn the communities' trust, as discussed in Section 4.7.

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<sup>114</sup> See Section 4.2.1.1.

<sup>115</sup> See Section 4.2.2.1

The riverbank communities underwent a profound shift, driven by introspection and a collective desire for a better living environment. Motivated by what they learned from reviewing their past challenges<sup>116</sup>, they proactively initiated sustainable actions like partial land clearing, river stewardship, and waste management. Instead of merely reacting to external pressures, they drew from past experiences to shape a healthier, collective future. This transformation underscored their resilience, adaptability, and vision for improved living conditions. Central to this transformation was the newly acquired capacity to create a shared vision of a better life<sup>117</sup>. They recognized the immediate need for improved living conditions and believed in their potential to thrive. This combination of reflection, organization, and resolve displayed their resilience and adaptability.

#### **4.6 Builds on The Strength and Resources Within The Community**

“Strength, resources, and assets that exist within communities of identity, such as individual skills, social networks, and organizations, in order to address identified concerns.” – Israel et al., 2012 [79]

Israel et al.’s citation above suggests that the community’s strengths should inherently exist in itself, albeit its members were initially unaware of them. Other than the shared concerns, it is equally important to identify these strengths from evidence.

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<sup>116</sup> see further in Section 4.6.1.

<sup>117</sup> See Section 5.4.1.1.

Historically, the residents of the two kampungs have established their livelihood by providing services and labor to the businesses in the Jakarta Old District since the Dutch colonial periods in the 1940s. The relationships, closeness, bond, and mutual support between residents and the other, more well-to-do social segments reflected the mutualism in that location [19], [20], [27], [121], [151], [152] A Dutch Military Map from circa 1945 (Figure 9) shows the two *kampungs*' proximity to the Batavia Seaport and Fatahillah Square. The seaport and the square remain important business hubs for the current City of Jakarta.

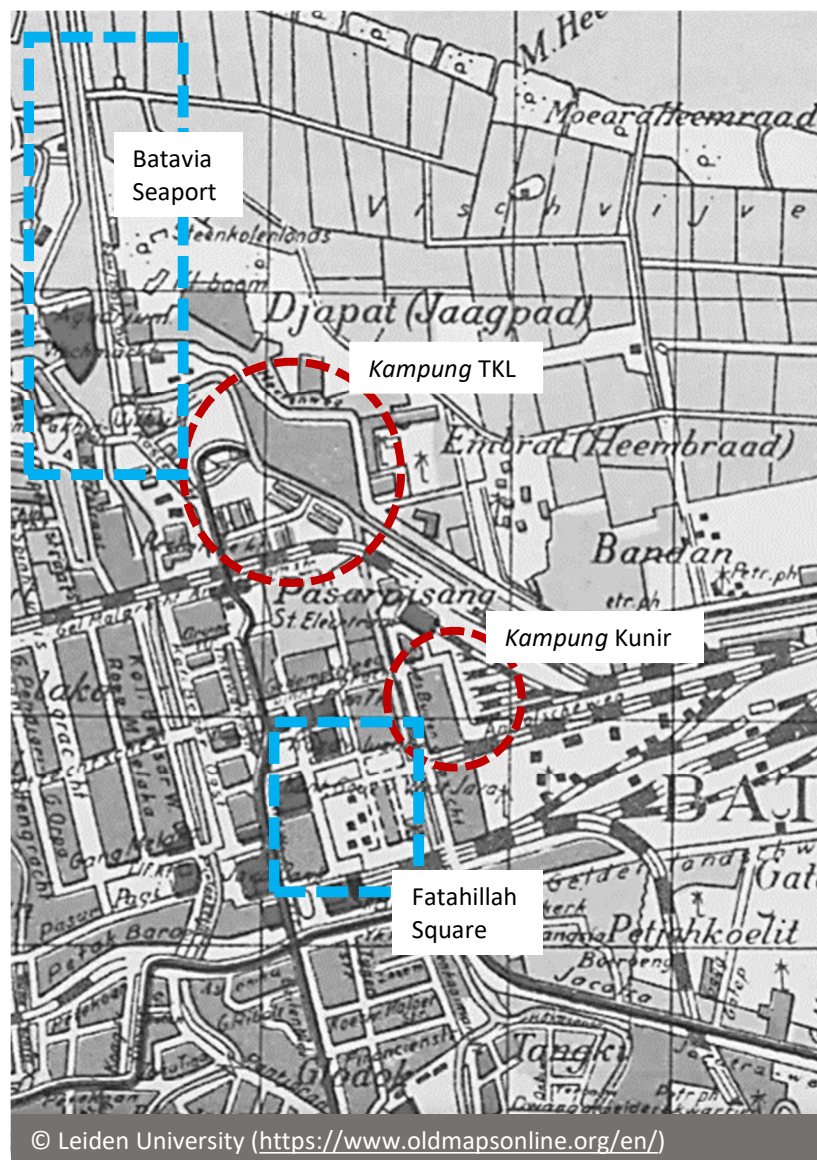


Figure 12. Dutch Military Map of Batavia (Jakarta) circa 1945)

The awareness of these collective advantages resulted from the co-learning process in the form of several sessions of the historic mapping workshop<sup>118</sup>. The new way the residents approached this lesson was by learning about their past, their relationships with their sites or locations, other communities, and other groups in Jakarta's urban society, and the implications those relationships had on the pre-eviction conditions of their living environments. In other words, the residents were empowered to reflect on their past experiences and learn from their mistakes.

#### ***4.6.1 Learning from Their Collective Experiences***

The emergence of riverbank settlements in the urbanizing Indonesian cities has been spontaneous, sporadic squatting on public lands by incoming individuals. The premise has been to provide self-help and “*quick and dirty*” temporary accommodation until the said individuals can establish a more settled livelihood and move out to a better location. As it turned out for most of them, that temporality stretched across generations [19], [20].

As confirmed by Widyaningsih and Van den Broeck [20], a mandated river setback line for the TKL and Kunir areas during the 1990s, marked by a stretch of open-ditch storm drain, mandated the land along the riverbank to be clear of buildings within a 5-meter gap from the water edge. That law, however, did not seem to regulate what should happen inland beyond that gap. Further, code enforcement and control during the 1980s and 1990s was much more relaxed and sporadic.

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<sup>118</sup> See Chapter 5, Section 5.5.2.



Thus, it was natural for the riverbank settlers to assume and attempt land occupation and housing development beyond, and then later, even across the setback line and into the 5-meter gap.

#### ***4.6.1.1 Their Presence on the Locations As Their Strength***

The discussions with several residents show that the existence of the two communities at their sites represents their relationship with the location. Their very existence is a strength of the communities. Despite a history of squatting and occupancy of land with uncertain legality, it was also evident from the residents' reflections (explored in the following sections below) that often the residents were unaware of local development regulations and building codes when expanding their settlements. Further, the residents established social relationships among themselves (Box 10). They consider these relationships and the communal support system mutually supportive for at least two generations.

“And we already have developed good relationships among us in our neighborhood here.” – KRX3, one of the community leaders

“We have (established) our community here. It'll not be the same over there. Different place, need to re-adapt once again.” – KRX1, one of the community leaders

Box 10. Quotes from two resident representatives expressing pre-existing sense of community cohesion.

Additionally, their vicinity to the other social groups to whom they cater and the access the residents have to the existing supporting services were paramount historically and currently. Realizing that many of them have been living at their current locations for at least 30 years, that they have been part of and contributing to the urban life, afforded them a strong sense of identity and the command of their life. However, the government did not consider the importance of their social and economic relationships upon relocating. Moving to new locations means that they

would have to abandon the established social fabric and weave a new, uncertain one. That could mean additional social and economic burdens to most impacted residents and a downright disaster for those who have already been living subsistently.

"Because the government did not use the ditch, right? So people here ... well, most of us got very small houses, right? We moved forward bit by bit. And there was no reprimand or anything, right? The government just ignored us, right? So, well... people kept building. Because of our small (living spaces)." – KRX1, one of the community leaders

"Because, well, no one forbade us back then, so people just kept expanding." – KRX3, one of the community leaders

"I was a kid back then. So the bath and wash rooms were placed right by the water, quicker to discharge. Everything. (Including the) Kitchen. ... I mean, what kind of future our community wants, so that we can continue to stay here without polluting the river. ... Then we realized our mistake, and decided to comply and cut part of our houses but beyond that line were ours, you see? Again, we realize our mistake. Before, we were not aware of that, that what we have are this much, everything behind this line. We should accept that. As long as we can keep on living here." – LDX1, one of the community leaders

Box 11. Quotes from resident representatives reminiscing about past conduct and habits.

Just before the 2015 eviction order, the latest condition described the settlements as residential extensions built on wooden stilts over the water body. The structures extended as such that only a fraction at the center of the river remained uncovered by buildings, out of about 20 yards the width of the river. At that point, there was no control over waste management. Residents dumped household waste and sewage directly into the water as the easiest, cheapest way to eliminate them. No considerations whatsoever that such actions would put an environmental burden on the

city as a whole. Box 11 illustrates the reflections from several residents about the past conditions resulting from careless behaviors.

To note, the condition described above was true for both Kampung TKL and Kunir until circa the 1990s when the *Kampung* Kunir experienced two government's forced demolitions of their residential parts that covered the water body, together with the restoration of the 5-meter inspection road along the river bank section the Kunir community inhabited. The Kunir community did their best to avoid costly mistakes by maintaining their houses behind the setback line and preserving the 5-meter wide space between their building façade and the river's edge. They also initiated the planting of numerous fruit trees and other consumable vegetation that got them the "Go Green Award" around the late 2000s. Nevertheless, Kunir residents' descriptions of their residential development post-1990s demolition reveal their unawareness of local regulations and building codes.

Realizing their past mistakes allowed the TKL and Kunir residents to be aware of their responsibilities as members of the larger urban society. Personal actions within the confines of their seemingly offset, backwater residential areas could impact others and bring unanticipated repercussions. At the same time, realizing themselves are part of a larger system also empowered the residents to see the potential to cycle and feed inputs into it. It would be up to them as a community what kind of feedback they would want to offer. Ideally, it would be one that could offer mutual benefits.

#### 4.6.1.2 *Affirming Their Past and Achievement*

The Kunir community remembered vividly the “Go Green Award” they received as a community from the Mayor of North/West Jakarta. The award was given to The *Kampung* Kunir as the “greenest kampung” in the North/West Jakarta Municipality for keeping and maintaining their settlement clean, tidy, and lush (see Box 12). One of the features the residents were most proud of that attributed to that achievement included the many fruit trees they had that lined the open, accessible inspection road between their houses and the water edge.

"And our Kampung was awarded the ‘Go Green Award,’ as the greenest (kampung). The most ... ah, it was awarded by the Mayor."  
– KNY1, one of the resident leaders

"The Mayor, yes (awarded by the Mayor). Every time there's a competition, we always win first place." – KNY4 one of the resident-activists

"The first generation (of the settlement) here was kind of a slum. But after the first clearance, it was nicer. Lots of trees ... plenty of them! Fruit trees ... big ones! Like coconut... they all bear big fruits here. We were the champion of greening (the environment). Very neat. Tidy river bank ... trees. No sewage to the river." – KNY3 one of the resident-activists

Box 12. Quotes from resident representatives that affirmed positive distinctions their communities had in the past.

The other one was the garbage collecting system they had in place that systematically collected household solid waste and transferred it to the local transfer station. For the Kunir residence<sup>119</sup>,

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<sup>119</sup> As told by the *Kampung* Kunir residents, KNY1, KNY5, KNY6, and KNY7, and in line with the report from Project Multatuli [27], [152].

just before the eviction order, their settlement was never a slum. Thus, it was shocking and puzzling that they were ordered to clear the area with very short notice, as told during our discussions, also noted by Widyarningsih [20].



Figure 13. Condition of *Kampung Kunir* circa 2000s  
Image source: ASF-ID archive.



Figure 14. Official visit by municipal staff to *Kampung Kunir* circa late 2000s.  
Image source: ASF-ID archive.

Contrary to the *Kampung Kunir* community that won the green award, the *Kampung TKL* admitted their past behaviors that plausibly contributed to the deterioration of the environmental quality along the river's course. On the other hand, the mapping workshop allowed the residents

to realize that they had been living in a historic old city district (See Section 5.5.2). The acquired knowledge also afforded them the awareness that their settlements have been an integral part of the development of that historic district, albeit not formally or academically acknowledged (see Box 13).

"This was a docking area during the Dutch period. That's right! This river. Over there, where you can see the remaining old brick works in the river. The boats got in through here. It must've been quite deep at the center, to get those boats here. They unloaded all kinds of goods here." – LDX4, one of the residents

Box 13. A resident of Sub-*Kampung* Lodan reminisces about the historical legacy of their settlement.

#### ***4.6.1.3 Affirming Their Status as Tax-paying citizens***

For at least two generations, they have been paying land taxes (Box 14), receiving utilities and other services, being inducted into the civil administration system, and being assigned formal identifiers for their neighborhood and family units, which is a form of official acknowledgment and approval of their stay on the riverbanks [20]. Facilitation on the taxation issue enabled them to start thinking and developing their awareness of what it means to be part of the heritage district. While paying land taxes does not automatically legalize their occupancy, it provided the formal rationale for the residents to point to the government's administrative misconduct.

"We pay land taxes here, right? People have been living here since the 70s. Starting since (the tax) was called 'IREDA', then 'IPEDA', and now 'PBB'. We always pay. There's proof of that, we keep the receipts, right? Since the 70's. That means our people have been living here for tens of years, right?!" – KRX1, one of the resident-leaders

Box 14. A statement from a resident representative about paying land taxes.

The involvement of expert facilitators catalyzed the residents to develop a middle-ground concept that they later turned into a development proposal. Reflecting on past mistakes and recounting the tax-paying, the residents decided they could be “good citizens of the city” and “good stewards of the river.” Collaborating with the facilitating architects, the residents proposed a concept of their settlements as “*inspection kampungs* [20]” in place of “*inspection road*.” It emphasizes preserving the presence of the riparian communities at their current location. The concept also conveys the residents’ positive intention to reverse the erred development of their *kampungs* that caused environmental burden and their will to become active contributors to improving and maintaining the urban environment in their locations.

#### ***4.6.2 Learning from Past Disasters***

Recollecting their previous living habits that translated into their built-environment condition as such was an important point of entry for their collective learning. The facilitation by the experts helped them reflect on past behaviors concerning the potential environmental and ecological impact they might have caused. At the same time, the recollection and facilitated discussions also provide insights for the facilitating architects to learn and understand the initial imputes leading to the negative habits. Interestingly, excerpts from a focused group discussion highlight that these factors developed their sense of resilience and preference for certain building materials and construction (see Box 15).

KRX1: "The river never flow violently on this part."

KRX4: "No. Even during rainy seasons, the water only raised a bit, yeah... Never get to the (houses) here."

TKX2: "Back then it was around 2005 or 2006 that Jakarta had a massive flooding. And then 2013. Thank goodness, we didn't see any severe impact here."

KRX3: "Some areas other than here got completely submerged, weren't they?"

KRX4: "Yes, gone."

LDX3: "One of them was Bukit Duri."

PI: "Has there been any agreement or instruction that you had to use a certain material, such as brick masonry?"

KRX1: "No. But we typically used wood. There was a kampong fire at Krapu. Form that fire experience, the last house spared from the fire was built of brick masonry. Yeah.. Now, all used brick masonry, right. ... Some old houses still use wood. Those reconstructed after the fire used masonry, because of that experience. All was lost, but the fire stopped right at that brick house."

Box 15. The residents' collective memories of experiencing disasters (floods and fire).

The two hazard risks that the residents recalled as turned into disasters were floods and village fires (see Box 15). The two notable major floodings in the last 20 years occurred in 2007 and 2013 and impacted their settlements with water up to at least 10 feet high [173], [174], [175]. The official statements pointed to bad drainage systems and extraordinarily high rainfalls as the primary causes. Nevertheless, the residents claimed during the interviews that their area was never the epicenter of the worst flooding. The residents see that their settlements sit in harm's way as distant, even of the least importance, despite being defined as an area with considerably



high seismic movement potential<sup>120</sup> and categorized at a “*moderate risk*” of flooding [176]. Even so, the government alleged that the Kunir, TKL, and other riparian *kampungs* were problematic by causing cascading disturbance to the river flow. This started with the fact that, especially with the TKL community, they illegally erected their houses on the riverbank and extended over the water body.

#### **4.6.3 *Producing Shared Knowledge for Self-empowerment***

Learning about their past allowed the two riparian residents to recount their communities’ existence in the district and their relationship with the other co-existing groups from different backgrounds and economic capacities. The reflection helped the TKL and Kunir residents understand the extent of their role in the larger society and their contributions to the development of the district as a socio-economic hub.

The learning of the past, I argue, is an important learning process. Fundamentally, learning about the residents’ own history enabled the residents at the *kampungs* to develop a knowledge shared among themselves (and with their partners) out of the collective experiences to see their positionality within the larger urban context: that of tight-knit, thriving urban communities, albeit lacking in material and capital, living within the proximity of the more established enterprises or affluent social groups. These low-income communities and the more well-to-do ones could and

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<sup>120</sup> <https://rsa.ciptakarya.pu.go.id/2021/index.php?pga=0.3727&ss=0.7806&s1=0.3823&tl=20&kelas=2#grafik>

have actually had mutually beneficial relationships. Conversely, their new awareness helped the *kampung* residents understand those relationships and the consequences of their positionality.

Equally important, the learning empowered the TKL and Kunir residents to use and reflect on that knowledge to see what might be possible for them moving forward: albeit being at the lower rungs of the society, they now have the know-how and experience to enter a more equalizing relationship with the other groups of different socio-economic capacities. It is now the knowledge collaboratively produced and shared among the community members of the residents, the expert facilitators, and, to an extent, the government personnel.

#### **4.7 Involves Systems Development Using a Cyclical and Iterative Process**

“A system<sup>121</sup> is an abstraction. It is not a special kind of thing, but a special way of looking at a thing. It is a way of focusing attention on some particular holistic behaviour<sup>122</sup> in a thing, which can only be understood as a product of interaction among parts.” – Alexander, 1968 [177]

“CBPR involves systems development using a cyclical and iterative process ... that addresses systems development, in which a system, such as a partnership, draws on the competencies of each partner to engage in a cyclical, iterative process that includes all the stages of the research process including, as appropriate, community assessment, problem definition, research design, data collection and analysis, data interpretation, dissemination, determination of intervention and policy strategies, and action taking.” – Israel et al., 2012 [79]

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<sup>121</sup> Compare to: “System: organized or established procedures”. “system.” Merriam-Webster.com. 2023. <https://www.merriam-webster.com/dictionary> (12 December 2023).

<sup>122</sup> “Behaviour: the way in which something functions or operates.” “Behavior.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/behavior>. Accessed 6 Feb. 2024.

Architectural practice is standardized to provide a threshold of optimum service provisions defining an architect's professional performance [124], [150], [161]. It consists of conditions and requirements, procedures and protocols, phasing, and stages that were devised to regulate an architect's conduct and warrant the said performance. In other words, the standard is a system, an apparatus to achieve the expected professionalism.

The architectural project flow comprises phases that regulate the project's progression toward the final output, which is the architectural design<sup>123</sup> [124], [161] Each phase involves a reciprocal process of consulting the design work between the practitioners and their clients. At the end of each phase, the professional is expected to produce some deliverables with standardized content to mark the progression to the next one toward completion. Failing to produce these deliverables could result in penalties quantified by monetary or payment reduction. Here, monetary transaction is the primary driver of this.

On the other hand, the guidelines did not tightly regulate non-profit facilitation works such as those done with the two communities at the two sites of this case study. Indeed, professional architects are encouraged to engage in pro-bono work as part of their public contribution and to establish their rapport in society. However, without any incentive and consequences, as presented by the financial implications above, the motivation for conducting the architectural facilitation is left to the architect's resources budget and the extent of their readiness to commit

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<sup>123</sup>An architect is expected to produce as the output of their service several items that comprise both architectural and technical (or engineering) drawings and several documents that include the architect's design report, technical specification, bill of material, bill of quantity, and some administrative or legal documents to accompany them [124], [150], [161]

them. The workload from the ongoing paid projects would typically limit the architects' presence during the pro-bono services.

Thus, architects involved in architectural work in a humanitarian setting might require a different system to enable them to contribute their craft effectively. In regards to the “*non-paying clients*<sup>124</sup>,” the conventional system might unintentionally nudge the practitioners to disproportionately the non-paying clients' perspectives and overlook the contextual situations in which monetary compensation is absent from the equation when the users of their services lack the financial capacity or other material capital to trade with<sup>125</sup>. Architects involved in architectural work in a humanitarian setting might require a different system to enable them to contribute their craft effectively.

Israel et al. suggested developing a system unique to a particular situation and context within which communities of identities agree to collaborate and solve their shared challenges. I understand it as an effort to create a common platform for each partner to recognize, bring forward, and contribute capacities through knowledge exchange and capacity-building. The platform should host the entire process of the endeavor in a manner that constitutes the “*organized or established procedures*,” i.e., the “*systems*<sup>126</sup>”. In this sense, the architect had to adapt their conventional project flow to step into and support that systematic endeavor.

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<sup>124</sup> See Section 5.2.1 for the discussion on the “non-paying clients.”

<sup>125</sup> Discussed in Section 4.3.1 on positionality between wexperts and laypeople.

<sup>126</sup> “System: organized or established procedures”. “System.” Merriam-Webster.com. 2023. <https://www.merriam-webster.com/dictionary> (12 December 2023).

#### ***4.7.1 Adapting A System That Builds Around Trust-building***

The participating architects at the two settlements shared their experiences, which revealed the general motivation to get involved in community-based projects. Other than personal interest, I see the opportunity to actualize the idealism of pro-poor design activism as the general impetus. The architects' tone during our talks reminded me of the Freirean emancipation, the “*empowerment of the oppressed*” [178]. Nevertheless, considering their collective identity as practitioners, the underlying challenge was how to develop a system of operations that could facilitate and frame that motivation in a way that could proportionally and contextually match the non-paying clients' genuine concerns. I argue that developing such a system needs to start with recognizing the identity(s) of and earning the trust of the other partner(s) or stakeholders the architects need to collaborate with in a community-based project.

To facilitate partnership, it is important to develop common or shared visions and break down goals into smaller, incremental objectives that all partners are ready to commit to. That process would require a systematic approach that favors sustained commitment, achievable through iterative engagements, in which all partners are given equal opportunities to learn from and provide feedback to each other. That mutually engaging process would be the platform to cultivate trust through accountability.

Nevertheless, developing a trust-based relationship is not straightforward. Consistency and commitment are key to trust-building and are necessary to develop “*trustworthiness*” [79], [112], [132]. The architects still have to earn trust even though they were endorsed by community organizers who had already established their trustworthiness within the communities of potential

partners. The architectural team must also earn credibility among the other facilitating experts from different disciplines, which requires the same iterative, deliberate engagements with their fellow experts.

## **Chapter 5 The CBPR Principles as Modifier to the Adapted Architectural Practice**

### **5.1 Introduction**

As I discussed in Chapter 3, Section 3.5.1.2, I employed the Community-Based Participatory Research Principles (or CBPR Principles) [79], [81], [111], [112], [179] to comparatively examine the codes emerging from the primary data and the standard architectural practice. Continuing Chapter 4, in which I studied the presence of the CBPR Principles in the participatory architectural works at the two sites, the data also revealed noteworthy changes made by the architects to the conventional architectural practice. The alterations were necessary to accommodate the on-site situations that differed from the regular contract-based consultancy projects. Learning from the emerging categories [140], [143], this Chapter discusses those adaptations.

### **5.2 Community as Units of Identity**

“The UIA encourages its member sections to engage in providing pro bono services as part of their contributions to society. Architects have unique skills that will meaningfully contribute to economically disadvantaged, not-for-profit, faith-based and local community organizations.” – Guidelines for the UIA Accord on Recommended International Standards of Professionalism in Architectural Practice Policy of Ethics and Conduct, 2017 [124]

The UIA documents define the architecture profession as one that received specific training to practice the planning and design of the built environment, of which the practitioners, addressed as “the architects,” could rightfully earn their livings by receiving monetary compensation [124], [180]. The fee is due for the architectural services that include providing design works, design documentation, preparing, and assisting with procuring and supervising the construction process [180], [181]. Relating to Israel et al. 's notion of “*acknowledging community as a unit of identity,*” [79], [112] the guidelines were the fundamental factors shaping the architecture profession and the corresponding identity of the individual professionals as a community of their own.

The UIA Accord on professional ethics and conducts cited above encouraged architects to provide pro bono design services [6], which I believe also contribute to shaping the said identity. However, there was no further elaboration on the recommended conduct in pro bono services. Specifically, it lacked recommendations concerning the potential dynamics and positionality<sup>127</sup> in pro-bono services for disadvantaged or marginalized individuals or communities. While the UIA code of ethics document aimed to ensure the integrity and best practices of the architectural profession, I argue that thus far, the codes of ethics prioritize catering to paying clients more<sup>128</sup>.

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<sup>127</sup> See Section 4.3.1 in Chapter 4 for a definition and discussion of “*positionality.*”

<sup>128</sup> It is interesting that the Indonesian version of the Code of Ethics and Conducts did not specifically mention the provision of pro bono services [180].



### ***5.2.1 From Clients to Partners: The Beneficiaries as the “Non-Paying Clients”***

Conventional clients, as understood and defined in architectural professional practice guidelines, bring money to the table as their leverage to ensure architects would serve their agenda and accommodate their needs [124], [125], [150]. The “Guidelines for Procurement of Architectural Services” also states that the clients “*should also clearly identify the requirements of the proposed project*” [182, p. 5].

Several questions emerged about whether architects should follow that directive in a humanitarian setting. First, what if “the clients” who are paying for the projects are not the ones who will use and inhabit the architectural outputs, or in other words, who will be the end-users, the beneficiaries, of those products? Second, what if the end-users have limited or no capacity to “*clearly identify the requirements*” and have no paying capacity for the architectural service or other service provider to do the need assessment? Who could and would do that for them and assist them with that task? If someone other than the end-users would make the identification that would inform the making of the architectural products, whose concerns or agendas would primarily influence that formulation? What would warrant that the output architectural products would cater to the needs of the end-users, i.e., the supposed beneficiaries of the rendered architectural services?

In the case of the two settlements, the *Kampung Tongkol-Kerapu-Lodan* (TKL) and *Kampung Kunir*, the beneficiaries were individuals and families of low economic power impacted by the forced eviction with the prospect of losing their houses. Unlike the paying clients who enter commercial contracts with architects, they had no monetary leverage to pay for the professional

architectural service. Here, I address them as “non-paying clients.” While the built environment, i.e., architecture, is the physical nexus of their livelihood, their limitations pushed the residents to opt for only one top priority to tend to one outstanding concern at a time, and it was to secure their livelihood by maintaining their existence in their current locations<sup>129</sup>.

Learning from the discussions with resident members and observing the adjacent settlements still in precarious, unsafe conditions<sup>130</sup>, the “non-paying clients” could use some architectural services (among others) with the redevelopment plan but had no access to them, let alone afford them. They were the actual end-users whose needs and concerns needed to be accurately identified and formulated into the architectural design brief since they were the ones who were supposed to benefit from the pro-bono service. On the other hand, the lack of buying power could quickly put the actual beneficiaries in a disadvantaged position with the risk of their opinions being overlooked, even dismissed, despite all the good intentions of the architects. Ignoring this difference on the facilitating side could incentivize sympathetic architects to unwittingly assume the patronizing position in their engagements<sup>131</sup>.

### ***5.2.2 From Educating To Learning From and Collaborating With the Non-Paying Clients***

“Architects should involve themselves in various civic activities as part of their professional contribution, especially in developing public understanding of architecture, function, and the professional responsibilities.” – Ethical Standard 2.2., Indonesia Institute of Architects - Code of Ethics [180]

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<sup>129</sup> Explored in Section 4.4.1 of Chapter 4.

<sup>130</sup> As my way to get a glimpse of what the pre-redevelopment situation would look like in TKL and Kunir and understand what kind of living conditions the residents lived in.

<sup>131</sup> See Section 4.3.1 for more elaboration on the topic of positionality.

The Indonesian Institute of Architects (or IAI in Indonesia) Code of Ethics document does not elaborate or explain further the application of the Ethical Standard 2.2. above<sup>132</sup>. The common interpretation that I understood among the Indonesian architects was to interpret the “*developing of public understanding*” as educating the public in general and the clients in particular on what constitutes “good architecture” and how it should look<sup>133</sup>. One of the facilitating architect’s remarks in Box 3, Section 4.2.2, on the architect’s role that focuses on the “*beautification*,” spatial arrangement, and the visual aesthetic of the built environment might illustrate the effort to put a technical delineation of the practice of producing “*good architecture*.”

I argue that the undertone from the interpretation of the ethical standard as described in the above paragraph reveals a positivist tendency that might unintentionally obscure well-meaning architects from considering the contextual complexity of the projects at the two riparian settlements. It would be easy to interpret Code 2.2. and the delineation as placing the architects as the sole authority of delineating what is or should be possible for the architectural implementation based on the worldview and assumptions cultivated exclusively within the architects’ training regimes. In other words, architects could falsely assume they could help marginalized groups overcome their housing challenges by educating them on how “good architecture” should look and perform from the profession’s point of view rather than tending to the latter’s priorities first.

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<sup>132</sup> I could not find the equivalent of this standard in the UIA Code of Ethics document, making this particular code unique to the Indonesian practice.

<sup>133</sup> I learned this from my engagements with colleagues during the institution’s past events.

On the other hand, the principle of “*recognizing the community as a unit identity*”<sup>134</sup> and the presence of multiple interests, agendas, and biases highlight the inherent positionality<sup>135</sup> that relates to the pre-existing power structure and its dynamics within each community. I learned that those variations and dynamics intersect, culminate, or manifest physically in the built environment unique to the particular locations<sup>136</sup>. Building on the principle of co-learning and capacity building<sup>137</sup>, and observing what was implemented during the architectural engagements at the two settlements, I argue that the interpretation of Code 2.2. should shift from “*educating the public*” towards *partnering with the public* to navigate and address the underlying local challenge<sup>138</sup> collaboratively and equitably, paying attention to power-sharing<sup>139</sup>.

Through more collaborative processes, architects can concentrate on justice, what Sanchez et al. describe as “*the lack of attention to structural inequities that create the [...] conditions targeted by implementation science, leading to power and justice as important outcome*” [80, p. 293].

While Sanchez et al. talked about the issue in and relating to the implementation in health disciplines [80], architecture as an applied discipline [125], [149] with multidisciplinary characteristics [82], [83] could draw lessons from Sanchez et al.’s findings and re-examine the architecture approach from a participatory and emancipatory perspective to attend more to the equity aspect of a humanitarian project. The risk of maintaining the current expert-centered

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<sup>134</sup> discussions in Section 4.2 of Chapter 4.

<sup>135</sup> Elaborated in Section 4.3.1 of Chapter 4.

<sup>136</sup> The fact that the Kampung TKL got a different architectural product from the Kampung Kunir derived from the different preceding situations before and after the eviction order issuance.

<sup>137</sup> See Section 4.5 of Chapter 4.

<sup>138</sup> See Sections 4.4 and 5.3 on the local relevance of architectural issues.

<sup>139</sup> The principle of power-sharing was discussed in Section 4.3.

would be “*limited in its contribution to more utilitarian-based and technologies to affect ... outcomes*” [80, p. 294]. In other words, such an outlook could potentially lead to superficial architectural and technological outcomes while the underlying power structure affecting the inequitable redevelopment processes would remain intact.

In their work with the two communities, the architects had to adapt their conventional modes of operation to the context of the two settlements. The architects had to suspend their professional posture and the intention to educate the “non-paying clients.” Instead, the architects made an effort to learn and try to understand the latter’s priorities by learning from the residents’ perception of how activities relate to or shape their residential spaces to support their needs (See the quote in Box 16). Mapping, questioning, and elucidating the preexisting assumptions (of the public and professionals alike) helped expose the positionality of different actors that might contribute to preserving the inequitable power structure. Momentarily suspending their professional lens also helped the architects see and understand the different motivations and interests between them and the other experts and among themselves in joining the effort. It was critical to help the experts understand and navigate the best way to collaborate with community members and the other expert partners to deliver relevant built-environmental solutions.

“The [co-design] workshop was initiated first so that we architects could shed our architectural ego first. Like, we typically already could imagine what should be created (design-wise). Instead, we encourage the residents to unload and share anything that they have in mind (regarding) ... their basic activities.” – Z4, one of the facilitating architects

Box 16. A quote from one of the architects on learning from the perspectives of community members.

One example of the assumptions prevailing among the facilitating architects themselves<sup>140</sup> could illustrate the extent to which the adaptation was required to highlight the otherwise unnoticed ignorance. Recalling one of their facilitation works at another location, one of the architects recalled having an initial assumption that, if left unchecked, could undermine the residents' capacity to get architectural products relevant to their concerns. It was in the project budgeting phase during what the architect addressed as a community-centered design project. They assumed that the low-income community would tend to be opportunistic if the architects were being transparent about the project's budget cap. The architects assumed that the marginalized group they facilitated would try to list items irrelevant to what was needed on site.

On the one hand, such an assumption was made out of concern to avoid procuring excess project items that might benefit the community only partially. On the other hand, however, the same assumption ran against the government's budgeting policy that advocated a one-hundred-percent absorption of the given cap. Learning that the proposed budget did not advocate the full use of the cap, the government agencies interfered by adding items that they considered trending and publicizeable (which tended to focus on attractive visual attributes) but with minimum to no relevance to the local needs. I imagined that had the architects taken the chance to question that assumption openly and discussed it with the community, other involved experts, or even the government staff, the budget implementation would have turned out more in line with the actual needs or other items with greater relevance to the local issues.

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<sup>140</sup> As told by one of the facilitating architects.

The Kunir and TKL communities' experiences reflect my Summer of 2021 discussions with several Indonesian colleagues that highlight the underdeveloped, if not lacking, knowledge and skills of the architects and building experts to lend themselves a social lens to engage the beneficiary communities and learn about the situation and the genuine concerns from their perspectives<sup>141</sup>. Delivering a top-down approach ignores the genuine concerns of the community the architects were trying to help. It is not uncommon that the outcome of such an uninformed, incorrect approach results in underutilization, even unused design products. Underutilization could demotivate aspiring architects and even perpetuate misperception toward the underprivileged beneficiary community, thus potentially further barring the community from receiving the much-needed expert advocacy.

### **5.3 Focusing On Local Relevance of Built-environment Problems and Their Ecological Perspectives**

Despite the challenging conditions of the built environment impacted by the ecological<sup>142</sup> factors, the two *kampungs* insisted on remaining in their current location to prioritize maintaining their livelihoods<sup>143</sup>. The forced relocation mandate was an existential threat that threatened their

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<sup>141</sup> See Chapter 2 for more details, which elaborates on the background of this research based on experiences and professional opinions from my practicing colleagues.

<sup>142</sup> Ecology: a branch of science concerned with the interrelationship of organisms and their environments; "Ecology." Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/ecology>. Accessed 3 Jul. 2024.

<sup>143</sup> discussed in Section 4.4, Chapter 4.

livelihoods that depended on their transactions at the Old City District. The eviction also negated their place relation and their inherited<sup>144</sup> placeness [183].

“People’s perception of a place derives from direct or indirect contact with the place. They ascribe identities to a place-based not only on objective physical features but also on less tangible meanings, memories, and information from others, from the past and the future.” – Peng et al., 2020.

Referring to Peng et al.’s explanation of place relations above, essentially, the two *kampung*s’ identity formed from the residents’ three-generation interactions with their physical, objective living environment. Equally important, the formation includes the interactions formed out of the residents’ experiences living in their locations as communities and part of the larger urban society of the Old District and Jakarta in general.

The excerpt in Box 17 below, regarding perceived and accepted hazard risks that impact their settlements more than once, with flood and fire as the most frequent. On the other hand, experts and policymakers tend to see those risks as a top priority for technical or political reasons. For the residents, those risks were secondary to securing and maintaining their being near their source of income in and around the Old City District, where they already have their socio-economic support. Accessible resources such as schools, workplaces, markets, places of entertainment, health, and other facilities was paramount for low-income residents<sup>145</sup>.

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<sup>144</sup> Though not necessarily earned through the possession of the Western-style legal land ownership and despite the years of governmental negligence during the early stages of squatting there.

<sup>145</sup> within 5 to 30 minutes of walking distance.



PI: “So in retrospect, about the flood hazard itself, do you see it as less of a threat?”

KRX1: “No. It’s not a threat.”

KRX3: “It’s not a threat at all. Well, we have a flood, like, once in every five years.”

PI: “So, that once in five years flood (risk) would not be reason enough for you to (partially demolish and) redevelop your residences (in the first place)?”

KRX3: “Nope. Look, it’s been more than 5 years (since the last flood) now, and thank goodness! No flood!”

KRX1: “Actually, the kids took (the last flooding) as an opportunity for a free swim (laughter)!”

TKX2: “I think it’s been 10 years now (since the 2012 city-wide Jakarta flood)”

PI: “Is it better here, even with flood risk?”

TKX5: “Yes.”

PI: “Why?”

TKX5: “Flood or no flood, it's better to live here. It's close to everywhere. The flood will recede eventually.”

PI: “Why is it better to live here?”

TKX5: “Well, because my business is here! I don't want to be out of work!”

Box 17. Excerpts from a focused group discussion about hazards and the need to remain in their current locations.

The Tongkol-Kerapu-Lodan (TKL) and Kunir residents could worry about mitigating these flood and fire hazard risks after attending to their primary concerns. Other hazards, such as earthquakes, happen rarely, if not at all, during one's lifetime and are relatively survivable. It was

preferable to remain in the location that afforded them their known resources despite the aforementioned risks.

Given little to no option between being homeless or submitting to relocate to the assigned housing on the other side of the city within such a short period, and with no assurance of support during transition, most residents saw the eviction as unjust. The pressure experienced by the residents facing abrupt disruption in their livelihood was observed by Widyaningsih and Van Den Broeck, 2021 [20] and can be illustrated by the quote in Box 18.

The legal instruments that regulate land ownership, land use, building codes, and permits were, by design, formed around the idea of the government as the executive agent carrying out lawful mandates were already in place. My two sessions of discussion with several government staff mainly revolved around this concept of executive power, backed by the rule of law mandated through the political system, placing the government agencies in a higher position to issue instructions to society.

“The excavator just crushed everything (bitter laughter)... It had been standing by at the gate since the night before. We got only two hours notice (on the next day), even less so. Past the two hours and ... well...” – KNY8, one of the residents

Box 18. A quote reminiscing the government enforcing the eviction by forced demolition with short notice.

Resistance towards the man-made eviction order was a logical reaction and included public protests, disobedience, and physical resistance. Unfortunately, these acts of resistance compounded the already negative public sentiment<sup>146</sup> towards the community's causes. Facilitation by the community organizers played a part in defusing the violent tendency and advocated for more intelligent ways to fight for their causes by first consolidating the individual concerns into collective ones agreed upon consensually. Resident organizing included advocating for the use of architecture, the built environment, and the corresponding technologies to push the TKL and Kunir's local narrative forward and negotiate a power-sharing settlement.

The built-environment strategy to negotiate the sharing of power included several deliberate, sequential actions done by the impacted residents in collaboration with their architectural facilitators. The actions included:

- Reversing the negative public perception towards low-income riparian communities
- Agreeing to adhere to the previous river setback line and proposing the voluntary redevelopment of their settlements to upgrade the then slumlike conditions with their own resources; and
- Proposing to assume the stewardship role of the river and cultivate positive habits that contribute to environmental health<sup>147</sup>.

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<sup>146</sup> The rejection of the relocation mandate was largely perceived by the general public as an ungrateful act of the evicted, low-income residents [184].

<sup>147</sup> See Sections 4.5, 4.6, 5.4.1.2, and 5.5.1.2

It is important to note that the residents' willingness to change might not necessarily be founded initially on acquiring the awareness to shift to a more environmentally conscious way of living. That adherence was necessary to create leverage to champion and push their cause to remain in their current location. Fundamentally, the actions and the adherence formed a proposal for the authorities to reconsider, even cancel, the eviction and the residents' relocation. Section 6.9 in Chapter 6 discusses the residents' appreciation of the environmental outcomes of the redevelopment and the corresponding improvement of the living conditions.

The architects' facilitation work was critical to frame the built environment's better physical and spatial quality as the negotiation tool and capacity-building medium to develop the said awareness instead of being the end product unto itself. Instead of pursuing a design process that concentrates only, or mainly, on achieving visual and physical performances of the architectural product, the design process itself was turned into a dialogical medium. The resulting architectural brief reflects an equitable grassroots vision of how the built environment could strategically function within their capacities to address their collective, long-term concerns.

It was crucial to learn about the residents' capacity & self-understanding of their exploitation<sup>148</sup> and include them as active participants during the formulation of the brief<sup>149</sup>. Equally important was for the architects to be aware that they incorporate the perspectives and priorities of the

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<sup>148</sup> Discussed in Section 4.2.1.1.

<sup>149</sup> Where, in the conventional mode, the clients must provide the initial design brief for the hired architects to confirm and follow up [149], [181].

residents when determining the architectural brief and outputs<sup>150</sup>. For that, architects needed to adjust their methods and expand their communication and power-sharing skills<sup>151</sup>.

#### **5.4 Facilitating Collaborative, Power-sharing, and Equitable Partnership In All Phases**

Sharing the decision-making power with the residents is a form of modified participatory architectural practice. This strategy relies heavily on organized residents as the more consolidated entity<sup>152</sup>. It provides a way for people to find shared interests<sup>153</sup> in architectural and built environmental concerns, encouraging the formulation of consensus. An important step for community organizers was the “*creation of shared vision.*”

##### **5.4.1 Creation of Shared Vision**

For the TKL and Kunir communities, their shared vision was one in which their communities could continue living along the river, not as a burden, but as a positive contributor to the Jakarta Old City District and the larger urban society<sup>154</sup>. The overarching shared vision was a common guideline that every partner could refer to throughout, including the architectural design

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<sup>150</sup> I nodded to what Louro and Catalfamo wrote in their reflection, that “*Contrary to what might seem, working with the premise of simplicity has made the constitution of the project extremely complex; each choice of design becomes crucial, taking into account, first and foremost, the multiple boundaries imposed by the poverty situation; secondly, the economic and environmental sustainability that the project wants to achieve and, above all, the great challenge and starting point, the dignification of living spaces*” [21, p. 143].

<sup>151</sup> See Sections 5.3 and 5.4.1 on architectural local relevance.

<sup>152</sup> It manifested the community organizers’ advocacy of the residents to work collectively to compensate for the lack of individual resources (See Section 4.5).

<sup>153</sup> Section 4.3 also discussed why finding these overlaps was important

<sup>154</sup> As also noted in Sections 4.5 and 4.6 in Chapter 4, of being “good citizens” and “good stewards of the river.”

processes. It helped maintain the collective bearing during the design collaboration process and was the rationale for every consequential architectural and built-environment decision.

#### ***5.4.1.1 Assembling The Communities Around The Shared Vision***

Creating a collective vision facilitated by the experts, as conveyed through the mannequin metaphor by one of the community organizers (see Box 19), empowered residents and professionals to formulate the appropriate formal architecture and built environment collaboratively. For the evicted Kampung Kunir and TKL residents, the shared vision had been to remain as close as possible to their workplaces and socio-economic infrastructures supporting their lives.

“For example, I have one mannequin, then I gather ten people, give them the mannequin, then I invite each of them to propose what to put on the head ... from the tip of the head down to the toe, without framing (or reference). I’d just say: ‘Folks, think about how to best dress up this mannequin.’ And you’ll have all kinds of mismatched outfits down to the toes. But they’re all the people’s aspirations, right? But what do you get? A discorded mash-up of all things. ... It means we need a method so that when people were asked ‘What do you want?’, there’s already a larger concept (picture).” – Z1, one of the community organizers

Box 19. A community organizer illustrates the metaphor to advocate collective visioning.

The shared visioning took the form of collaborative, historic mapping as the tool to highlight issues that mattered most that previously impacted the built environment<sup>155</sup>. Transparency about the positionality, power structure, relationships, roles, and interests ensured that residents and

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<sup>155</sup> See Section 5.5.2 on the historic mapping workshop and 5.5.3 on collaboratively developing the design brief.

experts shared creative authority and capacity. It was followed by formulating aspects that would inform future architectural decisions. This collaboration identifies local concerns with the goal of mutual understanding and learning that might appear chaotic if not properly managed.

The architectural collaboration, working closely with the community organizers, took this collective vision further. The architects and the residents used it by arranging a built-environment proposal displaying residents' preparedness to improve their settlements and comply with regulatory codes. It involved the architects learning why the vision mattered to the residents. Conversely, the residents learned to understand the logic of what merits a well-thought-out and well-planned built environment, such as natural ventilation, placement of services, or proper environmental sanitation.

Hope for a better situation for the TKL and Kunir communities underpinned the collaborative effort. A shared vision acted as a reference throughout the planning and acting, enabling partners to break down their objectives into smaller, more manageable, achievable, and relevant goals. All participating partners committed to an agreed-upon pace and time frame.

#### ***5.4.1.2 The Collective Vision Dictates Architectural and Built-Environment Strategies***

The architects working within the *Kampung* TKL rallied around the following community actions. First, the residents voluntarily demolished parts of their houses that violated the 5-meter setback line. They reoriented the houses to face the river as their front yard. The residents also committed to being the stewards of the section of the river of their settlements<sup>156</sup>. They

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<sup>156</sup> See Sections 4.5.

committed themselves to cleaning the river of household waste, including installing septic tanks connected to the new toilets installed during the reorientation and redevelopment of their partially demolished houses. Third was greening riverbanks by planting trees, setting up planter boxes, and placing and maintaining the greeneries along the now accessible inspection road.

The fourth was to follow the three actions above with the scheduled routines of maintaining and cleaning the river as part of the community-organized waste collection and management, including residential and neighborhood garbage handling. Regarding the visual aesthetic, residents agreed to apply codified overhang elements to their new facades in order to emphasize a renewed spatial appearance that highlighted the building's reorientation. They also highlighted the fact that they have been part of the living history of [19], [20], [21]. The voluntary, partial demolition of the residents' houses included creating a distance between them and a section of Castle Batavia's perimeter wall [185], [186], exposing the masonry works from the Dutch colonial era. All promoted the idea of reformed riparian communities living on the same riverbank and having a renewed, beneficial relationship with the river while positively contributing to the larger urban society.

A slightly different approach to architectural facilitation was taken in Kampung Kunir because the residents had already lost their houses to the government's forced land clearance in 2015. The redevelopment of Kampung Kunir was founded on the same vision: that the community be a positive contributor to the larger urban society by maintaining its existence in the location of its demolished houses and neighborhoods.





Figure 15 (left photo). Voluntary-cleared land to expose Castle Batavia's perimeter wall.  
Figure 16 (right photo). Exposed Dutch colonial era masonry construction from part of the exposed wall section.  
Image sources: Private

The residents had a historical occupancy recollection, which was identified through a collective mapping workshop<sup>157</sup>. The mapping clarifies that their settlement was never categorized as a slum, and their houses never violated the setback line. Plus, residents' prior houses were no longer constructed over the water body and had a community-run waste management initiative long before the eviction. The collective memory of their settlement winning the Municipality's

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<sup>157</sup> See Section 5.5.3.

"Go Green Award<sup>158</sup>" validated their claim that their settlement was not burdensome, which they believed was the reason for the land clearing and the relocation order [19], [20], [21].

The bottom-up redevelopment proposal by the Kunir residents was founded on their agreement to replace their demolished individual "landed" houses with multistory social housing as long as they remain in the exact location. The residential building was the only housing type legally allowed to be publicly funded<sup>159</sup>. The community organizers and the facilitating architects advocated for the residents to be substantially involved in the building planning and design phases. The argument for this was that the process could be a model of a contemporary urban kampung development that smoothly transitions the landed *kampung* living to a multi-story, higher-density format while mutually accommodating the concerns of the government and the low-income community<sup>160</sup>.

Both communities' proposals and achievements were the result of a dialogical planning process that addressed their needs and priorities and accounted for the government's concerns reflected in the codes and regulations. The residents were willing to transform their lifestyle and habits significantly to adjust to more complex technologies, environmental management, and public responsibilities. As such, the architects believed that the housings should accommodate the users' priorities and enable them to procure, operate, and maintain their way of life. Additionally,

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<sup>158</sup> See Section 4.6.1.2 and compare to Widyarningsih and Van Den Broeck, 2021 [20] and [27], [121]

<sup>159</sup> As stated by MNCP1, one of the government staff, in a focused group discussion I attended with the other government staff: two of MNCP1's colleague and one of their supervisor respectively

<sup>160</sup> The demand for active community involvement was not parallel to the then-established regulation of project procurement procedures for public funding.

the codes offered improvement in the health and safety aspects of the construction of the new living structures.

#### ***5.4.1.3 Who Gets to Decide And How? On Consensus, Delegation, And Inclusion***

“Such power may be exercised through direct control or indirect language that shapes people’s opportunities to fulfill their rights to have better education, employment, and living conditions..” -- Wallerstein & Duran, 2008, p. 34.

Empowering the Kunir and TKL communities into entities capable of being organized inevitably required a form of social structure for coordination<sup>161</sup> and legal reasons<sup>162</sup>. The social structure affected the implementation of the plans, mobilizing residents for action and other practical necessities at all community levels. As the sections below discuss, the representatives selected from the resident communities filled the ranks in the organizational structure and represented the communities’ interests. Nevertheless, the organizing structure was another form of power accumulation and distribution. In turn, that structure could produce another form of power difference that I think is in line with what Wallerstein and Duran addressed as the “*hegemonic dominance of certain powerful groups*” that tend to be a “*repressive form of power*” [92, p. 34]. Sections 5.4.1.4 and 5.4.1.5 elaborate on the strategies to alleviate the potential inequality from the power difference, while Section 5.4.2 elaborates on methods to act on the said strategies and utilized during the architectural facilitation at the TKL and Kunir settlements.

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<sup>161</sup> such as accumulating and managing the collection of opinions, coordinating information, and making consensus and communal decisions

<sup>162</sup> For legal and administrative purposes

#### 5.4.1.4 *Shared Leadership*

From the beginning of their facilitation, the community organizers clarified with the resident communities that the organizers were not to lead the communities from the residents (see a quote from one of the organizers in Box 17). Instead, the organizers underlined that the selected members of the resident communities were the ones who had to hold the leadership role.

“(Facilitators) could say, ‘OK. We (the experts) could help ... the residents. We could always transfer our work when the qualified leaders or representatives arose.’ Well, that’s not how it works. No Sir. You can’t do it that way. ... Instead, we clearly draw the line since the beginning. (Managing) the community members is the resident leaders’ responsibility (not the facilitators’).” – Z1, one of the community facilitators

Box 20. One of the community organizers underlines the importance of clarifying the responsibilities of partners since the early stages.

Enabling the residents to take considerable leadership was essential to cultivating ownership from the earliest periods. It required mutual trust between the resident leaders and the facilitating experts. Trusting the appointed individuals meant they were committed to taking the lead while learning new information that would help them envision future conditions, plan strategically, and devise actions. Conversely, the residents needed to see the facilitators as trustworthy, dependable, and available to assist and facilitate while the residents took the leadership role. The partnership maintained and built trust and accountability by inviting each partnering entity to collaborate and agree on shared goals. These goals were then translated into smaller, actionable

targets<sup>163</sup>. These targets need to be adequately sized to match the capacity of each partner to commit themselves<sup>164</sup>.

Considering the complexity of humanitarian settings, accountability is best achieved by transparency and immediately communicating challenges, potentials, and results with partners. Thus, facilitating should be understood beyond training provisions, passing down knowledge, and lending access to expertise, materials, or services. It should be a relationship in which each partner can rely on the other, knowing that the other party is dedicated to the mutual effort, which enables the facilitated entity to manage its leadership responsibly and effectively.

#### ***5.4.1.5 Representational Power-sharing Format***

Individuals and groups have different priorities, often shaping their involvement in communal activities. In order for the TKL and residents to participate in collective activities, architects typically had to schedule them outside their regular working hours. Even so, for many, immediate responsibilities, such as providing for their families, often took precedence over planning and participating in community events. Thus, a system to allow all to participate while addressing that challenge in availability was needed.

My discussions with two facilitating architects about their experiences during community facilitation revealed fluctuations in residents' presence during workshops. From their observations, the two facilitators (Z4 and Z6) noticed that those who attended workshops and

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<sup>163</sup> Section 5.4.1.1 also discussed the breaking down of goals into smaller actionable targets.

<sup>164</sup> as also affirmed through discussions with Z3, Z4, and Z6

frequented the community meetings tended to be the same individuals. That observation signaled the facilitators who among the residents had the potential to be representatives of the other ones with less availability, as shown from their quotes in Box 18.

Z4 (a facilitating architect): "... Maybe, because it had been dragging on for too long, so some less active people were like, 'Let's just trust (those who were more active).' It was, like, relatively the same individuals who kept showing up. Like, usually it was those who operate their stalls at home. For example, KNY7 who owns a stall tended to have more flexible or spare time to attend meeting"

Z6 (a facilitating architect): "Among those thirty-three (impacted families), not all of them actively participated, just some of them. Yeah, and they were also the ones to hold positions in the coop and the administration at neighborhood level. They were the same people who had been more active since earlier phases."

PI: "And so, do you see the other residents putting their trust in these representatives to make decisions for them?"

Z6: "Yes, that's right."

Box 21. Excerpts from facilitating architects on observing resident attendance in meetings.

A representational system became necessary to maintain the momentum of the two newly organized communities. Appointed representatives underwent training on organizational structures, management, and accountability to their constituents in order for the representatives to be able to handle their responsibilities effectively. The community organizing team facilitated

the training for these representatives by tapping the experiences<sup>165</sup> of other communities within their extended network, the Urban Poor Consortium in Southeast Asia and Asia [20]. Their task included collecting concerns from the community, conveying the details of meetings, facilitating decision-making at grassroots levels, and promoting inclusivity, especially for marginalized individuals. Moreover, they were trained to navigate negotiations and compromises at the neighborhood level, ensuring that all community members remained informed and included.

While in theory, “the community” as a whole was the collaborative partner to the experts, in practice, these representatives were their direct working partners. Thus, it is vital to note here that there was always the risk that individual representatives have biases in addressing issues or concerns. During interactions with the facilitating architects, there were constant possibilities that representatives could, intentionally or otherwise, champion their interests. Architects could mistake these partial interests as shared by all community members. The intensity and frequency of interactions could also bring the representatives closer to the facilitating experts simply because of their availability. One of the facilitating experts received innuendos of favoring partial concerns instead of addressing collective needs as agreed initially. Some residents made such allegations towards the facilitators, who were frequently observed meeting with the representatives. The facilitator’s quote in Box 22 offered their reflection on their realization that the facilitators potentially contributed to creating a new power structure.

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<sup>165</sup> Newly appointed community representatives would be invited to meet with their counterparts from other communities with more established situations or with learning experiences so that the fresh ones could discuss their own situation with them.

*“Participation can only happen if each of [the partners] can participate with and change each other ... keeping in mind that there is a pre-existing power structure. Even our mere presence on site already carries baggage that our partners can use, power-wise.” – Z3, one of the facilitating architects*

Box 22. Reflection from a facilitating architect on new power structure.

#### **5.4.2 Facilitating Systematic, Equitable, Multiple Engagement Formats**

The close relationship between resident representatives and the facilitating architects also means the former had more exposure to the basic know-how and technical jargon typically used among the experts [92, p. 34], as shared by KNY1 and KNY4, two of the resident leaders. While knowledge transfer was necessary as part of the capacity building, it must be noted that it added to the power difference between the select few and the rest of the residents. This capacity building can be seen as another form of privilege that puts particular representatives in a position of power.

Balancing and mitigating the potential privilege and individual biases in community organizing was critical. There was always the risk of mistaking individual concerns as representing the entire community's perspective. Facilitators' early engagement with the residents was pivotal in identifying and acknowledging diverse interest groups among the community members, ensuring outcomes benefit the entire community without marginalizing vulnerable groups<sup>166</sup>.

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<sup>166</sup> See Section 5.4.2.5 on getting early involvement.



Acknowledging the various worldviews, personal expectations, and agendas was important. Finding common ground among these variations was crucial for the equity of the whole engagement. The facilitating architects had to invest time in understanding these groups and their intentions, recognizing that not all participants would readily reveal their interests. Systematic engagement strategies were vital for the facilitating architects and community organizers to reach out to as many individuals and groups of identities as possible within the TKL and Kunir communities.

The systematic engagement protocols were implemented to facilitate bi-directional dialogue between the communities and their facilitators, maintaining open channels to communicate the conceptual ideas and ensuring review opportunities to collect and reflect the concerns of all units of identities. The architects relied on capitalizing on the residents being organized through specific, definable organized entities that represented the two *kampungs* as a whole, adapting the architect's perspective to align with the residents and other partners and positioning themselves as community partners<sup>167</sup>.

The system aimed for each group to see their interests represented and agreed on a shared cause. The following sections below elaborate on strategies for systematic engagement as implemented on-site.

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<sup>167</sup> While considerable effort on this aspect was accomplished by the community organizers, the facilitating experts followed through with the former's established protocols.

### 5.4.2.1 *Multiple, Staggered Sizes of Resident Meetings*

From the inception of their work with the two communities, the community organizers opted for multiple-size forums as the preferred approach. Multiple, staggered sizes here mean more various sizes of residents' assemblies, beginning with smaller formats involving 5-10 families and gradually progressing to neighborhood meetings, culminating in large, community-wide assemblies. The organizers implemented staggered meetings with varying group sizes at different community levels to maintain a structured and organized approach. This system allowed for mutual interaction, data gathering, and feedback loops.

“We were grouped. We had a large table. Then, each group was assigned portions or tasks.” – KNY3, one of the residents

“We got groups, groups of concerns, or something like that to make it easier to combine. Big meetings were typically less effective in collecting opinions. Big meetings like that are useful for (public) validation.” – Z1, one of the community organizers

Box 23. Quotes describing the multiple sizes and staggered engagement system.

All concerns from individuals or groups were heard, systematically noted, and addressed to manifest an equitable partnership and avoid further marginalization<sup>168</sup>. Simultaneously, distilling, translating, and synthesizing the myriad of inputs necessitates the identification of common themes, issues, and points of convergence among them. This multi-scale approach ensured

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<sup>168</sup> See Section 4.3.1 on the heterogeneity and positionality within a community of identity that possibly has a number of smaller groups of identity within.

comprehensive engagement and a nuanced understanding of the community's diverse concerns and needs.

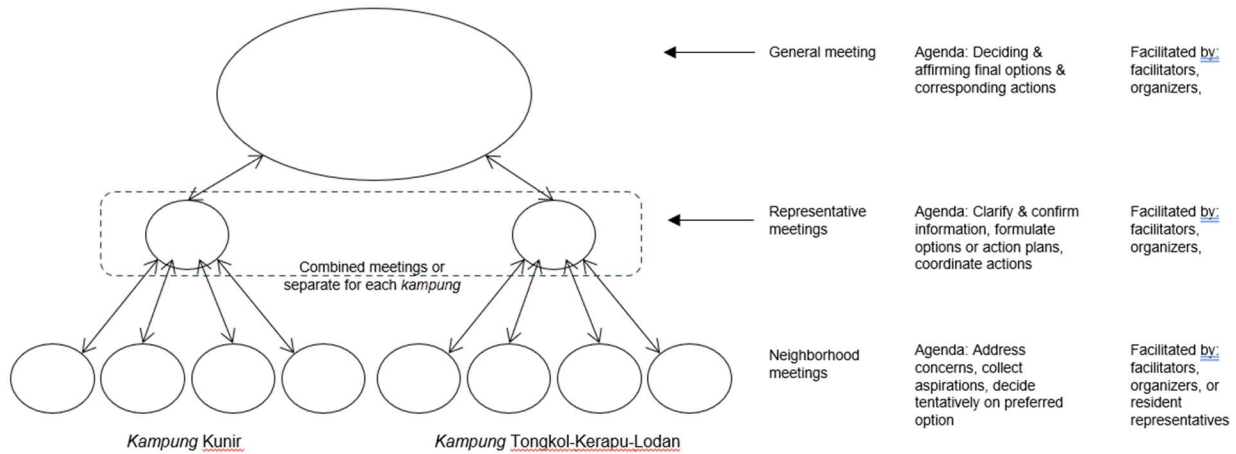


Figure 17. A diagram to illustrate the multiple sizes of the staggered meeting system.

#### 5.4.2.2 *The Neighborhood Meetings, the Smallest Scale Engagement Format*

Between five and ten families, represented by the head of the families, typically attended a neighborhood meeting as a group. This type of meeting played a crucial role in addressing the individual needs, concerns, and aspirations. The facilitators utilized a semi-structured and inclusive approach in these meetings to facilitate open dialogue and information sharing. Residents were encouraged to voice their opinions and share their insights on various aspects of the design and development process. Every aspect was subject to discussion and evaluation within the neighborhood meetings, whether it was the layout of public spaces, resource allocation, or technical solutions.

One significant feature of neighborhood meetings was ensuring that even the reticent individuals had the chance to contribute their opinions. Facilitators and resident representatives (see the next

“representative meetings” section below) took the initiative to visit residents in their homes through door-to-door interactions, providing a safe space for those who might not feel confident speaking up in a larger group setting. Residents also had the option to share their thoughts, desires, and concerns in written form as a more private way of expression.

In essence, the neighborhood meetings were more than just gatherings; they were the foundation of a participatory and inclusive approach to community development. The meetings of this scale served as the initial point of data collection, creating a data bank for the subsequent stages of planning and design. They demonstrated a process where the residents became co-creators of their living environment, ensuring that the final design and solutions aligned closely with the community's genuine needs and aspirations.

#### ***5.4.2.3 The Representative Meetings, the Middle-scale Format***

This format involved appointing representatives<sup>169</sup> from each small neighborhood group. They were key actors who liaised between their represented groups, the facilitators, and the larger community. The representatives played an integral role in gathering their constituents' needs and concerns, voicing them in the representative meetings, and actively contributing to the formulation of technical options. They then conveyed and discussed any formulated options with their constituents for further review and feedback relative to each concern.

In routine representative meetings, the representatives had to coordinate routinely with each other, as well as the organizers and facilitators. The aim was to maintain a consistent flow of

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<sup>169</sup> See Section 5.4.1.5 on representational power sharing

information and minimize misinterpretation or personal biases. This method helped bridge the information gap and reduce misinformation between the smallest units within TKL and Kunir communities.

#### ***5.4.2.4 General Meetings, the Community-wide Format***

General meetings were crucial for public decision-making, the validation of directives, and transparency within the community. These meetings provided a platform for openly discussing and collectively determining the best course of action for the community as a whole. Existing options and proposed solutions were thoroughly examined and evaluated during these gatherings, focusing primarily on discussing and reaching a consensus about the available choices.

This approach allowed for transparency and ensured the decision-making process was based on well-considered, pre-existing alternatives. By openly deciding and validating directives in general meetings, the TKL and Kunir communities could maintain a sense of democratic participation and community engagement in shaping their future. On the other hand, it is essential to note that the discussions revealed that general meetings typically were called out and arranged by the community organizers in collaboration with the facilitators since they were able to nimbly switch between details and big-picture or helicopter views<sup>170</sup> of the situations and gauge the progression of the overall movement.

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<sup>170</sup> “Helicopter view: a general description or opinion of a situation, rather than a detailed one.” “Helicopter view.” Cambridge Online Dictionary, <https://dictionary.cambridge.org/us/dictionary/english/helicopter-view>

The facilitating architects adhered to the multiple-size staggered system to conduct sessions to gather the needs and issues affecting end-users' housing needs. They adapted the conventional architectural engagement into a co-design workshop format (discussed in Section 5.5) in both settlements, although they encountered challenges in the residents' participation. The *Kampung TKL*, a larger settlement with hundreds of families, had few residents participating in neighborhood and general meetings. Similarly, in Kunir, even with a smaller community of 33 families, there were challenges to maintaining active involvement from the residents<sup>171</sup>. Most community organizers, facilitators, and representatives agreed that the seemingly low involvement rate was attributed to varying priorities and schedules among individual residences. Thus, the representational and staggered meeting systems were crucial to mitigate that<sup>172</sup>.

#### ***5.4.2.5 Seeking Direct Engagement As Early As Possible***

Three facilitating experts, Z1, Z2, and Z8, stressed the importance of expert facilitators engaging the facilitated communities as early as possible, as also affirmed by the resident representatives in Box 20. Early engagement helps facilitate outsiders in identifying and understanding the presence of identity groups within the resident communities and the preexisting dynamics among them<sup>173</sup>. It affords more time and opportunities to learn the different agendas or concerns and start looking for common ground among these diverse interests. It means more time for follow-up meetings with each group to discuss and formulate shared interests. Not all groups will readily reveal their interests, making sustained and iterative engagement<sup>174</sup> necessary.

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<sup>171</sup> As shared by Z2, Z3, Z4, Z5, and Z6 in separate discussions.

<sup>172</sup> See Section 5.4.2. on potentials and caveats on representational or delegation system.

<sup>173</sup> Related to the discussions on “*community as a unit identity*” and “*positionality*” in Chapter 4, Sections 4.2 and 4.3

<sup>174</sup> See Section 5.4.2.6 on the sustained presence

PI: “What about Z8 and team, when did they started advocating this community?”

LDX4 (a resident representative): “Since the period of previous governor.”

LDX3 (one of the residents at sub-*Kampung* Lodan): “They were here since before we voluntarily cut our houses.”

KRX1 (a resident representative): “They have been accompanying us since early, right? Since we were about to be removed.”

KNY4 (a resident representative): "He got involved with us since the first day of the forced eviction here."

KNY5 (one of the residents at *Kampung* Kunir): "Yeah, he got here right away after the first day of the forced clearance."

KNY8 (one of the residents at *Kampung* Kunir): “Z3 has been (facilitating) us since the beginning of the eviction.”

KNY9 (one of the residents at *Kampung* Kunir): “Yeah, he got here shortly after we were forced to relocate.”

Box 24. Excerpts from a focused group discussion session highlighting facilitators’ early involvement.

Early involvement enabled the facilitators to see and understand the before they were diluted, overlaid, or mixed by self-serving, opportunistic interests. I argue that it is equally important to note that early engagement should also apply to the relationships among the ranks of architects as well as with the other facilitating experts, especially when they come from different backgrounds and have diverse expectations. This early engagement promotes effective collaboration between experts and harnesses various strengths to achieve shared goals.

#### 5.4.2.6 *Maintaining Consistent & Sustained Presence*

The facilitating architects' role in the community was demanding. It required maintaining their commitment and consistency of presence among the two communities. First, their presence familiarized the expert facilitators with the community's situation and context. By delving deep into its context, dynamics, power structures, history, key individuals, and relationships with the rest of the community members, the facilitators position themselves to understand better and serve the community.

“He’s always like that, Z15 (one of the expert facilitators). He usually got here in the morning and not leaving until dusk, talking with us all the time, taking notes... about all this (that we experienced). – KNY5, one of the residents at *Kampung Kunir*

“Even since before the forced clearing, we kept meeting and planning with Z1 and others. ... He’s always been with us. We had monthly, sometime weekly meetings.” – KNY4, one of the resident representatives

“Z16 accompanied us in meetings at the City Hall and also at our settlements. Usually we meet him once a week. We also did not know Z9 at first, but we eventually get to know Z9 from our meeting again and again, yeah.” – LDX4, one of the resident leaders

“There were moments when we got tired of (the community’s) repeatedly getting demotivated. ... We were like, ‘That’s it! We should call it quit!’ But we kept coming back to them.” – Z4, one of the facilitating architects

Box 25. Quotes describing the extent of commitment during the collaborative endeavor.

Beyond gaining familiarity, the facilitators played a pivotal role in upholding the integrity of the representational structure. This involves continuously verifying data related to community



concerns, issues, and consensus. Ensuring that the points agreed upon at higher levels genuinely represent the broader community's wishes is vital. Consistent, bi-directional validation and engagement strengthen trust and should be the cornerstone of the relationship between the community members and the facilitating facilitators.

One of the community organizers, Z1, further underlines the importance of the facilitator being aware of any opportunities that could expedite the overall endeavor. While taking time to gain familiarity was required, the collaboration helped realize the common goals sooner to avoid risking the loss of endurance or being overshadowed by other emerging concerns. Such opportunities are invaluable, and recognizing them requires keen observation and familiarizing the facilitators with the concerns and needs of the end-users. This awareness comes from consistent involvement within the community.

Thus, robust and unhindered communications are necessary to build relationships and capture pivotal moments that could significantly improve the collective trajectory. Facilitators took turns attending meetings at various levels with the representatives to minimize personal biases or over-reliance on representative groups or individuals. They watched for such opportunities and cross-checked information with the broader community while maintaining coordination among themselves<sup>175</sup>.

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<sup>175</sup> I have come to appreciate that process as a challenging undertaking: maintaining the collaboration and sharing the deciding power with the community who were fully aware of their being underprivileged in many aspects and, at the same time, must prioritize their livelihood over deciding on propriety and compliance of the architect's works.

#### ***5.4.2.7 Monitoring Performance of Facilitators and Representatives***

A monitoring system devised by the community organizers ensured that all partnering entities were accountable and upheld equitable and power-sharing collaboration. The monitoring was conducted by the organizers and the facilitators, who routinely checked in with their partners. It, in effect, required both the organizers and facilitators to develop routines that involved sustaining their consistent presence, as discussed in 5.4.3.3 above, and engaging their on-site partners, i.e., the resident leaders, representatives, as well as individual residents, in discussions as a form of follow-up, clarification, and confirmation. These practices also served to build rapport and develop social bonds. Related to the positionality, accountability, and consistency of information noted in Sections 5.4.2.2 and 5.4.3.1, it might seem that the organizers and experts were at the top rung of the organizational structure.

“By monitoring. Because we already have agreed points, we used [these points] as checks and balances, whether [the facilitators and the representatives] made [the agreed points] happen or not, what the results are. That’s how we do the monitoring. And to avoid being conned, I have to know what the field looks like. I have to do site visits, not to meet the activists, but to see the situation, talk to people, and so on.” – Z1, one of the community organizers

Box 26. One of the community organizers explained how to check the partners’ commitment.

Z1, one of the community organizers, quoted in Box 22 above, described the monitoring system from the facilitators’ perspective. Interestingly, such a system actually provided a precedent for the representatives and the residents to query and follow up on the state of progress and particular agreed deliverables. The monitoring system was a two-way initiative that the representatives and residents could do to keep the organizers and facilitators accountable. As

such, every partner was accountable for their commitment and the corresponding responsibilities, and thus, trust was cultivated and developed.

## **5.5 Foster Co-learning & Capacity-building Among All Partners**

This section continues the discussion about co-learning and capacity building in Section 4.5 and further elaborates on the methodology in Section 5.5 and the corresponding tactics used by the architects. I learned that facilitating “*collaborative, power-sharing and equitable partnership in all stages*” was related to and thus fostered “*co-learning and capacity-building among all partners.*” Understanding the various identities<sup>176</sup> involves co-learning and capacity building and were essential to finding or building intersecting points where they could collaborate without unintentionally undermining the other’s perspective or pre-existing capacities<sup>177</sup>.

As discussed in the previous sections<sup>178</sup>, trust was the currency to get partners to be open towards and cooperative with each other, which accommodates and facilitates the opportunities for every partner to learn from each other genuinely. It involved the architects’ deliberation in putting the TKL and Kunir residents at the steering wheel as the latter’s collaborators. It also involved mapping past built-environmental developments and their corresponding social and power

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<sup>176</sup> See Sections 4.2 in Chapter 4 and 5.2 in this chapter.

<sup>177</sup> Building on the understanding that each partner possesses unique knowledge that the others could tap into during the collaboration. See Z1’s remark in the box excerpt in Chapter 4, Section 4.5.

<sup>178</sup> See section 5.2, 5.4.1, 5.4.2.1, 5.4.2.2, 5.4.2.3, and 5.4.2.4.

dynamics among the residents<sup>179</sup>. The results informed both experts and residents during collective visioning and co-design workshops<sup>180</sup>.

### ***5.5.1 Partnering With The “Non-paying Clients”: Architects Learning From the Residents***

The goal in the co-learning was to build rapport and develop trustworthy relationships [79]<sup>181</sup> that are different from business-like relationships<sup>182</sup>. The Kunir and TKL residents needed to remain in place<sup>183</sup> because of their place-based livelihood and place identity [183]It was thus clear that what constituted “good architecture” for them differed from what architects would have prescribed professionally. The architects had the capacity and were willing to contribute their expertise to improving the precarious structures that had been the government’s rationale for issuing the eviction order.

However, as discussed in Section 4.3.1, aligning the architects’ perception with the residents’ needs by being aware and understanding the positionality and power difference was paramount to enable an effective and meaningful collaboration. The absence of unhindered query, feedback, or even confirmation from the beneficiary residents to the architects’ design products risks misleading the architects to practice a top-down providing services that does not accurately address the residents’ concerns.

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<sup>179</sup> See Section 5.5.2.

<sup>180</sup> See Section 5.5.4.

<sup>181</sup> Thus, the recommended early engagement is discussed in Section 5.4.2.5.

<sup>182</sup> This was in contrast to professional practice typically established through signing legal contract documents.

<sup>183</sup> discussed in Sections 4.2.1 and 4.4.1

### *5.5.1.1 Utilizing Open-ended Questions For Equitable Discussions*

The method of asking open-ended questions is related to the discussions in Sections 4.2 and 5.2, on understanding the community as a unit of identity, interweaving vested interests and individual concerns, and finding their intersections while maintaining the residents' leadership. The facilitating architects followed this method set earlier by the community organizers. The excerpts in Box 23 show the typical open-ended questions the architects asked in learning about the residents' priorities<sup>184</sup>.

Utilizing open-ended questions offered the facilitators two benefits. First, this method allowed them to understand the perspectives and contextual considerations of non-experts. The open-ended questions helped to drive the engagement toward discussions that would help them gauge the residents' perceptions of what physical manifestation should be had for a particular spatial performance. Second, it extended a valuable opportunity for residents and architects to acquire knowledge from each other. It was a way to catalyze the reciprocity and openness to new information and differing perspectives.

As observed by Z1, one of the community organizers, "*not knowing what they're asking*" (see Box 23) illustrates that residents might lack the capacity to articulate questions. Two facilitating architects remarked that it worked best for the architects to frame the architectural information they needed from the residents by relying less on technical jargon (see also Box 23). Instead, they presented their questions on spatial performances relative to functional activities in

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<sup>184</sup> It was starkly different from the government agencies that always resorted to formal regulations regardless.

architectural programming using the more generic terminology. Z4 provided some examples in Box 23 of the simplified architectural open-ended questions they used in their work with the residents.

“So they were providing us with insights: ‘This is how it typically works,’ ‘That’s the nature of that,’ and then, ‘Knowing those, what do you (the community) think? What’d be the best actions for you?’” – KNY1, one of the resident leaders

“Asking questions is a facilitator’s task, not to give answers, although it is tempting. (Facilitators) need to also discern whether (the community’s) questions make sense. I mean, the people might not know what they’re asking, and sometimes they don’t know if a question would make sense or not.” – Z1, one of the community organizers

“My task was to ‘brainstorm’ them to be active. So I’d just start with a question (addressed to the community during meetings): ‘How? What’s the best way to do it?’ And that’d get them to ask each other, and then I’d follow up by further asking (individuals): ‘Do you have any thoughts or ideas?’” – Z2, one of the facilitating experts

“For example, sleeping activity. We related that to architecture (with a question), ‘What (kind of surroundings) would help you sleep comfortably?’ ... So it’s about helping them to develop that kind of sense. What we were concerned about was that what was expected out of the building did not match what the residents perceived.” – Z4, one of the facilitating architects

Box 27. Some quotes illustrate the methods of ‘*asking open-ended questions*’ and simplifying architectural terms.

Equally important was uncovering and understanding the residents’ reasons for their perceptions.

The architects needed to be exposed to answers from a system of thoughts different from what

they were trained on<sup>185</sup>. It underscored the necessity of providing a platform where residents can express their inquiries and contribute to discussions on equal footing with experts.

### ***5.5.1.2 Finding the Intersection of Partners' Interests***

Facilitating mutual learning among partners meant that the residents, community organizers, and expert facilitators understood each other's interests and concerns and identified common ground for everyone's benefit. The residents' primary concern centered around addressing the imminent threat of losing their place-based livelihood, a priority that the community organizers were keenly aware of.

On the other hand, the government aimed to develop the Jakarta Old City District into an urban heritage tourism destination. The challenge lay in the perceived impact of existing slum-like settlements on the quality of the urban space and environmental health, potentially hindering the plan to attract visitors and generate revenue [20]. Despite the concerns, the community organizers recognized the power imbalance between the residents and the regulation-backed government agencies, making direct resistance impractical.

The community organizers advocated reframing the threat, first as the threat not to individuals but to the residents as a collective, and thus an impetus to push for community organizing (See Section 5.4.3. on organizing the residents). The expert facilitators then unpacked the rationale

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<sup>185</sup> I learned from the mini design workshop that I conducted that maintaining my curiosity and refraining from referring to architectural standards or spontaneous architectural imaginations helped me discover the end-users' reasons I never thought of from an architect's point of view. See Section 3.4.2 in Chapter 3 which explains the mini-design workshop format as part of this dissertation.

behind the eviction order and the plan to transform the Old Jakarta district. They arrived at the intersection of interests where the development plan was seen as an opportunity that the residents could support through their active contribution by doing what they have been doing, i.e., to provide supporting services to the businesses in the area while effectively maintaining their presence there. The new plan went further to adapt the services to support the touristic-oriented plan, coupled with reversing habits that degraded the environmental condition. Box 24 shows the intersecting concepts or ideas from three partnering entities (the government, the facilitating architects, and the residents) that each partner envisioned for the same geographical location, i.e., the sites of the two settlements.

“The program started with [the idea or plan] to make the kampungs as part of the tourist destinations in Old Jakarta area.” – MJU1, staff at one of the government agencies

“... cultivating the conceptual idea of inspection road vs. inspection *kampung*; so, instead of having government-paid staffs or external contractors to conduct inspection and river maintenance, the community could and are willing to take up the role of the guardian or steward of the river.” – Z8, one of the facilitating architecture researchers

“Overall, the idea of transforming our settlements into a tourism destination came from the residents. Actually (that conceptual idea) is prospective, ... if we could see way ahead if our place is turned into tourism destination ... that we could integrate (community-initiated activities) with the government (programs), since the Old City is just next door.” – LDX4, one of the resident activists

Box 28. Quotes from three different individuals representing their respective communities:



The residents were advocated to develop and propose turning their settlements into tourism (urban) villages or “*Kampung Wisata*.”<sup>186</sup> The concept envisioned the development in which riparian urban communities were an integral part of the government’s grand plan. The proposal put forward the activities by these communities that could bring revenues that the residents could enjoy and contribute to the local government’s direct income and taxes. The community’s proposal puts the habitual reversal and voluntary redevelopment discussed in Section 5.4.2 as the corporeal manifestation of the concept that focuses on the mutual benefits for both the government and the resident communities.

### ***5.5.1.3 Delivering Some Sessions as Training Opportunities***

Ideally, the collaborative process should heavily emphasize two-way knowledge sharing. However, a noticeable knowledge gap between the facilitators and the facilitated often exists, requiring one party to provide training sessions for the other. In the context of this study, the impacted low-income communities found themselves in the role of partners with less access to education or training in the essential knowledge needed to realize their goals and vision using their own resources. While this might seem like a one-way, top-down approach, it is crucial to ensure that the decision to receive training is preceded by an equitable dialogue, as illustrated by a quote from Z2, one of the facilitating experts, in Box 25.

In such cases, the facilitators, with their greater capacity, must take the initiative and be prepared to offer guidance and advocacy based on the principle of mutual benefit. This process involves

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<sup>186</sup> As elaborated iteratively by LDX1, LDX2, LDX4, KNY1, KRX1, KRX3 in separate discussions. In the Indonesian language, ‘*kampung*’ means village, and ‘*wisata*’ means tourism.

reframing existing codes, regulations, situations, and concerns to foster collaboration, leading to shared advantages. It further requires the facilitators to prepare for complexities resulting from layered concerns and interests.

“Well, it’s like running a class/course. ... Yes, it was just like that. So we trained them the basics of co-op, memorandum of association, and others. The rest was to capacitate them to run the co-op.” – Z2, one of the expert facilitators

Box 29. One of the facilitators recalls one of the capacity-building formats.

### ***5.5.2 Advocating the Chronological Mapping Workshop of The Built Environment***

“... CBPR practice therefore must be about all partners asking questions within historical and current contexts and examining their own positions of power, whether by virtue of race or ethnicity, education, or community status, and being willing to negotiate these dynamics over time.” – Wallerstein and Duran, 2008 [92]

The TKL and Kunir communities discovered their strength from their connection with and presence in their current locations<sup>187</sup>. They realized their resources derived from their years and generations of social cohesion between members, now formalized through the organized movement to fight to remain in their current place together. Chronological<sup>188</sup> mapping helps residents, and their expert facilitators understand the preceding situations and contexts that led to their current challenges and potentials.

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<sup>187</sup> See Sections 4.4 and 4.6, which discuss the relationship between the two resident communities, their geographical location, placeness, and potential.

<sup>188</sup> “: of, relating to, or arranged in or according to the order of time.” In “Chronological.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/chronological>. Accessed 2 Feb. 2024.

The mapping workshop<sup>189</sup> traces back the past development of the two *kampungs* and brings to light the collective awareness of the previous or preexisting relationships and positionality that affected the built-environmental formation (illustrated by a quote from a facilitator in Box 26). The facilitators invited the residents to collectively draw a geographical map of their settlements on large pieces of paper, using pens and markers to draw the lines and markings. Sticky notes were used to add details<sup>190</sup>, significant or critical events, time stamps, or other information on related to any particular geographic sites, properties, infrastructures, or other development.

“The (historic mapping workshop) really opened up like, ‘Oh, that person is related to those persons; this person is closer to this person... the findings explicitly informed us on the capacities (of individuals ... That’s why our intention with the mapping workshop was that to have the residents to recollect (historically, chronologically) of what happened here.’ — Z4, one of the facilitating architects

Box 30. A quote from a facilitating architect on the historic mapping workshop.

The mapping workshop involved semi-structured, open-ended questions integrated into the workshops as prompts for the participating residents to explore their individual and collective memories. The information about the development of their neighborhood was mapped down and marked by referring to their time stamp and chronological order of occurrence<sup>191</sup> relative to the overall locations. The result was the highlighting of influential actors and factors and their

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<sup>189</sup> See Section 5.5.2

<sup>190</sup> Such as property ownership (including change of hands), physical transformations, geographic remarks, and others.

<sup>191</sup> The facilitating architects used the term “historical mapping” to attribute this in our discussions.

relationships that shaped their settlements' past physical development and that reciprocally affected the positionality and power structure<sup>192</sup> within the two communities over time.

Understanding the history and chronology of built-environment development was essential for several reasons. First, it helped uncover who had more influence on the local built environment during specific periods. This knowledge shed light on the forces and actors that have shaped the community's living environment over time.

Second, this historical perspective also provides insight into the significance of various built artifacts in relation to the development of the community's identity, sense of belonging, and the relationship between the residents and their environment<sup>193</sup>, i.e. their place-relation with the site [183]. These physical structures often bear cultural and historical significance for the two communities formed by their socioeconomic positionality<sup>194</sup> among the residents.

Third, the knowledge afforded the TKL and Kunir communities awareness of the larger context that showed them as part of Jakarta's urban conglomeration with many differing communities of interest. Potentially, it provided an overview (for some) and helped them understand how their actions had impacted other communities and vice versa. In turn, the awareness afforded them the realization that they could enact changes.

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<sup>192</sup> See the discussions on “*community as a unit identity*” and “*positionality*” in Chapter 4, Sections 4.2 and 4.3.1.

<sup>193</sup> Whether neglect, sense of belonging, or sense of ownership that were rationalized based on their experiencing the dynamics as TKL and Kunir community members.

<sup>194</sup> See the discussions on “*community as a unit identity*” and “*positionality*” in Chapter 4, Sections 4.2 and 4.3.1.

### 5.5.3 *Developing Contextual “Design Brief” With the Partners*

Co-creating the design brief, typically through the direct, interactive, collaborative, and power-sharing engagement modes (examples described in Box 27), was significant in correctly addressing the genuine architectural challenges. Here, the shared knowledge developed earlier from the historic mapping workshop served as the base to reference throughout the following phases.

“We had meetings at the mosque. We told them what we want (need). We then hit the road and pointed out where we want to have them, the locations, right? For example, we wanted the trees over there, marked the spots, here, here, here ... the architects then made the drawings. That’s how we did it. They came back and forth to us with the drawings and asked what we think about it, whether they (addressed the concerns) or not.” -- KRX1, one of the resident leaders

“The (residents) wrote all things (about their housing needs) that looked kind of chaotic, (the residents) initially didn’t know where it was going... And that’s where experts got involved. So there were designers, architects, and the residents themselves. So there was some exchange of knowledge, something like that.” – Z6, one of the facilitating architects

Box 31. Quotes describing the examples of the interactive engagements between residents and experts.

For the Kunir settlement, the brief initially was to create temporary housing in the adjacent location for the residents losing their homes to the forced demolition following the 2015 eviction. As grassroots activism advocated for not relocating to the far-away sites, the architectural brief was expanded to provide design alternatives to what could possibly be

developed as a viable affordable urban housing solution for the low-income communities impacted by the 2015 eviction.

The expanded architectural design brief aimed to exhibit the proof of concept that the relocation was not necessary. Instead, an on-site housing provision was the better alternative as a win-win solution. The brief further expanded to include working on several design alternatives for a multistory apartment building. The design alternatives focused on accommodating the thirty-three units<sup>195</sup> on a government-allocated land of 700 m<sup>2</sup> (about 7,535 sqft) adjacent to the previous Kunir site to compensate for the lost houses<sup>196</sup>. Consequently, since the demand was directed towards the government as the project funder and land owner, government agendas (in the form of regulations) and formal building codes must be adhered to, and balancing between the government's concerns as the "paying client" and the residents' as the "non-paying client."

For the TKL settlement, the brief was to reverse the uncontrolled development by "halving" the existing houses. It involved physically demolishing portions of the houses that extended beyond the setback land towards and over the river and allowing the government to regain their inspection road. Consequently, the lost floor area should be compensated by redeveloping the remaining portion of the houses vertically with additional floors if necessary [21]. All redevelopment should be self-funded and not expect the government's financial aid. A sample house was needed to initiate the halving and partial demolition, showing the vertical

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<sup>195</sup> for the thirty-three remaining Kunir families out of 55. The other 22 decided to move government appointed locations.

<sup>196</sup> As explained by a facilitating architect, Z8, in Box 28, Section 5.5.1.2.

redevelopment and the use of alternative or affordable materials, as well as an iconic artifact to publicize the grassroots proposals and communicate the TKL community's commitment to becoming better citizens.

Technically, the architectural design brief comprised agreement points that might gradually evolve depending on the progression of the daily power dynamic<sup>197</sup>. While core agreed points representing the fundamental concerns of the partnering entities were maintained, the more technical and architectural decisions underwent some adjustments to reflect new requirements, ideas, or opportunities that better support those fundamentals. These modifications included using specific building technologies, such as standardized fire suppression systems in the Kunir building or a masonry firewall separating each rowhouse at the *Kampung* TKL. Those technological implementations were agreed upon not only to accommodate the government's concerns for proper project procurement but also to improve the residents' living environment.

Co-creating the design brief and collectively envisioning the future enhanced the overall effectiveness and relevance of the architectural work within these communities, as residents expressed satisfaction in Section 6.9.1. The shift from merely directing or requesting a design brief from the client to co-creating this brief marked a fundamental change in approach. It differed significantly from the UIA guidelines [149], [181], which recommend architects to

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<sup>197</sup> Discussion with the government staff revealed that that dynamic resulted from the internal tension within and between the government agencies that found the government's agreeing to accommodate the residents' concern to remain in place and providing them with housing facilities conflicting with the regulations at the time. The internal tension within the ranks of the Jakarta government stemmed from conflicting agendas between that of the then Governor, Mr. Anies Baswedan, bound by his political contract with the members of the Urban Poor Network (which the Kunir and TKL communities were part of), and that of the career staff at the corresponding government agencies whose concern was to uphold the regulations for the sake of upholding the regulations.

request design briefs from paying clients. Co-creating the brief was more than just a procedural change; it was a process designed to empower the residents<sup>198</sup> through a democratic design practice reflecting the collaborative, power-sharing, and equitable partnership.

#### ***5.5.4 Facilitating the Architectural Co-design Workshop***

The architectural co-design workshop aimed to provide a platform for the residents to actively translate the collaborative design brief into the actual architectural design that deals with functions, spatial programming, building performance, and relevant technologies. Addressed as the “X by X” by the facilitating architects at Kunir, the co-design workshop was a strategy whose characteristics resembled those of the design phase in the conventional architectural project flow [148], [149].

However, the project flow for the co-design workshop required a significantly greater allocation of time and workload at its early stages (or the “*pre-design phase*” as termed in the guidelines [148, p. 5]) than the conventional one. A considerable portion of evidence indicated the architects’ significant activities and community engagement in this pre-design phase before the actual design workshop<sup>199</sup>. It also differed in the activities during the design phase, in which the residents, as the end users, shared the creative authority with the architects.

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<sup>198</sup> See Section 5.4.1.

<sup>199</sup> Affirmed by Z3 and Z4, two of the facilitating architects, in a follow-up meeting in January 2024.



“So this workshop was to help the residents understand about their own living environment, with other design-related issues/aspects. On the other hand, there were minute aspects, like the activities that residents routinely would do at home, like sleeping, bathing, cooking, and so on. Thus they acquired this understanding that for example, a space could be multi-functional.” – Z6, one of the facilitating architects

“So the ‘X by X’ (workshop) means ‘of the residents by the residents.’ Its concept was simple: to have the residents collect information on their own basic activities (in their households). For example, like, sleeping. We relate that to architecture ... so that they could acquire this sense because we were concerned that ... the (architecture output) did not meet what the residents had in mind. So that’s what we meant by ‘X by X’. It’s that simple.” – Z4, one of the facilitating architects

Box 32. Two of the facilitating architects share their perceptions of the architectural design workshop called “X by X.”

The workshop enabled the development of a collaborative design brief with the actual design works that translated the residents’ housing needs into the architectural form and space to address various dimensions of residents’ built-environment-related concerns (see Box 28). The collaboration between the architects and the residents was oriented not only to co-produce appropriate design but, more importantly, to maintain the project pace and adequately accommodate partners to progress together.

Another key objective of the co-design workshop was to create an inventory of essential at-home activities of the families<sup>200</sup>. This inventory served as an elaboration of the design brief,

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<sup>200</sup> See remarks by two facilitating architects, Z4 and Z6, in Box 32.

identifying key use areas of functions needed by the residents and collaboratively developing them with the architects. By comprehensively cataloging the daily activities within households, architects gained a nuanced understanding of each family's unique needs and routines that might contrasted with what is typically standardized.

#### ***5.5.4.1 The Format***

The co-design workshops were modeled following the engagement format designed earlier by the community organizers during the initial stages of community organizing<sup>201</sup>. The workshops strongly emphasized personal and direct engagement with residents. Architects deliberately tried to get to know families personally (mediated by the family representatives), conducting needs assessments through face-to-face activities. This lent the architects insights from the residents' perspective and enabled them to acquire a more holistic understanding of the real-world context and informed their practice.

It was crucial to create a safe platform for communication where every individual felt empowered to voice their concerns and ideas. Various approaches were adopted to ensure inclusivity, including collecting information through written memos. This was particularly valuable for residents who may have been timid or dealing with sensitive issues they were uncomfortable discussing verbally.

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<sup>201</sup> See Section 5.4.2.

#### **5.5.4.2 *The Phases and Timing***

The co-design workshop sessions were planned to adapt the architectural project flow [148], [149]:

- pre-design (or feasibility) phase
- design phase that included the following sub-phases:
  - schematic design
  - design development, including producing construction document
- construction procurement (tender and contract awarding)
- construction phase, including project handover at the end of the construction
- post-construction phase, including post-occupancy evaluation and defect remediations

As discussed in Section 5.4.3, the architects reached out to the resident communities using the systematic engagement model established earlier by the community organizers.

##### **5.5.4.2.1 *The Pre-design Phase***

“Pre-Design Phase: The architect assists the client to identify requirements for the project and to develop a project brief. The architect prepares initial feasibility studies and assessment to options to enable the client to make the decision to proceed.” – Recommended Guidelines for The Accord Policy On The Scope of Work (UIA, 2009) [148, p. 4]

In contrast to conventional practice, the architects had to invest considerably more time and effort in this pre-design phase to recognize and familiarize themselves with the situation and the general context. Chapter 4 and all the earlier sections in this chapter before this one discussed and elaborated on the principles and the corresponding collaborative activities that took place

before the co-design workshop. This “pre-work” focused on initiating and building trust between the architects, the residents, and their peers. The trust-building effort was fundamental, and it involved maintaining consistent presence and commitment without any fixed timeline.

This phase involved engaging residents at the “neighborhood” and “representative” meetings discussed in Section 5.4.2.3. These decisions were tailored to each community and location's specific circumstances. This phase involved the collaboration between experts and beneficiaries to co-produce the design brief (see Section 5.5.3) as the reference for the subsequent workshop sessions.

#### ***5.5.4.2.2 The (co-)Design Phase***

“Based on the requirements, constraints, and objectives of the project brief, the architect examines the pertinent requirements concerning codes and regulations, building technology, schedule, and construction cost of the project and proceeds to prepare the design(s) for the project.” – Recommended Guidelines for The Accord Policy On The Scope of Work (UIA, 2009) [148, p. 5]

##### ***5.5.4.2.2.1 The Schematic Design sub-phase***

The co-design process involved architects facilitating the resident communities through workshop sessions. The architects borrowed the format for the sessions from the “general meeting” model from earlier “neighborhood” meetings (See Section 5.4.4.3). The center of this phase was the collective examination and decision of the design options previously developed in smaller meetings during the preparation. These sessions aimed to illustrate how their built environments could and should change based on the agreed-upon visions, goals, ideas, and concepts. These sessions lasted from days to months, depending on various factors, including

community size, internal dynamics, partner agreements, and situational complexity. For instance, the actual "X by X" workshop at Kunir took one or two days, while the co-design sessions at TKL spanned several months. It is also important to note that the size of the meetings used in the Kunir and TKL communities for the co-design workshop should not be referred to as restrictive, hard, and fast rules; different situations and contexts may present different challenges and dynamics.

Considering the number of families and operational constraints, both architects and resident communities agreed that the architects were to facilitate and advocate design solutions for the residents, not on an individual basis. Instead, the architects sought to enhance the residents' understanding of the essential relationship between space and activities to set clear expectations for architectural and building features, defining what minimum performance residents should anticipate regarding practical spatial dimensions, lighting, ventilation, sanitation, environmental health, and safety measures. Residents considered the construction options that included vertical expansion, implementing communal and individual septic tanks, low-cost but safe vertical circulations, natural cross ventilation, and other technical features. All the sub-phases considered the codes and standards and explored how they could be implemented or adjusted in the redevelopment plan. These architects aimed to make sure that the design output reflected the vision of "good citizens" and "stewards of the river"<sup>202</sup>.

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<sup>202</sup> discussed in Sections 4.6.3 (in Chapter 4) and 5.4.1.2 of this chapter

For the Kunir community, who lost their houses, living in a new, multistory, multi-unit apartment was the only option. Their challenge was how to create new and different living habits in relation to new unit size and technologies. A compounding factor was the higher technical and managerial complexities associated with using and maintaining a complex building. Left unaddressed, these differences in living spaces might create an expectation gap and could leave the residents unprepared to transition to their new habitat, risking unnecessary distress and conflict. For the TKL community, the workshop focused on determining the technically proper approach for redeveloping or rehabilitating their houses, particularly after partial demolition, in complying with the 5-meter setback line<sup>203</sup>.

#### *5.5.4.2.2 The Design Development and Construction Document sub-phases*

Entering the Design Development stage, the progression eventually led to the situation where the architects had to deliver the design products in the form of formal project documents usable as the technical reference in the construction procurement and construction phase. In these phases, the architects inevitably had to assume the leading initiative. Other than requiring a supportive infrastructure and working environment to produce competent output, time constraints and the work that had entered a more technical stage made it inefficient to push for a co-design pattern that happened in the Schematic Design sub-phase.

#### *5.5.4.2.3 Construction Procurement, Construction, and Post-Construction Phases*

Similar to the Design Development sub-phase above, the architects' more dominant position marked this phase due to the requirement to enter a formal contractual agreement with the

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<sup>203</sup> See Section 5.5.3 on the design brief for Kunir and TKL settlements

government as the land owner and project funder. Section 5.5.5 elaborates on these phases and the corresponding situation.

#### ***5.5.4.2.4 Timing: When To Do The Workshop***

The architects needed to arrange the time to perform the actual engagement sessions to match their own rhythm with that of the residents who had differing priorities among themselves. Representative and general meeting-sized group activities were typically scheduled on weekends, providing a suitable platform to decide on options raised or proposed during smaller-scale meetings. Additionally, weekly engagement sessions were conducted on weekdays after working hours.

It is also important to note that the project timeline at both Kunir and TKL communities had different characteristics from the conventional one. Conventionally, the project timeline is agreed between the architect and the paying client as a relatively fixed duration. However, in a community-based participatory project, the timeline depends entirely on the on-site dynamics, as the gradual process of non-contractual trust building cannot be dictated by the same terms<sup>204</sup> that govern a conventional architectural project. At *Kampung* Kunir and TKL, The entire process at each location took approximately two to five years, from the early phase of the architects' involvement to the end of the project.

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<sup>204</sup> Terms such as client's timeline, budget, business plan, planning regulations, etc.

### ***5.5.4.3 Architectural Co-Design Tactics and Tools***

The architectural workshop utilized several tactics and tools to foster the residents' active participation. The following sections elaborate on them.

#### ***i. Pencil-on-Paper***

Creating not-to-scale diagrams using pencil-on-paper to let the residents reflect on their previous residences and assess various design aspects such as floor areas, the position of openings, the number of functions accommodated in a particular room, supporting services, stairways, and others. The pencil-on-paper exercises also significantly gave voice to those who, for various reasons, were challenged to openly or directly contribute opinions. This aiding tool was used intensively during the Pre-Design and Schematic Design phases but remains helpful throughout.

#### ***5.5.4.3.1 Scaled Paper Cutouts***

Pre-cut paper cutouts of functional spaces representing scaled floor areas of various functions were used to engage residents decisively. The cutouts were employed during the neighborhood-scale meetings to get input about residents' preferred and optimized layouts, aligning with the residents' aspirations for upcoming residential units. While the pre-cut units were referenced to the standards, residents could alter them based on their needs. The corresponding outputs were discussed with the facilitating architects for optimization.

The two communities commonly used the pencil-and-paper and the scaled paper cutout methods, typically during the neighborhood-scale meetings. However, since the Kunir community consisted of only thirty-three families, the architects held the workshop almost always at the



general meeting level, despite adjusting the agenda between discussing concerns to inform the design options<sup>205</sup> and deciding on the final format.

#### ***5.5.4.3.2 Scaled Analog Models and 1-to-1 Spatial Simulation***

The architects also prepared 3D analog scaled models, or maquettes, during the co-design sessions to aid residents in comprehending the three-dimensional implementations and consequences of spatial design, following up the use of paper cutouts. A workshop using a 1-to-1 scale floor plan allowed residents to study detailed imaginary three-dimensional spaces further, moving from the maquettes. Material samplers and illustrations were provided to help residents make informed decisions regarding the application of materials in the design iterations. Furthermore, technical explanations were offered to clarify key technological aspects essential for improving the built environment, in line with the overarching vision of a "tourism village" and being "stewards of the river," as discussed in Sections 4.5 (in Chapter 4) and 5.4.1.2 above.

#### ***5.5.5 Shifting from Participation to Community Consultation***

As suggested by the UIA's guidelines on The Scope Of Practice [148], architectural design works at the *Kampung* Kunir project needed to progress into the Design Development sub-phase<sup>206</sup>. The architectural design work in this phase elaborated the agreed embryonic, preliminary design into one with higher complexity from technical considerations. The architectural work expanded substantially to involve technologies and technical details for the

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<sup>205</sup> Typically reserved for the neighborhood and representative meetings, See

<sup>206</sup> See the discussion on this phase in Section 5.5.4.2.2.2 above.

design's constructability into an actual brick-and-mortar building in the construction phase. This expansion pushed the engagement format into one similar to the conventional architectural consultation, as admitted by two facilitating architects in their quotes in Box 33.

The technical design works included assigning the appropriate building structure, determining the level of utility systems<sup>207</sup> to match the standard and the operational capabilities of the users, laying out access in compliance with fire safety codes and other mandatory technical details, exploring precise placements of mandatory fixtures and standardized armatures, and meeting the standard spatial sizes relative to residential functions, openings, and services<sup>208</sup>. To bridge this gap and enable the facilitation to proceed and push the project toward realization, the facilitating architects agreed to enter the formal procurement system for the works<sup>209</sup>.

“If looking from my perspective, well... admittedly, residents’ participation was like, cannot be entirely implemented throughout.” – Z4, one of the facilitating architects

“Internally, there was a shift. Initially we architects facilitated the majority of the residents, and there was massive participation. But we came to a point where we saw that participation was no longer required, because there were technical decisions that we architects need to make.” – Z6, one of the facilitating architects

Box 33. Quotes from two facilitating architects explaining the shift into a more consultative engagement.

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<sup>207</sup> Technically known as the MEP (mechanical, electrical, plumbing) systems.

<sup>208</sup> The technologies alone required on-boarding measures for the residents to understand and internalize the consequences of living and operating them.

<sup>209</sup> The facilitating architects had to partner with a government-listed consultant office to enter a formal appointment by the government since the regulation mandated that only government-certified business entities could enter the project procurement contract. The facilitating architects did not have that type of credential at that time.

It is important to note that “consultation” was a rather non-preferred word. One community organizer negatively associated the word “consultation,” citing the term as the formal euphemism—and thus the least participatory format—of the top-down approach typically used in government-commissioned design and planning works. The criticism stemmed from the two *kampungs*' experiences engaged by government-appointed design consultants who sought the residents' input but never shared the chance to check or ask that the final product would address the residents' concerns. A community organizer's quote in Box 34 illustrates the criticism.

“‘Consultation’ was just about collecting ideas but leaving the decision to (the architect) alone. That's how it was basically done, whether it was once, twice, or three times. That, to me, is not participation. ... the question is, who gets to decide? I think that's the key. As long as decision-making is done by only the privileged, instead of sharing it, I think it's not participatory.” – Z1, one of the community organizers

Box 34. A quote describing the negative connotation of the word “consultation.”

Consequently, residents' involvement in the actual design development work shrank as the architectural work got more technical than the earlier design phase. As the dynamics between the residents, architects, and the government progressed, there were challenges from the government mandated that the project realization be done through contractual agreements to legally dispense funding, which made it more feasible and time-sensitive to let the architects do the largest share of the design development phase work rather than pushing for residents' intensive engagement in this stage.

This shift did not exclude residents but refined their role in the process. Thus, it was crucial to maintain transparency and keep the residents as the decision-makers to approve changes to the architectural design. The architects made an effort to communicate all design alterations to TKL and Kunir residents, especially regarding technical details and cost estimates, understanding that they were collaborating with the “non-paying clients.”<sup>210</sup>

### ***5.5.6 Pre-preparing a Range of Alternatives to Enable Decisive Leaps in Pressing Situations***

There were limits on the extent of active involvement that the “non-paying clients” could contribute during the architectural co-design work. In some situations, the engagement called for a format that included the architects providing design alternatives that were not necessarily produced through intense residents’ involvement in co-design processes.

The case studies with Kunir and TKL communities saw a balance between phases in which residents assumed a significant deciding role and those in which the consultation format, as discussed above, was more appropriate. The design development phase saw the architects work on the largest portion of the architectural detailing<sup>211</sup>. The following sections specifically discuss the situation that required the architects’ role in preparing a list of design options regarding particular architectural aspects without necessarily collaborating with their resident partners. The

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<sup>210</sup> Related to Section 5.2.1 and in contrast with working for the “paying client” who pays the architect and entrusts one with the architectural decision-making via a contractual agreement with the assumption that the monetary payment (and its legal consequences) will ensure that the payee will serve the client’s best interests [124], [180]. In effect, the client’s money or paying capacity would allow one to purchase the architect’s services with a warrant that the former’s interests would be the primary reference for the architectural work.

<sup>211</sup> See Section 5.5.5 above

architects presented those design options to the beneficiaries for them to decide on, complemented with thorough explanations. Although their practice might seem counter to “*collaborative, power-sharing, and equitable partnership in all stages*<sup>212</sup>,” the architects who worked with the Kunir community illustrated this is sometimes necessary, as quoted in Box 35.

KNY 4: “So, building size, form, design, all of those were recommended by Z3.”

PI: “So, Z3, I’ve been seeing that in particular contexts, I speculate that the facilitators took up larger responsibilities ... one of them would be at least to formulate pre-prepared options that the community can decide together, would that be accurate?”

Z3: “Even in decision-making. And conceptually, that’s what I believe in. ... in a larger picture, that’s a ... strategic existentialism, you see? ... There’s the need to make decisions; hence, it was necessary to make the jump to get them moving on, that’s it.”

Box 35. Some excerpts on pre-selecting design options.

#### ***5.5.6.1 Situational Challenge Imposed by A Partner***

The Kunir settlement case presented the turning point in which the architectural team was legally required to enter a contractual agreement with the government as the land owner and project funder, i.e. “the paying client.” The legal agreement was necessary to complete the architectural facilitation, resulting in a multi-story, low-cost apartment building. The contract between the

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<sup>212</sup> See Section 5.4 of this chapter.

architects and the government, as the paying client, demanded that the architects meet the government's interests and timeline<sup>213</sup>, like in any other professional, fee-for-service relationship [125], [149], [150].

The scheme put the facilitating architects in a dilemma between the commitment of power-sharing with the residents who would be the direct users of the building and the requirement to satisfy the government's interests as the legally paying client. Not only was there a pressing timetable to meet the political and operational agendas of the government, but the architects were also hard-pressed to accommodate and facilitate the multiple demands of individual governmental agencies, with their interests overlapping in the project. The architects had to try their best to accommodate all those entities while maintaining accountability to the Kunir residents who, thus far, through the earlier phases, had developed and invested their trust in the architects' goodwill to facilitate their housing needs.

A viable middle ground for architects was to keep residents informed as the architects formulated several pre-prepared options based on the architects' forecast of the possible trajectories of architectural outputs. The architects then made an effort to explain and make transparent all the plausible alternatives and consequences to their resident partners. Most importantly, the architects always let the Kunir community decide which options would suit their concerns best. The architects did so while fully being aware of the nature of the residents as the "non-paying clients<sup>214</sup>" and their own significantly advantageous position in almost every aspect of that

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<sup>213</sup> which was typically non-negotiable

<sup>214</sup> See Section 5.2.1.

formal, contractual setting. While theoretically, the residents should remain at the helm of decision-making, one of the architects, Z3, admitted that, at times, they had to partially decide on the residents' behalf, considering the pressure caused by the "paying client's" internal dynamics.

## **5.6 Building on the Communities' Strengths and Resources and Informing the Architectural Project Flow**

The architects were to understand that facilitation was a process in which all collaborating partners must be able to see and understand each partner's different spectrums and views<sup>215</sup>. The core objective is to gain insights from the grassroots level, pinpointing the intersection of diverse interests to establish a foundation for collective visioning. Facilitators were encouraged to refine and reframe the architectural queries through open-ended discussions<sup>216</sup>, empowering residents to articulate them independently. An inclusive and equitable dialogue emerges by fostering a space where residents and expert partners can pose and answer questions proportionally. The collaboration, in turn, allowed for the fruitful exploration of optimal solutions that revolved around the strengths and resources of all the partnering communities<sup>217</sup>.

The residents' existence in the locations is their core strength and priority. Another strength is their state of being organized communities connected to the other Jakarta riparian communities

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<sup>215</sup> In contrast to working for the paying clients who tend to be well aware of their intentions of requiring architectural services and what resources they have access and decided upon to get their vision realized).

<sup>216</sup> See Section 5.5.1.1.

<sup>217</sup> See Section 5.3 on focusing on local relevance of built-environment issues

through the urban poor network<sup>218</sup> in which threats of eviction and forced relocations have been the unifying concerns for years. Through the facilitation by organizers and activists in this extensive network, the Kunir and TKL communities consolidated themselves and produced a counter-proposal to the government that underlines a win-win solution that does not include forced relocation.

Community leaders acknowledged the residents' collective awareness of their past non-compliance with the building and planning codes. This situation encouraged the two resident communities to propose taking up their role as the stewards of the river and adopting more environmentally sound living habits<sup>219</sup>. The proposal emphasizes their determination to contribute positively to urban society and maintain their existence in the current locations. The two communities successfully saw and understood multiple interests [79], motivating them to work with the architects and community organizers to find a solution that addressed their concerns.

Even so, the pre-existing complexities and the overlapping interests of multiple stakeholders in the geographical locations created some challenges. By spending considerable effort in the communities to understand the context, the architects facilitate and complement the bottom-up redevelopment proposal by building up on the strengths and resources of the partnering communities. The state of the Kunir and TKL communities, as such, informed the architects,

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<sup>218</sup> Facilitated by the Urban Poor Consortium (UPC) NGO and the *Jaringan Rakyat Miskin Kota* (JRMK – Urban Poor Network) - See Section 3.3.5 in Chapter 3 for the website links.

<sup>219</sup> the voluntary tear-down of parts of their houses to re-clear the river-side setback area, household waste management, and installing septic tanks.



who then adapted their project flow [148], [149] accordingly through strategies and methods elaborated in section 5.5 to accommodate the intentional sharing of decision-making with the residents throughout the design phases.

### ***5.6.1 Accessible Land and Properties***

Although very limited in terms of the actual square foot area per residential unit, and despite the contested legality of their tenure there, the existing parcels were the immediate physical asset the residents had access to to assert their concerns. The residents enacted their goodwill and commitment to become “better citizens” by implementing the redevelopment proposal.

The Kunir community was provided 700 sqm of government-owned land next to the location of their cleared settlement. The Tongkol-Kerapu-Lodan (TKL) community continued occupying the previous parcels after halving and redeveloping their houses after the government granted a collective land-use right managed through the community’s cooperative.

These accessible lands and their limitations are the basis on which the architects were able to accommodate various housing priorities. In the Kampung TKL case, individual parcels’ footprints were reduced after the halving, and several functional spaces of a typical house were transformed into one shared space that functions differently according to the time of the day. While the standardized functional floor area and the separations between functions were negotiated, the architects advocated for more standardized technical aspects such as natural ventilation, daylighting, structural safety, and sanitation.

### 5.6.2 *Social and Cultural Resource*

Referencing Peng et al. [183] and Buffel et al. [187], occupying or inhabiting a piece of land turns into place experiences when those experiences shape the inhabitants' identity. The identity develops through “*meanings, memories, and information*” produced from the people’s interactions with both material and the “*less tangible*” features on the land. I argue that that process is part of forming a culture that builds on the social relationships of the people living on that land. In the two *kampung*s, it is the relationship that one of the facilitating experts, Z2, described as “*a kinship among [the residents]*” by Z2’s quote in Box 36.

“Other than enhancing the organizational capacity, [we also built on the fact that] there is a kinship among some of them. So we asked several community members [who are respected or have influence in their community] to become social agents; we try to make the system as organic as possible with the agents, who then act as mobilizers for the other members [based on kin or their lineage of influence].” – Z2, one of the facilitating experts.

Box 36. A facilitating expert’s quote describes the social relationships that exist among the residents.

Besides building for organized communities, the architects set up their facilitation on the pre-existing social fabric. While the facilitating experts quoted in Box 36 describe the kind of social resource he observes during his engagement with the *Kampung* Kunir residents, the architects who work at the *Kampung* TKL build on similar social resources, relying on resident leaders

with pre-existing influence. The two communities' past experiences facing floods and *kampung* fires reinforce the resilience developed from those social bonds. Past disasters as collective experiences were the impetus for the two communities to develop their own support system, which involved mutual support to help with recovery and mitigation<sup>220</sup>.

The recollections above are part of the outcome of the historic mapping workshop (Section 5.5.2) that helped the two communities build their cultural inventory, reinforcing their sense of identity as part of the wider Jakarta urban society despite their economic challenges. The other items the residents identified as significant were *Kampung* Kunir's "Go Green Award<sup>221</sup>," and *Kampung* TKL's location is part of the old waterways and business center during the colonial period with remnants of old masonry docks and a fortress built by the Dutch [185], [186].

Learning the background and the extended history of the two self-built settlements enabled the architects to see and understand the distribution, acquisition, and concentration of power among the groups and individuals within the TKL and Kunir communities. Such knowledge informed the architects of existing inequalities and helped anticipate and navigate their own positionality as either perpetuating or alleviating the pre-existing imbalances or injustice through their architectural practice<sup>222</sup> with the residents.

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<sup>220</sup> For example, they produced a rudimentary early warning system and simple protocols to anticipate potential hazards, specifically the flood and fire that impacted them collectively. See the excerpt in the box in Section 5.3 that parallels Widyarningsih & Van Den Broeck's article [20].

<sup>221</sup> See Section 4.6.1.2 in Chapter 4.

<sup>222</sup> Related to the principle of "*facilitating collaborative, power-sharing and equitable partnership in all stages*" elaborated in Section 5.4.

It was in anticipating and navigating the positionality that the emphasis on collaborative leadership and fostering discussions based on open-ended questions cultivated a collaboration that reflected the residents' concerns<sup>223</sup>. Such participatory practice puts the residents at the center. This process enabled the residents to claim ownership for transforming their happenstance houses to an improved redevelopment. Had the architects entered the residents' advocacy solely based on technological dissemination, technical codes, or standards, and their own architectural vision or visual upgrading, their contribution would have been irrelevant for the TKL and Kunir residents, enabling residents to have a share on the agency made sure that the architectural products met their needs.

### ***5.6.3 Occupational Resources***

Architects contributed their design and project management skills, providing access to other corresponding expertise in their professional network, technological resources, and information. Their design skills, familiarity with codes and regulations, adherence to their professional codes of ethics, professionalism that sets the performance baseline across individuals, and access to corresponding technical and design skills [125], [149] were essential for success. Specifically, from architectural academia, the architects brought along the reputation of their academic institutions and their network, which lends, to an extent, moral authority that affords the architects leverage to the government as the stakeholder because of their constitutional mandate to enforce government regulations.

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<sup>223</sup> As elaborated in Section 5.5.1.1.

The architects were required to understand the regulatory aspect to an extent greater than what is typically required in conventional practice. Since they are the primary trustworthy partner for the residents, the architects need to be able to explain the rationale behind technical codes and regulations to maintain the share of architectural decision-making with the residents (See Section 5.5.4 on sharing creative authority)<sup>224</sup>.

It took the architects considerably extra effort compared to the conventional architectural service to equitably discuss the reasons and consequences of possible design options or ideas, especially when the residents proposed them. The architects needed to present those standards and codes in the same open-ended format that approached the issue from different angles<sup>225</sup>. This communication required them to moderate dialogue based on multiple perspectives and try to find intersections from varying viewpoints.

The residents were able to contribute by offering their knowledge of local tradespersons in building constructions and materials, both nearby and among themselves. Some home-based small businesses support logistics and labor during the planning phases and the actual redevelopment works at the *Kampung* TKL. In the Kunir community, knowing who among the community members is more available to get involved in the project supervision during the construction phase is crucial. The experience of the Kunir residents informed the technical

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<sup>224</sup> For example, in Kunir communities, the architects' knowledge on regulations of rental apartment units and land ownership, while less architectural, was fundamental in realizing the architectural design of the apartment building.

<sup>225</sup> See Section 5.5.1.1.

decisions: squat toilets, user-provided partitions, and the optimum unit layout to accommodate spatial needs, specifically for those running home-based small businesses. In both communities, their being on-site afforded them the commitment to run the environmental maintenance, waste management, and river stewardship (See Sections 4.5, 4.6, 5.4.1.2, and 5.5.1.2).

## 5.7 Involving Systems Development Using Cyclical & Iterative Processes

Sections 5.4 and 5.5 discuss the strategies and methods that enabled systematic participatory engagement. They involve the procedures and protocols developed by the community organizers, which comprised the entire system of empowerment and democratic participation of the residents of *Kampungs* Tongkol-Kerapu-Lodan (TKL) and Kunir. The facilitating architects then borrowed and adapted that system. Quotes in Box 37 describe the extent of the facilitators' overall frequency and duration of presence and engagement in the two communities.

“I [meet the residents] frequently... we met three times a week, first and second meetings to discuss the community coop, the third for the discussion on the [architectural] design proposed by [the architects] to get the residents’ approval. So it was like that, repeatedly.” – Z2, one of the facilitating experts

“[The facilitators] always spent the time here up until dusk, really taking his time to talk with [residents].” – KNY5, one of the residents

“... we made a commitment with (the organizing team) since before the demolition of our houses, to routinely have meetings... when we got to meet the governor, vice governor, got into their offices, we started to place our trust on the [community organizers]. They have been with us all the way. So we continue to have monthly, weekly meetings with them.” – KNY4 – one of the resident activists

Box 37. Quotes from a facilitating architect and two residents about the frequency and duration of engagements.

The system was established to ensure that the collective effort addressed the issues that all the identified partners prioritized, including those of the government agencies. It was also implemented to ensure that the entire effort equitably attended to all impacted residents' concerns in TKL and Kunir instead of catering to the dominant groups or individuals, including during the co-learning and capacity-building engagements.

Consistency was key to instilling the system so that each partner could create and expand capacities to internalize and integrate the system into their operational patterns and make it part of their thought processes. The excerpts in Box 37 above indicated that the facilitating experts' iteration and sustained presence were required not only to cultivate trust between them and the facilitated residents but also to achieve a consistent pattern(s) of engagements that the latter could gradually and consciously grasp and adopt as their own.

In reality, implementing these systems was never perfect, considering the ongoing dynamics and the different capacities, commitments, and outputs each partner could eventually deliver. Nevertheless, having the systems in place was critical to systematically plan, act, and reflect.

#### ***5.7.1 Modified Approach to Project Progression, Timeline, and Deadlines***

One of the community organizers suggests in Box 38 above the need for facilitators' relatively high frequency of presence among their facilitated communities to get to know them and seize unanticipated opportunities. The architects reflected that they must be prepared for flexible deadlines and changes in the design briefs. On-site dynamics and last-minute changes happening

in the community could present opportunities and new challenges at the same time. These could impact the momentum of the collective effort in different ways. It is in the facilitators' best interest to be aware of these dynamics immediately because they could mitigate and prepare for any adjustments required to address the new situation immediately. Heightening the awareness meant staying in tune with what was happening on-site, on top and under the table, and what was explicit and implicit.

“Small events happen all the time in the community, (and) we could utilize some of those as momentums... depending on the context at that time. We could be aware of the right momentum by the intensity of (our presence in the community). Without that, it'd be hard. We'd get stuck to the schedule.” – Z1, one of the community organizers

Box 38. A suggestion by a community on working with unconventional rhythms or schedules is needed.

Hence, an intense and consistent presence is needed to anticipate sudden, unforeseen dynamics. This situation is quite different from the conventional contractual project timeline with fewer surprises, or at least most of those changes tend to be manageable without significantly disrupting the overall project timeline<sup>226</sup>.

#### ***5.7.1.1 Recognizing Facilitators' Availability***

Architects in these projects tolerated and even embraced the flexibility of their timelines. The conventional understanding of a project timeline in the sense of a professional architectural

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<sup>226</sup> Some clauses that advocate the handling of the project to minimize the disturbance to the workflow that could cost the client extra money if causing unannounced or sudden significant changes [124, Sec. 3.10-3.11].



design project is to contractually bind project deliverables to design phases within an agreed progression, reflected in the timelines and the corresponding deadlines. That system in the UIA and IAI procedures<sup>227</sup>, in turn, would be related to the terms of remuneration for the rendered architectural services.

The facilitating architects at the *Kampung* TKL and *Kampung* Kunir were aware of their limited availability to commit full-time to community engagement. This was because they had to tend to their full-time paid jobs first. Such a situation has been the reality of the typical community facilitation work in Indonesia, where facilitating experts must divide priorities between professional jobs and voluntary services. Quotes and excerpts in Box 39 illustrate this limited availability of the facilitating architects.

From my Summer 2021 personal discussions and my own experience<sup>228</sup>, more often than not, experts contributing their services and skills to humanitarian causes would have to place lower, at times much lower, priority on their work with or in the community. The outcome is predictable: partially completed works, dwindling endurance from experts and beneficiary communities or other partnering entities, dissatisfaction, and further marginalization of the facilitated communities for having to receive products that do not necessarily address the communities' concerns. Such mediocre results would have been difficult to justify for proper legalization and actual construction by the government as the property owner.

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<sup>227</sup> This is arguably made possible by the relatively homogeneous characteristic of the conventional clients.

<sup>228</sup> See Section 1.2 in Chapter 1.

"(The architect) once bemoaned how he had made an effort to make the design required by the (government) agency at the earliest possible moment, that he had to stay up all night to make it. He complained about that, and there was nothing I could do." – KNY1, one of the resident leaders

PI: "Was it because the co-design workshop was done repeatedly and people got bored, or were they not that interested?"

Z6 (one of the facilitating architects): "Actually, the workshop was not that often, but maybe because it was during the weekend, some (key) families were not available during weekends, and because we (the architects) have limited availability and could do visits only on weekends, right?"

PI: "So this is a matter of irreconcilable schedules?"

Z6: "Yes... because we took it as a part-time responsibility. We knew it was not within our capacity (to treat it as full-time work), so we did it part-time. If we took it as a full-time, we'd be able to handle all (aspects). But since it was part-time, we could only partially handle the work."

Box 39. Some quotes to illustrate the facilitating architects' limited availability to commit to the facilitation works.

Interestingly, one of the senior leading architects noted that the other and younger facilitating architects tended to view this kind of engagement as best done as purely voluntary work outside of the regular paid jobs reserved for the time during weekends. The architect noted that these younger architects were willing to commit mainly to the participatory and community design workshop sessions, with some continuation into the consultation phase. Some of those younger architects were even much less interested in the earlier stages, where there was often less apparent need for the architectural design skillset.

Between the *Kampung* Kunir and TKL, the design development and detailed engineering drawing phases at the *Kampung* Kunir (which were the output of the consultation process; see Section 5.5.5) were procured through a contractually commissioned project. The government commissioned the architectural design job to one of the facilitating architects to fulfill the regulatory requirement for the works to be accounted as a project eligible for public funding. The commissioning was necessary to complete the phase through a conventional format to ensure the delivery of the design output, i.e., tender documents as the legal base for the building construction.

#### ***5.7.1.2 More Flexibility of Project Timeline and Deadlines***

The experiences of the architects from working with the Kunir and TKL residents suggested the architects embrace and be ready for a more flexible timeline to seize on the spontaneous opportunities emerging on-site. As contradictory as it sounds, having a consensual timeline was important for both architects and the residents, as suggested by a community organizer in Box 40. The physical realization of the architectural designs was crucial as proof of their collective effort and to concretely display the will to be “better citizens” (See section 5.5.3). Hence, timelines, milestones, and deadlines are still necessary to push the collective work towards its physical manifestation of the architectural products despite the suggestion of less rigid scheduling. Deadlines are also critical to delivering tangible, incremental outputs to build facilitators’ rapport with the partners, especially with the underprivileged, who tend to distrust external entities (see Section 4.2.1.1).

"Oh, sense of ownership, the people have a high sense of ownership. That means you cannot rush it, OK? But that does not mean that you should let it linger either." – Z1, one of the community organizers.

Box 40. A community organizer suggested flexibility in project progression despite maintaining some timelines.

Considering the economic constraints of these kinds of projects, it is vital to change the perception of the nature of humanitarian works by either getting paid for doing them or creating a “tag team” system that allows multiple volunteers to work on the same area/aspect in turn. A tag team system should include the possibility of facilitating resident representatives, mainly resident activists. Once the resident activists’ capacity is expanded, they could compensate for the lack of experts’ presence to engage the other residents intensively.

The architects working with the Kunir communities decided to share technical knowledge with the majority of the resident representatives to capacitate them for the role of co-supervisors during the construction phase of their multistory housing. The pragmatic aim of that capacity-building was to compensate for the architects’ reduced presence during the construction phase. Nevertheless, enabling the resident representatives to take on the co-supervision role also helped maintain the residents' active involvement. Co-supervising exposed the residents to the progression of the construction of the architectural product they have worked on in the co-design sessions.

Witnessing their design materialize was an empowering experience. It cultivated the residents’ sense of ownership and further built the residents’ confidence that they have a say in decisions

impacting their lives. Nevertheless, the substantial responsibility for the technical performance of the design<sup>229</sup> remains with the architects.

### **5.7.1.3 Delivering Results Incrementally**

All partnering entities, not just the residents, need to see concrete outputs resulting from the collaborative partnership. Seeing incremental results will gradually convince participating entities that each of their partners is trustworthy and that the collaboration indeed attends to the concerns of all involved. The facilitating architects learned the importance of breaking down goals into bite-size deliverables throughout the design phases (see Box 41). These deliverables and phases were small enough for partners to understand, agree, commit to, and make it a reality.

“So building up [the architect’s] credibility was [from residents’ comments] like, ‘Wow, the architect is actually see to it that our design got built. All the utilities, (design features) were all built according to what we agreed!’ And so that’s how I found out how I earned my credibility, it’s like, starting from nothing, getting it bit by bit, that’s it.”  
– Z3, one of the facilitating architects

Box 41. A quote on the importance of incremental deliveries of results.

Smaller chunks of deliverables made it easier for partners with less architectural capacity to relate to and understand their own priorities as well as their partners. Understanding the partners’ priorities increased each partner’s willingness to commit to those goals. Smaller, incremental

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<sup>229</sup> This is related to Sections 5.5.5, 5.5.6, and 5.6.3, which elaborate on the architects’ task to provide explanations on particular building codes or regulations that mandate certain use of technologies or materials.

goals were also more straightforward to achieve and equally accessible for all partners to evaluate and reflect on the general vision and the shared goals. Evaluation and reflection as part of the iterations within the system contributed to the fine-tunings and minute adjustments of plans as situations developed daily and partners might come up with unexpected challenges or requirements. Inviting input from all partners was crucial to maintaining engagement.

Breaking down architectural aims into smaller deliverables in each design phase is part of the standard practice to ensure coordination and the architect's accountability to the paying client [148], [149]. On the other hand, considering the nature of the humanitarian architectural works, the multiple communities of identities that the architects had to deal with, the corresponding higher complexity from the positionality and the power dynamics, the sharing of deciding power and responsibilities, as well as the initial limitations some partners are likely to have means that incremental goals and deliverables become even more critical. These incremental goals intentionally allowed partners to gain capacities and increase their readiness to commit to each other. Such a process tested each other's commitment through smaller progressive stakes that everyone was comfortable with. This participatory process resonates with Israel et al.'s remark on "*the emergence of trust and trustworthiness* [79]."

## **5.8 Lessons Learned**

In summary, creating equitable and collaborative partnerships in architectural design is essential for developing spaces that serve communities. This approach involves recognizing the community's identity, facilitating power-sharing, ensuring local relevance and ecological perspectives, fostering co-learning, leveraging community strengths, and using iterative

development processes. The following passage summarizes the lessons learned from the cases of *Kampung* TKL and *Kampung* Kunir regarding the implementation of these principles, providing a framework for inclusive and effective architectural practice.

**Recognizing Community as a Unit of Identity:** To effectively engage with the community, it is crucial to identify potential partners and collaborators, understand their priorities and interests, and recognize their potential contributions. This identification includes identifying the "non-paying clients," understanding whose interests they represent, and partnering with them as equals rather than merely educating or training them. Establishing a system to uphold equity requires explicit agreement on representation, ensuring everyone knows who is who and what interests they represent.

**Facilitating Collaborative, Power-Sharing, and Equitable Partnerships in Architectural Design Practice:** Achieving equitable collaboration in architectural design involves sharing creative and decision-making authority. A shared vision is the foundation for this collaboration, supported by equitable dialogue throughout the architectural process. Systematic inclusion of all community members ensures that their concerns and opinions are considered. Consistent facilitator presence and accountability among partners are essential for sustaining these equitable partnerships.

**Focusing on Local Relevance and Ecological Perspectives in Built-Environment Problems:** Addressing built-environment problems requires attention to local relevance and ecological perspectives, considering various determinants such as site availability, climate, utilities, socio-

cultural values, and the local construction market. There are also practical considerations, or architectural determinants, that include budget, skills, materials, and technologies accessible to beneficiaries and proximity to infrastructure, services, jobs, and business opportunities.

Effectively addressing these determinants requires reframing architecture as a medium for organizing, capacity building, and negotiation.

**Fostering Co-Learning and Capacity Building Among Partners:** Trust is the foundation for co-learning and capacity-building among all partners. A collective narrative is essential for creating a shared vision for the built environment. This shared vision involves co-creating architectural design briefs based on the community's collective narrative and vision, ensuring collaborative and equitable design practices. Architects and non-paying clients should share creative authority, maintaining a power-sharing consultation process where non-paying clients are co-deciders.

**Building on the Community's Strengths and Resources:** Effective collaboration requires knowing, understanding, and leveraging the potential that all partners and collaborators are willing to commit to. This process involves intersecting with architectural or built-environmental determinants such as those mentioned earlier, ensuring that the community's strengths and resources are maximized for the benefit of the project.

**Involving Systems Development Using Cyclical and Iterative Processes:** It is essential to introduce or develop equitable and power-sharing practices with non-paying clients that align with the earlier principles. Implementing this principle since the earliest collaborative phases is



critical. An adaptable project timeline and administration are necessary to accommodate local or on-site dynamics and development, allowing for iterative processes that respond to the evolving needs and conditions of the community.

## **Chapter 6 The Proposed Framework for Participatory Architectural Research & Practice**

### **6.1 Introduction**

Understand that for it to be characterized as participatory, the overarching aim of architectural facilitation in pre-disaster, mitigatory humanitarian projects is to address the local challenges through equitable collaboration with the beneficiaries. It is imperative to know and understand who the collaborators-to-be are, their strength, concerns, and interests, and how to develop trust between them. In line with the case studies in TKL and Kunir communities, architects are encouraged to approach the participatory design practice as a form of equitable dialogue in the Freirean sense: an epistemological way of knowing that emancipates the less privileged partners or counterparts [178], [188]. Equitable dialogue is key to knowing and understanding the partners' situation, the nature of the situation for the most vulnerable, and the overarching context of the project [92], [188]. Thus, well-meaning architects should engage the end-users of their architectural products through equitable dialogue, especially when the architectural contribution involves any form of technological utilization, introduction, or dissemination of new technological innovation.

I integrate the CBPR Principles [79], [80], [112], [132], [179], [189] from the analysis into the phases of the architectural project flow. The lessons outlined in the preceding chapters show which phases of the project flow were considerably changed to accommodate equitable and

emancipatory inclusion of the beneficiaries in architectural decision-making. Here, the following modified architectural project flow as a framework is intended to offer a basic structure that architects can use as a guide before, during, and throughout their engagements in humanitarian work focusing on building technology.

## **6.2 Recognizing Community as A Unit of Identity: Understanding Who is Who**

Aspiring architects should approach the complex nature of the humanitarian project by getting to know and understand every potential partner in the architectural collaboration. This starting point should help identify multiple entities and individuals, their concerns, and the extent to which those could shape decision-making about geographical sites or the planned architectural project. Potential partners include the beneficiary community (i.e., the non-paying clients), property owners, executive entities, and others with varied competencies or capacities. All partners should be able to contribute their expertise to the collaboration.

### ***6.2.1 What To Look For in Identifying Communities***

A crucial shift in perspective involves learning about the identity and the heterogeneous, multilayered nature of the “community,” as discussed in Section 4.2. It involves looking at “*non-paying clients*” as well as the “*expert partners*” as communities of their own. Understanding a community’s identity involves thoroughly observing the common markers shared across

community members<sup>230</sup>. This perspective shift begins with recognizing attributes or characteristics developed through time, impactful experiences, or values that formed a shared, binding identity affirmed by its community members.

Beyond those common traits, experts need to extend their observation to find out and understand the positionalities and power dynamics<sup>231</sup> among community members and between potential partners. Mapping and comprehending these preexisting features and relationships could help identify individuals or institutions that influenced the built environment in the past. It involves questioning common assumptions, exposing them, and minimizing or eliminating biases by confirming them with partners or potential partners.

#### ***6.2.1.1 The “Non-Paying Clients”***

Building on the learning in Section 5.2., architectural collaboration with underprivileged, economically disadvantaged groups sheds light on the characteristics architects could overlook during the initial stages of the pre-design phase where, conventionally, engagements tend to be infrequent or less intense. Several characteristics listed below (drawn from the analysis of identities of the communities involved in the two case study projects) could help illustrate the kind of characteristics shaping a group’s identity and raise architects’ initial awareness during their earlier interaction with such a group:

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<sup>230</sup> See Section 4.2 in Chapter 4 and 5.2 in Chapter 5

<sup>231</sup> Discussed in Sections 4.3.1

- Lacking the access and the financial capacity to enter a contractual, fee-for-service professional relationship with architects or any other professional expertise [124], [125].
- Unable to perceive themselves as deserving equal treatment within civil society.
- Disempowered low-income individuals struggle to envision a long-term situation.
- Internal groups and individuals within the community cultivate self-serving interests, exacerbating existing power imbalances.
- Chronic distrust towards external entities due to long-standing patronization.

The list above is not exhaustive, by no means final, and could vary from group to group. Thus, architects must conduct their own direct field observation to minimize presumptions or prejudices, delve beyond surface-level interactions, and engage intensively to uncover these intricacies. Understanding the unique challenges and perspectives of economically disadvantaged groups is vital for fostering meaningful collaboration and addressing systemic issues that may remain overlooked.

### ***6.2.1.2 The “Expert Partners”***

Like engaging with non-expert communities, working with other experts collegially requires architects to recognize their potential partners’ backgrounds, worldviews, motivations, and agendas<sup>232</sup>. Navigating, adapting, and negotiating the scope of work, availability, commitment, expectations, and competing interests of all partners are essential steps toward achieving a mutual understanding of our partners’ capacity and the extent of their preparedness to commit

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<sup>232</sup> Z8's critique of Z7's work on the bamboo sample house is an example of sentiments stemming from unaddressed differing perspectives on looking at the shared situation and approaching the challenge (See Chapter 4, Section 4.2.2.1).

and collaborate. The experiences learned from the TKL and Kunir projects suggested that facilitators should be understood as a distinct community of experts with their own internal dynamics<sup>233</sup>. It would not be uncommon to assume that less hindered collaboration would take place between facilitating experts. Failure to immediately recognize these variations and dynamics can lead to conflicting perspectives.

All collaborating expert facilitators should ultimately find common grounds and areas of interest that intersect or overlap to foster a holistic understanding and serve as a basis for collaborations. Defining these factors helps manage expectations and foster transparency about interests, goals, and agendas. This transparency is essential for architects and their expert partners to find intersections and agree on a mutually beneficial collaborative system.

### ***6.2.2 Knowing Who is Who, Whom or What They Represent, and What Collective Success Looks Like***

As in Kunir and TKL communities, architects are uniquely positioned to empower and guide the participating community when taking on the role of facilitators. Traditionally, architectural practice emphasizes establishing a consultative relationship with a representative body to make decisions, placing the leadership in the hands of a select few. While a similar representational format was unavoidable in the two humanitarian settings highlighted here, it is important that

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<sup>233</sup> As discussed in Section 4.2.2.1 about the differing agendas and interests among expert facilitators

architects keep open the questions of “*Who is participating?*” and “*Who is not participating?*” [92], [113]. Additionally, it is worth asking, “Who are the architects sharing that authority with?” The answers to those questions should include facilitating architects' awareness of the potential personal biases, privileges, and agendas on the representatives' part.

Collaborative leadership starts with identifying who the architects will be working with, their concerns, as well as the architects' interests in getting involved. It is necessary to build reflexivity about architects' own biases in order to achieve as equitable processes as possible. While shared interests drive collaboration, recognizing differences in priorities is crucial for realistic expectations and responsibilities, including the criteria or definition of a successful work that all partners could agree on.

Ideally, outlining what success is for all partners or collaborators should be agreed upon during the initial pre-design phase. Conventionally, architects complete their contractual obligations upon project handover, which involves correcting construction and performance defects, followed by an inspection by the building authority, who then issues the Indonesian “*certification of occupancy*” [168], [169]. However, in a humanitarian context, the handover process typically involves only the architects, the government as the project owner or funder, and the contractor, excluding the residents who are the actual beneficiaries. To address this, it is crucial to include residents not only in the initial contract but also, and more importantly, during the handover stages as elaborated in Section 6.8.11 below

### **6.3 Facilitates Collaborative, Power-Sharing, and Equitable Partnership in All Architectural Design Phases**

This principle is about sharing creative authority and decision-making in architectural practice. Sharing decision-making power may acknowledge that there are common goals and partners must hold equal deciding power with the understanding that the decisions must benefit all. A participatory partnership is about making collaborative, informed architectural decisions collectively and consensually, meeting all partners' needs. Multi-faceted perspectives allow for a comprehensive understanding of the complex built-environmental challenges and, in turn, enable collective efforts that yield more relevant, meaningful outcomes.

Architects can deliberately share architectural decision-making by engaging the partners as co-designers [190]. Architects should be aware of the presence of marginalized groups or individuals within the beneficiary communities and seek equitable partnerships with these entities or individuals. The following strategies should be considered to foster architects' equitable, power-sharing collaborations.

#### ***6.3.1 Sharing Creative and Decision-making Authority of Architectural Design***

An epistemological relationship involves utilizing architecture to accommodate and foster equitable dialogue and engage the other partners and collaborators (as suggested by Freire). This means engaging partners to know and gain understanding instead of merely “*having a conversation* [178].” Adequately, openly, and reciprocally sharing information among partners and stakeholders about available options and communicating the corresponding architectural



benefits, consequences, and potential impacts is part of this engagement that enables creative solutions.

### ***6.3.2 Systematic And Equitable Inclusion of All Community Members In Assessing Concerns And Collecting Opinions***

Productive collaboration involves relying on the partners' knowledge, resources, and experiences to make all determinants<sup>234</sup> known and understood before formalizing products. As demonstrated by the case study of two settlements, it was crucial to enable the architects and residents alike to understand the influencing factors and make informed architectural decisions collaboratively.

Systematic engagement is essential to maintaining a reciprocal process and receiving timely feedback at every level (discussed in Section 5.4.2). Thus, more time is needed for trust-building and understanding all the determinants before developing architectural designs. Many relevant factors that impact the built environment must be identified and comprehended.

### ***6.3.3 Consistent And Sustained Presence of Facilitators***

Relating to finding out the “who is who” in Section 6.2.2 above, the learning from Kunir and TKL projects signaled that knowledge and understanding on this issue rarely come in the form of clear-cut, straightforward, direct information. Instead, the understanding needs to be built from accumulating multi-faceted information from multiple interactions with community members.

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<sup>234</sup> Discussion on “determinants” is elaborated in Section 6.4.

This engagement requires the architects to engage the beneficiary community members through consistent meetings and visits.

To build consistent engagement, the architects must first acknowledge their self-capacities and communicate with their partners about them. Transparency involves agreeing about the extent to which each partner could and would commit or contribute expertise, time, or other resources to achieve the shared goals.

#### ***6.3.4 Maintaining And Ensuring Partners' Accountability***

Consequential to the formed partnership, collaborative and power-sharing practice should be concerned with the accountability of each participating partner, especially when the work involves a representational system. Equitable discussions were meaningful because part of the facilitation goal was to reach a consensus on what a better-built environment could look like to meet constituents' primary concerns. Each partner should be given equal power to ask each other about agreed agendas, progressions, and setbacks. The equitable partnership encourages and pushes partners to be adequately and reciprocally open and transparent about matters related to others' interests.

Establishing accountability is about earning and maintaining trust by being active during the architects' engagement and verifying community representatives' accountability and their own. It is comparable to fulfilling a legal contract between architects and clients, but there is typically no written contract with the community, or if there is, such contracts would not mean much for

the residents or the beneficiary community because of the differing priorities between professional and lay people.

## **6.4 Focusing on The Local Relevance of Built-Environmental Challenges and Their Ecological Perspectives**

Beyond focusing on architectural products' formal and visual quality, architects could reframe architecture as a medium to organize and assemble partners around goals that address local collective concerns. It is also a medium for capacity building and a tool to forward voices and negotiate solutions.

### ***6.4.1 Understanding The Context and The Situation First***

As outsiders trying to contribute to a particular humanitarian situation, it is only appropriate that architects should make an effort to understand the local context, the immediate built-environment situations, and what matters for the “non-paying clients” from experiencing that contextual situation impacting their lives<sup>235</sup>. It includes accumulating grassroots information by focusing on local built-environmental determinants that significantly affect the existing conditions. For architects, the built-environmental determinants would typically be the available site, the local climate, the existing utility network and services, the mandatory building or

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<sup>235</sup> This is related to the topics elaborated in Chapter 5, Section 5.3, focusing on the local relevance of the built-environmental issues.

planning codes or standards, the existing socio-cultural pattern or regularities, the local construction market, the available budget, and the standardized workmanship, materials, and technologies [191, Ch. 2 and 3], [192, pp. 19–51], [193, pp. 82–103], [194].

On the other hand, as shown from the case of the *Kampung* Kunir and TKL in Chapters 4<sup>236</sup> and 5<sup>237</sup>, the beneficiaries might consider the physical proximity to supporting services, job locations, and business opportunities around their places of residence, the accessible parcels, the available budget, and other social and cultural capital as determinants. Some of these determinants could be considered the communities' strengths and resources<sup>238</sup> on which the facilitation should build. Overlaps of some of the determinants should indicate or provide leads to identifying and understanding the concerns and priorities of our partners. It should minimize architects' presumptions and assist them in facilitating useful architectural design outputs that address the beneficiaries' genuine challenges.

## **6.5 Fostering Co-Learning and Capacity-Building Among All Partners**

The output of the co-learning should be the common ground on which all partners are empowered, specifically by engaging the less privileged ones. Co-learning should also be the synthesis platform where the priorities of the beneficiaries and the architects are addressed. New outputs should reduce past or current ecological impact and enhance the beneficiary's living standard.

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<sup>236</sup> Sections 4.2. and 4.3.

<sup>237</sup> Sections 5.3 and 5.4.

<sup>238</sup> Expanded in Section 6.6.

Architects could achieve this synthesis by creatively implementing codes and standards to provide a supportive, healthy built environment. Creative solutions could accommodate priorities and needs in an ongoing way whereby the architectural design progresses in stages toward eventual certification. This process is reflected by commitment and delivery of smaller, doable goals derived from a shared vision and collective goals<sup>239</sup>. Incremental deliverables are also crucial in gradually building connection and trustworthiness among partnering entities<sup>240</sup>.

#### ***6.5.1 Architectural Design Brief as Collective Narrative: A Foundation For Co-creating Architecture With The Non-paying Clients***

Co-creating and agreeing on a shared vision can be the foundation of equitable architectural collaboration. The co-creation involves formulating and agreeing on common goals based on our partners' concerns and interests. The process ensures that all participants, partners, and stakeholders understand what success looks like for everyone involved. All partners should understand the benefits the final architectural design outputs will deliver.

#### ***6.5.2 Collaborative And Equitable Architectural Design Practice: Engaging The Non-paying Clients And Other Partners As The Architects' Co-designers***

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<sup>239</sup> See Section 5.4.1 in Chapter 5, which discusses the implementation of shared vision at the Kunir and TKL communities

<sup>240</sup> Expanded in Section 6.7.

The emphasis here is on sharing the creative authority<sup>241</sup> in architectural design<sup>242</sup> between facilitating architects and the “non-paying clients.” The primary goal is for all partners to reach a consensus about areas of intersecting interests to achieve an optimum design that respects local concerns and produces relevant architectural outputs. Sharing of the creative authority involves incorporating co-learning and capacity-building into the “*architectural project flow* [148].” This strategic approach promotes knowledge exchange among partners rather than focusing solely on educating those deemed less educated [180]. This principle follows up on the power-sharing principle's aspects, such as equitably including all community members in the architectural processes and enabling all partnering entities to account for their partners’ accountability. Empowering all partners as the architects’ co-design partners is key to participating the non-expert partners effectively in collaborative and informed architectural decision-making. The following strategies could help architects prepare for co-learning and capacity-building engagements.

#### ***6.5.2.1 Multiple Modes of Engagement***

It is essential to enable multiple formats that promote knowledge exchange. Partners should strive to create a shared space for expression, dialogue, and discussion that leads to collaborative decision-making. Creating such equitable shared space involves implementing organizational structures, staggered engagements, and various scales and formats of interactions such as chronological mapping workshops, architectural co-design workshops, and capacity-building workshops, although the list is not exhaustive.

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<sup>241</sup> Discussed in Chapter 5, Sections 5.4.1 and 5.5.4, and in Section 6.3 above.

<sup>242</sup> Continuing the point made in Section 6.2.2 above.

### ***6.5.2.2 Avoid the Premature Provision of Technical Outputs***

As a first step, it is important to focus on finding and highlighting what matters most for our partners. Architects should consider asking open-ended questions during their interactions with the beneficiary communities and the other partners to encourage reflection and thinking among partners. Architects can utilize open-ended questions to implement the chronological workshops<sup>243</sup> to create a locally relevant socio-cultural and economic inventory in the pre-design phase. This engagement can prompt individuals to consider their conditions, immediate concerns, needs, and, if possible, long-term expectations of an architectural project. This approach should be able to expose architects to factors that typically would not fall within the recommended scope of professional services [148], [149]. It acknowledges that accumulating insights from the grassroots level goes beyond identifying actual, urgent, short-term situational needs. It empowers the beneficiaries with the skills and opportunities to make active plans in the longer term.

### ***6.5.2.3 Initiating the Empowerment Cycle***

Fostering a collaborative and equitable participatory architectural practice involves employing techniques that promote inclusivity and foster meaningful discussions<sup>244</sup> during the pre-design and design phases. It consists of directing the questions toward discussions that emphasize the importance of laypersons' input about the architectural space. Architects can initiate these techniques in the pre-design phase and utilize them more elaborately during the design and construction phases (see Section 6.8).

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<sup>243</sup> As suggested in Sections 5.5.2, 6.4, and 6.8.

<sup>244</sup> expanded in Section 6.8.

## 6.6 Build on The Communities' Strengths & Resources

Building on the communities' strengths and resources is about knowing, understanding, and tapping into the potential that all partners or collaborators are willing to commit to the collaboration and intersecting at the architectural or built-environmental determinants<sup>245</sup>. It is equally vital to communicate what capacities the architects can bring and commit to the collaborative effort.

Some architectural determinants can be considered as strengths and resources that the communities can access. For the beneficiary community, these resources could be the accessible parcels of land that they have occupied, the available skilled laborers among the community members, the knowledge of constructions and materials that match their skills, their state of being organized, and the socio-cultural values and structures that might be reflected in communal habits, activities, or routines around building and construction matters.

The most obvious resource for the community of facilitating experts is the tradecraft: their professional knowledge and design skills. In architecture, these include the skills to see, understand, and manipulate the architectural elements and determinants. The other resources include the professional network and professional organizations into which architects can access

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<sup>245</sup> see Section 6.4 above



related expertise, such as engineering and drafting services, the collegial connections from which we could seek input from colleagues' previous experiences, and the access to architecture academia as the entity that deals with the disciplinary development. Architects can also tap into their experiences and develop facilitation skills, critical thinking, organizational abilities, communication, and managerial skills, thus expanding their networks as well as accessing diverse expertise.

## 6.7 Focusing on Systems Development

To provide a direction for the kind of systems that should be developed for a participatory engagement, I quote Christopher Alexander's criticism of the failure of built environmental disciplines (architecture, construction engineering, building utilities) to recognize systems other than those oriented on technologies and physical performances. Alexander suggests the identification of and orientation towards "*human and social systems*" as the primacy and prerequisite for all technological decisions in architectural design practice.

“This is exactly what happens when a systems analyst looks at a building: he/she manages to describe the circulation, the acoustics, the heating and the load-bearing structure as systems – and fails to identify the most interesting human and social systems, because he/she can't describe them in explicit terms.” – Alexander, 1968 [177]

Chapters 4 and 5 examined how community organizers, facilitators, and the Kunir and TKL communities<sup>246</sup> interacted through systems promoting more humanistic engagement to benefit vulnerable resident communities. Although the political contract ultimately determined Kunir

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<sup>246</sup> The government agencies participated in the partnership to an extent due to the nature of their insistence on maintaining and emphasizing their privilege as the bearer of the public mandate to administer rules and regulations.

and TKL communities' procurement of appropriate brick-and-mortar products, there were systems in place that enabled the human-centered processes that challenged the mechanistic delivery of public policies. The system prioritized acknowledging the residents' concerns at the two *kampungs* and enabled them to participate in the decision-making that determined the kind of *kampung* redevelopment that addressed those concerns.

Thus emphasizing what Alexander termed the “*human and social systems* [177],” it is vital to include the systems that pivot on power and positionality that both influenced and affected the architectural practice, rather than practicing architecture solely as building and construction systems. One of the facilitating architects shared a reflection that indicates the architects' eventual awareness inherent in their social standing as professionals relative to the two communities (See Box 42). The awareness shed light on how their expertise, in relation to internal social and power dynamics within the resident communities, could have been partially exploited to serve only a privileged few.

"But in the wider concept, these roles of architects are the one that needs to be criticized. Should architects in the end only assume technical roles, purely technical? Or on the contrary, that'd be a misplaced question, since (architects') presence there already, immediately become politicized by some among the residents? Could it be that your mere presence already become a commodity, isn't it? That could be exploited as power leverage?" – Z3, one of the facilitating architects

Box 42. One of the facilitating architects reflects on the possible exploitation of their positionality.

Not realizing that positionality could have created a superficial participatory work that perpetuated internal marginalization or further patronization. Thus, moving forward, architects should pay attention to the nature of power distribution within the humanitarian works labeled as “collaborative works.” The four types of collaborative systems in Table 2 below (drawn from the lessons from the *Kampung Kunir* and TKL experiences) offer some generic concepts that explain the different degrees of power-sharing that might occur in a single project flow.





Types of Collaboration	Symbols
Collaborative partnership with the full sharing of architectural authority: the full participation of partners and the balanced distribution of power through equitable involvement, reviews, feedback, decision-making, and leadership between architects and other partners.	
Beneficiary-supervised, expert-advocated collaborative partnership: The beneficiary plays a greater role and is present in supervising the architectural products during the construction phase. The experts take advisory roles with considerable indirect involvement, anticipating the beneficiaries reaching out for advice or consultation on issues related to the products' technical and operational aspects.	
Expert-led, partner-consented collaborative partnership: the larger portion of experts' authority in detailed, minutes architectural decision-makings, but maintain the partners proportionally informed and shared authority for major decisions with corresponding feedback opportunities.	
Expert inquiry, non-collaborative work: expert-only works equal to the conventional ones typically done during the pre-design phase, including data collection, site observation, and feasibility study, and expanded to include learning about and recognizing the identities, positionalities, and power dynamics of the potential partners.	

Table 2. Four Types of Collaborative Systems (adapted from Wallerstein & Duran (2008), Auemaneekul (2010), and Swartz & Nyamnjoh (2018)).

Four symbols are assigned for each system to represent the cyclic manner of equitable, collaborative systems. The symbols attempt to show the different degrees of participatory engagement [92], [190], [195] that might occur in a participatory architectural project, a realization that should help manage expectations and make preparations. The symbols are also indicated in the adapted project flow diagram in Section 6.8 below to display their distribution throughout the phases of the architectural project flow. Sections 6.7.1 to 6.7.5 discuss five critical factors that impact systems development.

### ***6.7.1 The Complexity of The Context***

Understanding the complexity of the context affecting a humanitarian architectural project is about enabling partners to see each situation as an inseparable part of the other interests of the different stakeholders within the geographic or local settings. The overlapping interests, intersecting concerns, and each partner's limitations contribute to the contextual complexity and need to be understood as fundamentals for forming a collaborative partnership.

### ***6.7.2 Architects' Limitations, Availability & Readiness***

It is important to be honest with partners by inventorying the factors that could limit the architects' time, energy, and resources for the collaborative effort. Being transparent about this early will help partners gauge what areas or aspects in the participatory architectural collaboration that they are still falling short of. More importantly, transparency will help the experts increase their chances of delivering their commitments and build trustworthiness.

### ***6.7.3 Less Rigid Project Timeline***

Flexible timelines mean being prepared for long-term commitment and a higher degree of flexibility. Often, this commitment involves intensive, sustained presence to engage the community and other partners, aiming to get to know the people, the situation, and the context to inform the architectural processes they would plan and facilitate. Such intensity will require much flexibility in working time to accommodate unplanned opportunities or situations (See Section 5.7.1).

### ***6.7.4 Consensus and Collective Reflection***

Consensus should be the de facto format for collaborative decision-making. There should be opportunities for transparent evaluation and reviews so that partners can provide feedback throughout all architectural phases to allow for midway adjustments and to achieve mutual benefit and genuine participatory engagement. This process involves each partner committing to multiple, iterative engagements to exchange information and updates and to address new or unaddressed challenges. Offering all partners the opportunity to evaluate and enable feedback and then agree on necessary adjustments throughout the collaborative movement is crucial.

### ***6.7.5 Early, Direct, Intense Engagements With Potential Partners.***

Other than to gain a comprehensive understanding of the partners' background and context as soon as possible, architects are strongly suggested to engage in early and direct engagements with their potential partners to allow each to gain an understanding of each other's intentions, capacities, and limitations. High intensity of engagement can afford the architects a higher

degree of sensitivity in order to create opportunities for collective solutions. It is equally crucial that the architects make the early, direct, and intense engagements that include all potential partners. That means also engaging the marginalized groups within the partnering communities with the same rigor as the advantaged ones. Using established local practices enables the partnership and engagement process to work more smoothly.

## **6.8 The Modified Phases of Architectural Works in Practice (and Research)**

This section attempts to abstract the principles learned from the case study of the Kunir and TKL riparian communities and integrate them into the conventional phases of the architectural project flow. The proposed Participatory Architectural Project Flow elaborates on the abstracted principles by developing and suggesting the strategies and techniques that aspiring architects could consider. I visualize the conventional and the modified project flows as two successive flow charts to illustrate the differences.

### ***6.8.1 The Architectural Project Flow Diagrams: Before and After***

I devised the diagrams (Figure 18 and 19) by referring to the “*architectural project flow*” in the “Recommended Guidelines on the Scope Of Practice” published by the International Union of Architects (formally known as Union Internationale des Architectes or UIA) [148, pp. 4–5] and a similar one from the Indonesian Institute of Architects<sup>247</sup> [149, Ch. 4].

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<sup>247</sup> *Ikatan Arsitek Indonesia* or IAI

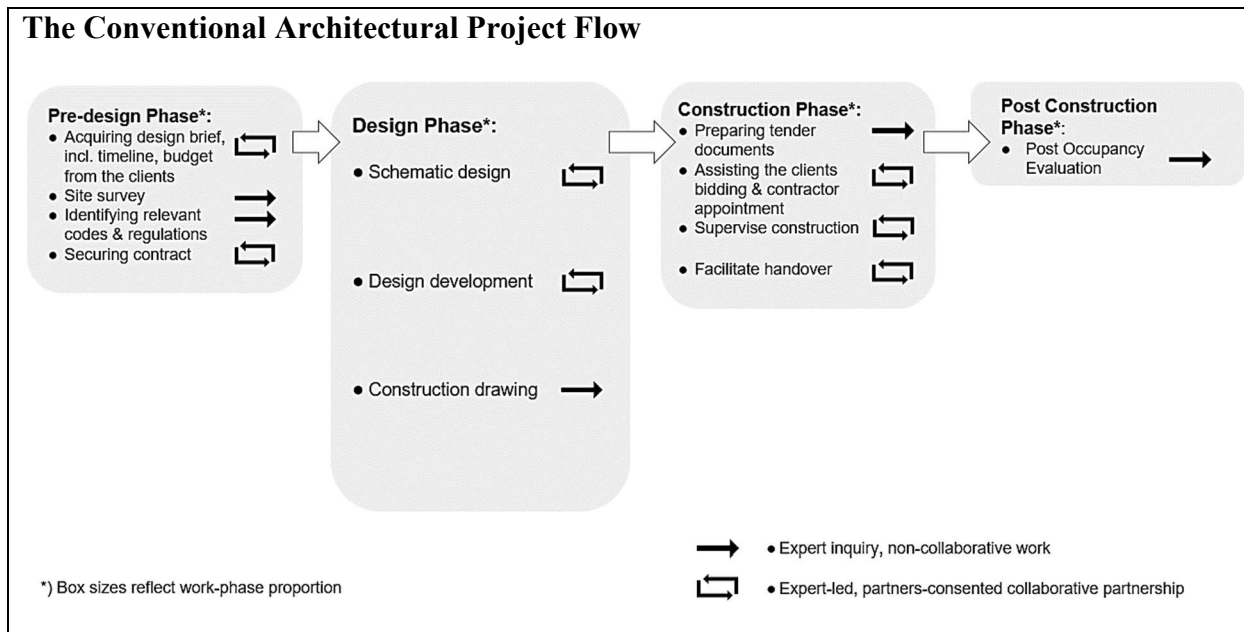


Figure 18. The Conventional Architectural Project Flow (International Union of Architects, 2009)

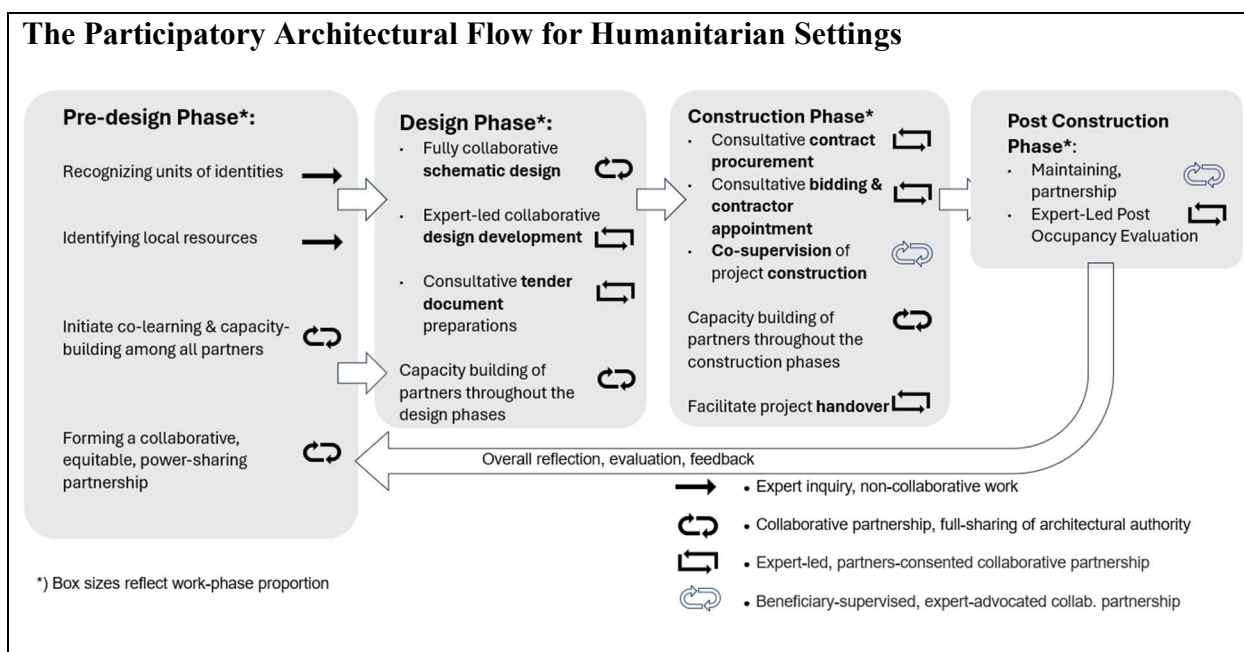


Figure 19. The Participatory Architectural Project Flow

Figure 18 depicts the conventional architectural project flow, while Figure 19 illustrates the participatory architectural flow for humanitarian settings. The project flow in Figure 19 is a modified conventional project flow that integrates the participatory principles. The sizing of each

bubble in the flow charts shows each phase's relative time and work. The different sizes illustrate an architect's workload in each phase. The larger the bubble, the higher the workload. Below are the diagrams for The UIA Architectural Project Flow, followed by the modified project flow, The Participatory Architectural Project Flow.

### 6.8.2 Pre-Design Phase – Non-collaborative Works

The non-collaborative works include recognizing, between and within partners, the pre-existing attributes, structures, positionalities, and dynamics potentially impacting decision-making.

Recognizing potential shared interests is part of the non-collaborative activities in this phase.



Figure 20. Tasks and types of collaboration in the Pre-design Phase

A good example of recognizing the shared interest could start with identifying the unifying identity shared among the facilitating architects, that of the well-intentioned architects willing to contribute their expertise in designing the built environment to humanitarian causes despite



coming from different professional experiences. Another example from the case study could be the shared realization that their architectural knowledge and resources could contribute to addressing the local challenges such as using architecture to address the perceived injustice inflicted upon the evicted residents through government eviction orders

#### ***6.8.2.1 Identifying Who Are The “Communities” (Units of Identities)***

Potential partners for the architects would typically be the “non-paying clients” and the expert partners. However, as the case study revealed, they could include the project owner or funder and the individuals or entities with agendas for the location or the project. In the *Kampung Kunir* case, the project owner happened to be the government, who also is the legal steward of the occupied land and had the capacity to fund the architectural project, but not necessarily obliged by the then regulations to share the decision-making power with the riparian residents.

All of the potential partners should be considered as communities of stakeholders, with their vested interests intersecting and overlapping in the exact location. Once each is acknowledged as a community, there could also be underprivileged groups or individuals within each.

Acknowledging all potential partners means being aware of their pre-existing background, history, attributes, situations, concerns, structures, and power dynamics impacting collaborative decision-making. That acknowledgment might further involve learning about situational internal factors such as (but not limited to) the change of leadership, internal migrations, densification, heterogenization or homogenization, and exchange of properties. Identifying those factors means understanding that they might be inaccessible or voluntarily shared during the first few engagements.

On the architects' side, reviewing and being transparent about their preparedness is crucial. They could do it by assessing our capacity for commitment, which involves working with “non-paying clients” and the nature of the engagements characterized in Chapter 5. This would include evaluating personal capacities to be open (but not limited) to multiple perspectives, unorthodox propositions, limited personal capital of our counterparts, and the resources accessible only through previously unknown networks.

### ***6.8.2.2 Identifying the Communities' Resources and Strengths***

The work on this aspect should include:

#### ***6.8.2.2.1 Technical Inventory***

Technical inventory is the work that all architects are familiar with from their training and professional practice. It means getting familiar with the situation and the context firsthand. The activities include gathering geographic and technical data<sup>248</sup>, surveying sites, observing local regularities, daily interactions among the inhabitant(s) within the area, and place-specific timely routines (by hour, day, week, month, and year). It includes inventories of relevant codes and regulations as well as utilities and services. It further involves identifying relevant local planning regulations and building codes, as well as external factors such as (but not limited to) market demands, migrations, and neighboring communities' dynamics.

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<sup>248</sup> Collecting topographical maps, aerial photos, local climate data, taking soil tests, history of disasters, hazard maps, etc.

#### **6.8.2.2.2 *Resources Inventory***

As architects identify the potential partners for the background, history, and their situational factors, it is in the architects' best interest to list what resources and strengths our potential partners have that might be helpful if contributed to the collaboration. Those potentials could range from specific skills, networks, and positionality to socio-cultural history, funds, and other material capital.

#### **6.8.3 *Pre-Design Phase – The Collaborative, Fully Sharing of Architectural Authority***

This kind of power-sharing partnership should facilitate engagements in which all partners, specifically the less privileged ones, can see that their concerns are being dealt with significantly and that their opinions contribute to the direction in which the collaboration is progressing. Here, transparent, multidirectional, inclusive discussion, sharing of information, as well as explicit power-sharing (and the consequential responsibilities) should strongly characterize the collaborative works in this phase.

More importantly, architects can systematically facilitate such collaboration, enabling all partners to provide unhindered feedback or reviews at all stages or phases, as the manifestation of the equitable, power-sharing principle. Iterative, cyclical systems of facilitation can be a method to enable such an equitable feedback loop for improvement. Consequently, this phase will require the presence of the architects, here understood as consistently being present by staying in tune with all issues that matter to the residents and community partners. It also means engaging partners and following through with deliverables as committed to the collective architectural brief. The work includes the following recommended baseline.

### ***6.8.3.1 Initiating The Co-learning And Capacity-building Among All Partners***

In the pre-design stage, in place of contractual preparation and appointment, initiating the co-learning and capacity-building among partners includes following up the inventory of resources and strength<sup>249</sup> and affirming capacities, preparedness, and the extent to which our potential partners would be prepared to commit to the collaboration. Initiating the co-learning and capacity-building could involve working with the partners to identify, map, confirm, and consensually agree on the available social, economic, properties, and cultural resources, as well as the relevant skillsets that partners could tap from each other to enable active participation.

### ***6.8.3.2 Forming A Collaborative, Equitable, Power-sharing Partnership & Governance***

Collaborative, equitable, and power-sharing partnership means transforming from “*assisting the clients in identifying requirements for the project and developing a project brief* [148, p. 4], [149, Secs. 36, point (1)]” to “forming a partnership for a participatory architectural practice.” The collaboration at this stage should focus on identifying and affirming the local needs, pre-existing situations, architectural determinants and challenges, and overarching context affecting architecture & the built environment. The initiated partnership should push the collaboration towards co-creating the architectural design brief with consensus on the goals, their incremental, derivative, smaller deliverables, as well as ways to achieve them. This process includes the distribution of responsibilities, stages of progressions, and ways and moments to evaluate the collective movement<sup>250</sup>.

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<sup>249</sup> including affirming intentions, interests, or concerns corresponding to the partner’s background or condition

<sup>250</sup> Related to Sections 6.5 and 6.7.

Affirming the local needs and the context means getting to know and transparentizing whose needs should make it into the list and why. Getting to know the situations and the larger contexts means making an effort to understand why our partners are in the position that they are currently in, what internal and external factors are at play, and who the identifiable actors are <sup>251</sup>. As seen in the case studies, the collective concerns could derive from impactful past events experienced by community members.

### **6.8.3.3 *Techniques to Consider***

Architects can utilize and facilitate a historical or chronological<sup>252</sup> mapping technique<sup>253</sup> to allow themselves and their partners to understand the relationships between actors, factors, and multiple interests that affected the past development of their built environment and reciprocally affected the positionality and power structure. Typically, this is a method to trace back in time the development of the physical environment that ultimately gave the current built environment its particular spatial and formal characteristics. Working with the residents, experts use architectural or built artifacts as entry points to map where, when, how, and why the built environment developed, followed by its subsequent growth and character. The produced knowledge is a historical account of the resident community. The historical knowledge should help its members understand the impact of their community and can inform its future. A chronological built-environmental mapping workshop could consist of, but not limited to, activities as follows:

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<sup>251</sup> Related to Sections 6.2.1, 6.3 and 6.7.

<sup>252</sup> “: of, relating to, or arranged in or according to the order of time.” In “Chronological.” Merriam-Webster.com Dictionary, Merriam-Webster, <https://www.merriam-webster.com/dictionary/chronological>. Accessed 2 Feb. 2024.

<sup>253</sup> Nevertheless, the facilitators addressed this method as “*historical mapping*” during their work with the community, since the output provided a timeline of significant events that community members deemed formative and impactful to their lives.

- Working with the residents, start with creating a base map(s) drawn from people/residents perception of their environment,
- Add geographical references to the base map to mark landmarks, places of importance, and individual properties and complete the map by adding years of establishment, functions, plot and building sizes, land and building ownership, and modification time (such as expansion, demolition, and redevelopment).
- Ask about consequential events that significantly impact the built environment, such as disasters nearby major developments, and how they affected the community and its built environment

Architects, collaborating with other facilitators from relevant disciplines, could build on the work done in the workshop with one(s) that focuses on a socio-cultural and economic chronological inventory workshop<sup>254</sup>. Theoretically, this process can identify the underlying determinants that pushed or motivated community members to make particular built-environmental decisions which give their community certain distinct characteristics. The aim is to uncover the social, cultural, or economic backgrounds and the dynamics that could explain the reasoning behind the spatial and formal arrangements of a community's built environment. This workshop could also help experts and residents recognize and understand the strengths and resources available to or accessible by each partnering community.

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<sup>254</sup> In practice, as experienced in the two communities in the case study, this workshop overlaps significantly with the built-environmental mapping. This is understandable as workshop participants tend to share their experiences fluidly as they tell their stories to the forum or facilitators.

A variety of techniques, formats, and implementation strategies should be considered based on the initial assessment of the specific situation, discussed and agreed upon by partnering entities. There are many options ranging from the one such as the use of group or collective workshops (such as those utilized for the TKL and Kunir communities<sup>255</sup>) or what Sanoff has utilized throughout his works [31], [102], game-like formats such as those suggested by Dodig and Groat [196], to photo-voice [197], [198], [199], photo-diary [200], semi-structured individual or group discussions [147], [201]. Hence, there is a need for interdisciplinary<sup>256</sup> collaborations in this type of work.

#### ***6.8.3.4 Essential To Anticipate***

The adapted pre-design phase considerably expands the time needed when compared to conventional architectural project flow. Additional work items that might seem indirectly related to architecture design as practiced for regular projects need to be included. As of this dissertation writing, there has been no consensus (formal or otherwise) on how to adequately and substantially fund or support the involved architects without significantly burdening the capacities of individual practitioners or design offices who operate pro bono.

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<sup>255</sup> See Sections 5.5.2, 5.5.3, and 5.5.4 in Chapter 5 on workshops for the historical mapping and co-design works.

<sup>256</sup> See Section 3.1 in Chapter 3, which discusses architecture's interdisciplinary nature.

#### 6.8.4 Design Phase – Schematic Design Phase: The Collaborative, Fully Sharing of Architectural Authority

The Schematic Design Phase should continue the nature of equitable collaboration established in the collaborative Pre-Design Phase<sup>257</sup>. It should also be characterized by the iterative and cyclic system that enables feedback opportunities for partners to provide corrections, reviews, or new pieces of information on unexpected turns, unforeseen challenges, or other potential disruptions that could change the course of the collaborative work<sup>258</sup>. Adapting to Israel et al. suggestion, this phase should incorporate “*designing and conducting [architectural] cause-effect, intervention, and policy design or planning, including relevant [architectural] research [79, p. 13]*” through the strategies discussed in the following two sub-sections below.



Figure 21. Tasks and types of collaboration in the Design Phase

<sup>257</sup> See Section 6.8.3 above.

<sup>258</sup> Related to Sections 6.3, 6.5, and 6.6.



#### ***6.8.4.1 Collaborative, Equitable, and Power-sharing Co-design Processes***

The collaborative, equitable, and power-sharing co-design process is a fully collaborative schematic design workshop focusing on local architectural issues and resources. While the essence of this work is similar to the conventional schematic design work, the emphasis is again on power-sharing, i.e., the explicit sharing of the architectural authority. Sharing power means distributing proportional, equal power between architects and the residents or other partners to decide on architectural design features. Facilitating architects must rely on their training and expertise more than in regular settings to help the partners, specifically the less privileged ones, to understand certain fundamentals of architectural principles. At the same time, it is vital to keep partners' concerns remain. Doing so essentially places them as the architects' co-designers of equal decision-making power. We cannot proceed without our partners' complete understanding and full consent, and vice versa.

#### ***6.8.4.2 Capacity Building of Partners***

Building partners' architectural capacity should not directly translate into training formats on architectural design. Instead, capacity building can enable non-expert partners to join the conversation and significantly direct the schematic design process. The capacity building here means providing the architects' non-expert partners with adequate opportunities to question, confirm, and challenge architectural assumptions that architects might have made from their professional intuition. The architects can achieve this by:

- Simplifying architectural terminologies and translating them into ones more accessible by non-experts. Architects could simplify complex explanations or specialized terminologies by using examples, analogies, comparisons, illustrations, and photographic references to convey the essence more easily understood.

- Accommodate partners with accessible mediums to build on the partners' spatial experiences and exchange ideas, chronological mapping, and inventory of past events. Architects can facilitate the co-design workshops, including the use of pencil-on-paper sketches, scaled models or writings, one-to-one scale spatial exploration, collaborative design charrettes, site mapping, neighborhood walk-throughs to identify on-site challenges, inventorying the built-environment determinants<sup>259</sup>, affirming concerns, and addressing them with the co-designers through architectural design.

#### ***6.8.5 Design Phase – Design Development Phase: The Expert-Led, Partners-Consented Works***

While the discussion on collaborative, full-sharing of the architectural authority in the previous section emphasizes the sharing of decision-making power by building the partners' capacity, the progression of the design works in the Design Development Phase will shift into stages that require the architects' specialized training and knowledge. That specific competency is necessary to properly integrate detailed technical features and appropriate technologies into the schematic design for it to be construction-worthy. The technical characteristics of the design works extend from the Design Development stage to the Tender Documentation<sup>260</sup> (Figure 18) and Construction Tender stages (Figure 19).

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<sup>259</sup> See Section 6.4.1 which discusses the built-environment determinants

<sup>260</sup> This work includes developing and producing construction drawings, building specifications, cost estimates, short-listing for-tender invitees, and other pre-tender administrative works.

#### ***6.8.5.1 Collaborative, equitable co-deciding processes***

Considering the more technical nature of the stages, the required capacity-building effort would be too great and inefficient to be effective in fully participating with the non-architectural partners. Thus, while maintaining the equitable approach and characteristics of an iterative and cyclic process, this design phase will see less participation from non-architectural partners.

Instead, architects will pick the more significant portion of the work while maintaining consistent consultation by disseminating work progress and design outputs for approval on major decisions from the non-architectural partners. It will be similar to the conventional architect-client relationships, in contrast to the beneficiaries' or other partners' more hands-on, direct engagement in the design works during the schematic phase (Section 6.8.4).

#### ***6.8.6 Design Phase – The Capacity Building of Partners Throughout Stages of The Design Development Phase***

The bulk of the design development work will involve the technical aspects of architecture design to create constructability and standardized information management for other corresponding experts to do their parts. Co-deciding on the technical elements will require some capacity building for the non-experts to be able to make informed decisions jointly. Here, instead of explaining all the details, architects should summarize and transparently explicate the effects and consequences of their implementations in the design.

The explanation should enable the end-users to see how the technicalities help address their concerns and how the design product will affect the end use or occupancy in the long term. It means explicating the operational and maintenance responsibilities and the necessary legal and

administrative tools to manage the property properly. Further, capacity building means explaining the required change of living habits to be able to conveniently inhabit the units, operate, and maintain the facilities. Again, to maintain equitability throughout, partners should have adequate formats to question, confirm, and even challenge the architects' explanations to ensure that the design products meet the residents', i.e., the end-users' needs.

### 6.8.7 Construction Phases – Expert-Led, Partners-Consented Partnership

The Construction Phase includes the Contract Procurement, Bidding, and Contractor Appointment sub-phases. These sub-phases aim to construct the design product by selecting and appointing a winning contractor [148], [149]. Assessing and evaluating bids requires extensive knowledge of project implementations and considerable experience in managing tender biddings. These sub-phases have characteristics similar to those of the Design Development Phase. The architects lead most of the initiatives for practicality and efficiency. However, maintaining the sharing of decision-making power is necessary to keep the beneficiaries at the helm.



Figure 22. Tasks and types of collaboration in the Construction Phase.

### ***6.8.8 Construction Phases – The Beneficiary-Supervised, Expert-advocated Collaborative Partnership***

Once the contract is assigned, the appointed contractor will proceed with the construction works that transform the architectural design into the actual brick-and-mortar product. Here, the contractor's rhythm will dictate the progression of the works, although typically, there would be an agreed-upon timeline for completion. As with the conventional model, the bulk of responsibility could be transferred to the contracting entities with the contract signing, the architects will maintain their leadership responsibilities in supervising the construction, albeit having a significantly less on-site presence.

An important practice learned from the case study is to transfer a considerable portion of that leadership to the end-users to take up the on-site supervisory role. Upon capacitating the beneficiaries, the architects can deputize the appointed residents or end-users to supervise the contractor's works. While understandably, no amount of capacity building will be enough for partners to become architects, the point is to maintain the active involvement of the end-users by exposing them to the progression of the construction. Their routine, on-site presence also signals that the architects and contractors are accountable to the end users, especially when the users come from underprivileged backgrounds.

A case in point, during the Kunir construction works, the Kunir deputized resident supervisors would consult their facilitating architects, who then advocated for the deputies on the technicalities. This cycle of capacity building helps empower and develop a sense of ownership on the beneficiaries' part.

### ***6.8.9 Construction Phase – Expert-Facilitated Project Handover: Expert-Led, Partners-Consented Partnership***

Technically, a formal handover could occur after the contractor repairs all the confirmed defects. When the construction project is complete, it is important to assess and evaluate the quality of the final built physical products<sup>261</sup>, which will again require the architects' core expertise. This will involve examining and inspecting the building for possible defects and other technical shortcomings. However, as suggested in Section 6.2.2 regarding what a successful participatory project should look like, there is always the risk that the final phases leave the actual end-users of the architectural product out of the collaborative, power-sharing partnership in architectural decision-making throughout the project flow phases.

Ultimately, it is crucial to continue the sharing of decision-making power with the partners, especially the “non-paying clients” as the end-users as well as reporting to the project owner or funder. Architects could do this by encouraging, even asking the end-users to tag along and work together through inspection sessions, reporting and documenting found defects, observing the remediation works, and co-signing the official building inspection report forms, effectively placing the “non-paying clients” in a position with significant power.

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<sup>261</sup> A newly finished building needs the architect's inspection to ensure the contractor's compliance the format, quality, and performance as stated in the project contract and all its corresponding addendums [148], [149].

### ***6.8.10 Construction Phase – Capacity Building on The Use of Architectural Product:***

#### ***Collaborative Works***

As with the previous phases in which capacity building should take place, delegating the portion of supervision tasks to the beneficiaries does not mean the ceding of architects' responsibilities. On the contrary, it is important to maintain power-sharing by continuing to empower the partners, walking them through the technical progression of the construction, and keeping them well-informed on the reasons and consequences of every technicality. Further, it is equally important to maintain that the partners continue to be able to critically question, confirm, and challenge the work-in-progress to make sure it addresses their primary concerns.

Ideally, collaborating partners need to come to a consensus around their major concerns, if not all, of the partnering groups. However, as the architects at *Kampung Kunir* and *TKL* experienced, acquiring the resident communities' trust consequently places them in relationships beyond a solely professional scope, one that terminates once the architectural product is formally certified by the official building authority. As learned from the case studies, capacity-building, and advocacy do not end at the project handover but continue into the building occupancy periods in which residents will eventually have to start living in their new housing units and adapting to new technologies.

The Kunir residents, in particular, as the beneficiaries of the multistory apartment housing, had to adjust their living habits and adapt to the standardized utilities and mandatory infrastructures such as fire-safety measures, centralized utilities, and collective sanitary and waste management. These changes are on top of the adjustment for the residents to live in a unit that sits on the Nth

floor, several feet above the ground, with relatively limited space for casual expansion compared to the previous landed houses they lived in. They almost always turn to their facilitating architects with new concerns and questions during the adaptation period that could last for weeks or months, depending on how quickly or slowly the residents can fully adapt to the new situation. Every enthusiastic architect should account for such changes in living habits and the consequential extended capacity building before the actual engagement is finished. It can be important to discuss the possibilities of equitable success and/or exit strategies with their potential partners.

#### ***6.8.11 Post-ConstructionPhase – Collaborative Works: Maintaining The Partnership***

The UIA’s Scope of Practice suggests that the concentration of the architect’s work on the Post Construction Phase focuses on conducting a “*post-occupancy evaluation to ensure that the contractor’s obligations to remedy the defects are fulfilled* [148, p. 5].” Nevertheless, in a participatory project, this phase could provide opportunities for the following points. The points to evaluate the partnership could include (but are not limited to):

- Whether the concerns addressed by the architectural projects are truly agreed by all partners, represent, or are agreed upon as the intersection of all individual or factional concerns.
- Whether the architects have done their part to acknowledge and address the positionalities between them and the less privileged partners, as well as with other experts and/or partners with considerable power.



- The extent to which the collaborative project was built on the partners' strengths and resources equitably so that the residents and partners could feel the full sense of ownership for the finished products.
- The reparatory actions that the architects could extend to all partners to compensate the architects' consensual or procedural failures during the partnership, now that the architectural products are completed.
- Consider what aspects of the partnership could be improved, and what aspects the partnership could be helpful when moving into the full occupancy phase of the architectural products.



Figure 23. Tasks and Types of Collaboration in the Post Construction Phase.

Equally important as the architectural works, a participatory architectural project sees partnership development between the practitioners and the other stakeholders as collaborators. As such, evaluating the carried-out formative processes could provide insight into what worked and what could be done better in developing and fostering equitable empowerment, capacity building, and addressing the concerns of all partners, especially concerning the equitability of the power-sharing partnership and building on partners' strengths and resources (see Sections 6.3 and 6.6).

### ***6.8.12 Post-Construction Phase – Post Occupancy Evaluation (POE): The Expert-Led, Partners-Consented Works***

This Post-Construction sub-phase can involve the architects in implementing the post-occupancy evaluation as suggested by the UIA’s Scope of Practice. This part is expert-led because evaluating the building performance during occupancy is rather technical, as is the case in the Design Development and Construction phases. Although the end-users could take up a supervisory role similar to that in the Construction Phase, the finality and the relatively short duration of this phase in the contract<sup>262</sup> means that experts would be best suited to perform it.

### ***6.8.13 General Techniques to Consider to Promote Equitable Engagement***

Some general techniques that could help architects’ engagement in working towards more equitable, power-sharing architectural collaboration include the following:

#### ***6.8.13.1 Utilize Open-ended Questions***

Throughout the design and construction phases, generating reciprocal communication opportunities leading to co-learning and collaboration is central. One specific method involves asking open-ended questions<sup>263</sup> about architectural programming<sup>264</sup>. Invite beneficiaries to share how they have designated key functions within their homes to serve their needs. Also, explore

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<sup>262</sup> Typically, the contractor would have resolved the defects found before the handover. In specific cases where minor, unresolvable defects remained, the contractor would usually offer monetary compensation or a discount from the final payment of their contracting fee.

<sup>263</sup> See Section 5.5.1.1.

<sup>264</sup> Architectural programming is the initial assessment of an architectural problem, that is, the function or relationship between human activities, designated spatial functions to them, formulating measurable areas or volumes of spaces to contain them adequately, and assigning the appropriate technologies to manifest them into the physical built environment [148], [149], [202, p. 47].

their reasons for doing so. Encouraging the beneficiaries to express their opinions and expectations on relevant building performance can inform the improvement in this area and should be incorporated into the new design to address those expectations.

#### ***6.8.13.2 Avoiding Technical Jargon and Use Generic Terminologies***

Resorting to more common terminologies to explain design features, planning regulations, or building codes will lower the barriers for non-expert partners to engage in the conversation actively and effectively. Sharing the rationale behind technical codes and regulations should be done as part of an ongoing discussion to establish the connection between the beneficiaries' individual needs and priorities and converge those needs to the community-wide, shared concerns.

#### ***6.8.13.3 Promoting Equitable Dialogue***

Incorporating multiple perspectives and finding intersecting areas among varying viewpoints is important throughout the architectural project flow [148], [149]. Prioritizing and creating a safe space, accessible formats, and opportunities for partners' voices to be heard and valued is key. Whenever possible, instead of prematurely introducing (or lecturing them<sup>265</sup> about) the building codes and technical standards, listening is important. "*Feeding back and interpreting the findings within the partnerships*" [79, p. 13] should happen within each phase to enable unhindered feedback by all partners before progressing to the next phase.

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<sup>265</sup> As another way to say "educating them" in reference to what is implied in the Ethical Standard 2.2., Indonesia Architecture Institution Code of Ethics [180], discussed in Section 5.2.2 of Chapter 5.

The emphasis is on creating a collaborative and inclusive dialogue where partners' input is considered and valued throughout the architectural decision-making process. Such dialogue is a way to encourage a feedback cycle, feeding back input from all partners to improve the systems. The aim is to arrive at the collective solutions that all partners appreciate. One technique is to discuss the reasons and consequences of possible options or design ideas, irrespective of whether they originate from non-experts or architects.

#### ***6.8.14 General Notice on Potential Challenges and Limitations***

Architects should be prepared for several challenges regarding the dynamics that might occur during collaboration with their partners. The following sub-sections elaborate on those challenges.

##### ***6.8.14.1 Unexpected Changes or Demands***

It is prudent to anticipate that the partners who assume greater power might impose their agendas or demand more attention, which could cause abrupt changes in the ongoing rhythm. For example, paying clients such as the government might impose short notice for new deadlines or demands about the project that might contest the co-created design brief. Conversely, the disruption could also cause a suspension of the ongoing work and prolong uncertainty that might impact the workflow and earlier expectations.

##### ***6.8.14.2 Difficulties in Making Critical Decisions***

Despite all the facilitation, putting the power to decide into the hands of the community was neither an automatic nor immediate post-facilitation outcome. The long duration of sustained processes does not mean that all resident activists and leaders, let alone all the other community

members, are able to get to the same level of capacity required to make informed decisions. Consequently, a prolonged process could often result in stagnation, ambiguity, and eventually crumbling momentum. On the other hand, letting the situation deteriorate as a consequence of the community's indecision could be a non-option because of what was at stake, i.e., the difference between the success and failure to achieve the shared vision and the collective architectural goals.

#### ***6.8.14.3 Degrading Enthusiasm and Operational Endurance***

One or more partnering entities might lose enthusiasm or hope for the project midway. This slow-down could be due to the emergence of other competing priorities, more pressing urgencies, or simply lost endurance due to protracted processes.

In protracted processes, it is crucial for architects to be aware that providing pro bono architectural services to the “*economically disadvantaged, not-for-profit, faith-based, and local community organizations* [180]” using the participatory architectural practice requires the architects to navigate the complexities in such humanitarian engagement that rely on trust-based partnerships<sup>266</sup> with the “non-paying clients.” Prioritizing equitable partnership and co-learning is paramount to developing an effective, equitable, and power-sharing collaboration on built environment design.

On the other hand, it is also critical that architects are able to maintain the recommended standard of deliverables in humanitarian projects as part of the equitable collaboration.

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<sup>266</sup> In contrast to contract-based, fee-for-service relationships.

Maintaining the quality of deliverables means the architects are also required to maintain standard professional relationships with their sub-consultants to achieve the threshold quality of the deliverables. This is where things become tricky because, in conventional projects, those relationships typically include financial compensations for the sub-consultants proportional to the provided services.

In a humanitarian project engaged pro bono, considering the requirement to develop a trust-based partnership with the “non-paying clients, architects can face a significant challenge to balance altruism and their financial stability that sustains their regular practice. Even with the architects' in-house staff and professional partners willing to join in contributing their services free of charge, there are limits to individual capacities on the extent and duration to contribute services pro bono. These limits can significantly impact architects' overall endurance in staying committed to the collaborative partnership with the non-paying clients. It is critical for architects to account for these internal capacities before committing to the participatory engagement and be transparent about them to the potential partners.

Future research and discussion are needed to develop strategies that enable architects to balance endurance and equitable facilitation in pro bono projects, even redefining the term pro bono itself to fit the Indonesian context. Involving stakeholders such as architectural associations, academics, experienced practitioners in humanitarian contexts, community organizers, social workers, and government agencies can help address challenges and improve outcomes in providing architectural services to economically disadvantaged communities.

## **Chapter 7 Conclusion**

This dissertation contains two learning matters. First, it explores what could make humanitarian architectural involvement work more effectively, specifically in pre-disaster mitigation programs. Second, it explores the potentials of constructionist methodologies for architectural research, which involve reviewing 1) the systems of inquiry, 2) the epistemological stance, and 3) the corresponding research methods and tactics.

### **7.1 Making More Effective Architects' Involvement**

This dissertation focuses on addressing the issue of ineffective architectural design outcomes in humanitarian contexts despite architects' good intentions. It explores the challenges faced in effectively utilizing architectural products and the willingness of practicing architects to engage in humanitarian efforts. It is possible that a participatory approach could mitigate these shortcomings and enhance architects' effectiveness in such settings. To investigate this, the research examines two low-income Indonesian riparian communities, the *Kampung* Kunir and the *Kampung* Tongkol-Lodan-Kerapu (abbreviated as TKL in this dissertation), in which

community members successfully collaborated with the facilitating experts to redesign their built environment without relocation after facing eviction and forced relocation orders<sup>267</sup>.

Thus, this dissertation aims to learn about the governing principles implemented in those two successful cases of architectural works with significant end-users' participation throughout the architectural design phases. Further, it utilizes the implemented “*community-based participatory research*” (CBPR) principles [79], [111], [112], [132], [179] observable in the two cases as the platform to reflect on conventional architectural practice (guidelines from UIA and IAI [124], [148], [149], [180]) and the extent to which architectural practice underwent the necessary adaptation to help the involved architects effectively and equitably contribute their skills in the humanitarian settings at the two communities.

### ***7.1.1 “What are the implemented CBPR principles that enabled/encouraged and supported the architectural participatory processes?”***

The implementation of Community-Based Participatory Research (CBPR) Principles has been instrumental in facilitating participatory architectural practices. Six out of nine CBPR principles are evident in the projects involving two riparian communities. Among the six notable principles, “*recognizing the community as a unit of identity*” [79], [111], [112], [132], [179] emerges as particularly crucial for practitioners to adopt initially to set the stage for effectively

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<sup>267</sup> The eviction and forced relocation orders were considered as resulting from a partial, unfair decision by the government that disregarded the needs of the impacted underprivileged communities. See Sections 2.3, 4.2.1, 4.4, and 4.6.1.



implementing the other principles. Recognition of communities of identities addresses issues of positionality and power dynamics within architectural projects in humanitarian contexts.

Specifically, the principle of “*recognizing the community as a unit of identity*” examines the “*positionality of researchers* [81, p. 359]” and other experts in humanitarian architectural works and the “*role of power within partnerships* [203].” The findings highlight the strategies that the facilitating architects learned from this work, and the work that the community organizers and architects did to alleviate the risk of unintentional marginalization of underprivileged groups.

It is crucial to understand all involved stakeholders as complex, heterogeneous entities with their own pre-existing internal dynamics. These stakeholders, including architects, often have vested interests in the locations of concern. Understanding the many communities whose interests might intersect and overlap about the shared issue or site is vital, along with recognizing the preexisting positionality and power relations between and within. This perspective will afford the architects a better understanding of the situation, and it should guide the architects to equitably consider whose concerns their contribution in a humanitarian setting actually helps address. Further, it should help the well-meaning architects avoid new marginalization during their engagements with their beneficiary communities or partners.

One notable learning point suggests that the principle of “*involving systems development using cyclical and iterative processes*” [79], [111], [112], [132], [179] is noticeably applied throughout the architectural workflow phases [148], [149]. The principle fosters systematic collaboration among partnering entities. By embracing such systematic processes, partners can cultivate a

learning culture, drawing insights from successes and failures while learning from one another to improve task management. At the two project sites, such systematic approaches allow for partners' equitable participation in raising concerns, questioning decisions, reviewing processes, committing resources, and providing feedback. A systematic, equitable, power-sharing partnership is essential for the success of any participatory process. Embracing such systematic collaboration early on enhances the effectiveness of the entire participatory endeavor.

### ***7.1.2 “To what extent has implementing CBPR Principles Modified the conventional methodologies of architectural practice?”***

The implemented CBPR principles significantly altered conventional architectural practices at the two riparian sites in several ways. Firstly, they introduce a significant additional workload in the initial phases of the architectural project flow [148] [149] and the Pre-Design Phase. This includes tasks such as identifying and acknowledging pre-existing identities [79, p. 9], power structures [81], and positionalities [146] within each community, including the facilitating experts themselves as part of the community. Second, the work involves confirming the information or data that the architects identified earlier. For that, the architects work with the potential partners to check, verify, or correct the information. The aim here is to identify the potential common, shared interests among various identity communities regarding the site, issue, or projects while initiating collaborative partnerships based on shared goals and equitable operational methods.

These principles modify subsequent phases of the architectural project flow to uphold equity and an emancipatory format. The adaptation of the project flow ensures that efforts are made to maintain fairness and empowerment among all involved parties throughout the project. This practice might involve adjusting how architects carry out their practice, decision-making structures, or resource allocations to uphold the principles of equity and engagement. Thus, the integration of CBPR principles not only influences the initial phases but also guides the entirety of the architectural project toward a more inclusive and equitable outcome.

### ***7.1.3 “What framework and adjustments can be proposed to conventional architectural workflow to integrate the participatory approach?”***

The modified architectural project flow involves integrating the participatory principles and their corresponding strategies into the phases of the architectural workflow to develop the “framework of the participatory architectural practice.” This framework is an overarching, systematic approach to architectural engagement in humanitarian settings and can help practitioners prepare and assess their willingness to get involved in such engagement.

Discussions with facilitating architects indicated that they facilitated two major activities to help residents gain knowledge and new capacities. The co-design workshop might seem to be central to the architectural facilitation. However, the findings suggest that foundational activity during the Pre-Design Phase takes up the bulk of the work required from the architects.

Other than recognizing the potential partners, the context, the pre-existing dynamics, and developing partnerships systematically, the other notable activity that preceded the design workshop was what the architects termed “the historic mapping workshop<sup>268</sup>.” Residents were invited to revisit their experiences of settling down in that area or their particular plot, recollecting their settlements' spatial development timeline and collective milestones as a community. This workshop reveals the internal and external factors that shaped their built environment and the residents as communities of identities with various, if not competing, vested interests. Although it might seem less architectural, these initial endeavors are rather determinative to the success or failure of the following co-design.

Aspiring architects can refer to the framework’s proposed strategies and methods when considering engaging in a humanitarian participatory architectural practice. Nevertheless, those strategies are not meant to be prescriptive. Contextual sensitivity must be maintained when adapting and tuning the framework to the specific situations and contexts involving particular communities of interest.

#### ***7.1.4 Implementing Principles and Built-environmental Outputs***

The dissertation reveals a number of beneficial outcomes from the architects' implementation of the participatory principles in their facilitatory practice with the Kunir and TKL communities.

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<sup>268</sup> See Section 5.5.2 in Chapter 5

#### ***7.1.4.1 Meaningful Architectural Outputs***

The *Kampung* TKL and Kunir are two of three major, simultaneous riparian *kampung* redevelopment projects in Jakarta between 2015 and 2022. There were two other ongoing works involving participatory built-environmental facilitation for two large communities in Northern Jakarta at the time of the data collection for this dissertation. Those communities underwent a remarkable transformation driven by their own strong aspiration for progress. The Kunir community actively collaborated with their facilitators in planning, designing, and supervising the procurement of their new apartment buildings.

For the *Kampung* TKL, the change was evident in their proactive efforts to revitalize their surroundings, departing from previous behaviors like squatting and polluting. The TKL residents embarked on voluntary partial land clearing, river stewardship, and waste management, demonstrating a commitment to improving their living conditions. Despite facing challenges and lacking government support, the residents persisted with their voluntary partial demolition, united in their determination to bring their vision to fruition.

The TKL and Kunir communities upheld their goal to stay in their current locations and transform their communities into more responsible and collaborative environments, even if it meant making sacrifices. This shift in perspective was born out of introspection, as residents reflected on past actions and decisions that had led to their situations, including the then-looming threat of eviction<sup>269</sup>.

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<sup>269</sup> As discussed in Section 4.2.1.

The residents gained shared knowledge through the reflective process facilitated by the community organizers and the other facilitating experts, including the involved architects. The collective knowledge empowered them to collaborate and make informed decisions. Further, beyond having a physically improved built environment, they developed a strong sense of ownership towards their redeveloped settlements.

Rather than merely reacting to external circumstances, they took ownership and proactive steps to shape their future, drawing on their past experiences as valuable lessons to create a more sustainable path forward. The result is a sound, built-environment product that supports their concerns and fosters a sense of ownership and pride among the residents. In other words, the residents' genuine participation in the design and construction processes successfully generated useful and meaningful outcomes for the TKL and Kunir *residents*.

#### ***7.1.4.2 Discovering Their Voice in The Urban Society***

One aspect of the shared knowledge was the residents' awareness of their political capacity once they became organized. The residents' capacity building centers on community organizing and being part of the extensive regional network<sup>270</sup> of fellow low-income urban communities, which provided access to the breadth of grassroots organizations' multiple experiences in various local contexts.

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<sup>270</sup> See Footnote 154 in Section 4.3.1, Chapter 4, on the extent of this urban poor network.

Other than being a learning platform, the network at the city level also functions as a united front for like communities to voice their concerns publicly. It allows the community to independently push their agenda politically, in contrast to being subjected to any external vested interests typically carried out by political actors seeking their votes in exchange for one-off material assistance<sup>271</sup>. In other words, any agreement to align themselves with any particular political figures now could be made by conscious choice based on their long-term needs.

The fact that they entered a political contract with Mr. Baswedan<sup>272</sup>, who wished to paint a populist color on his administration, was a pivotal decision in realizing the architectural products. It signified the capacity of the organized urban poor communities to leverage their potential to negotiate for future policies that support their continuing existence in their current locations. The network, collaborating with the involved experts, facilitated the integration of the communities' goodwill proposal to voluntarily redevelop and improve their living environment with the government's spatial planning.

#### **7.1.4.3 On Architecture and Building Technology**

Residents' experiences of losing properties to *kampung* fires led to a heightened awareness of their housing needs, particularly regarding materials and construction for their redevelopment proposal. They conveyed to the architects their preference for more durable materials, especially those resistant to fire hazards, such as bricks, concrete blocks, and cement-based materials. This

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<sup>271</sup> See Section 4.2.1.1 on the riparian communities' history of patronization.

<sup>272</sup> The then-challenging gubernatorial candidate in the 2016 Jakarta regional election.

perspective explains why bamboo was not widely adopted for the main structural elements, such as those utilized in the prototype house in the TKL community<sup>273</sup>. Instead, conventional reinforced concrete frame structures with concrete floor slabs and various types of block masonry were extensively used, with wood and bamboo seeing limited use for infills and decorative features. In other words, the contexts and past experiences of the beneficiary communities might become the first determinant factor that would inform, even direct, the rest of the participatory design processes rather than pivoting the facilitation on disseminating any particular novel technologies.

The lessons learned extend beyond construction techniques to encompass broader urban planning considerations. Residents now recognize the importance of better drainage systems, closed septic tank systems, and adherence to building codes for safety and environmental health. They also acknowledge the densification of urban areas, leading to a shift towards vertically oriented housing options to compensate for decreasing accessible land resulting from voluntary, partial land clearance. Communities, such as those in Kunir and TKL, now embrace vertical expansion, albeit requiring new technologies and adjustments in living habits.

Furthermore, residents gained awareness of their interconnectedness with the larger urban society and the impact of local decisions on their settlements and surrounding environments. Technical choices, such as the use of septic tanks, are proven to positively affect the river and downstream social groups. This understanding underscored the importance of integrating

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<sup>273</sup> Discussed in Section 4.2.2.1, Chapter 4, and Section 5.5.3 of Chapter 5.



innovation in building technology with the community's previous dwelling experiences and contextual settings. It emphasized the need for tailored solutions that address the specific needs and complexities on the ground rather than adopting a one-size-fits-all approach. Effective technological interventions require thorough consideration of local circumstances and sustained engagement with the community to ensure relevance and efficacy. Consequently, that thoroughness requires considerable time and effort on the architectural experts' part to work with their partners on the ground.

On that note, the facilitating architects gained new capacities themselves by using an engaged participatory approach. They acquired an outlook and developed a skill set that enables them to work in humanitarian settings. They did it by accounting for the preexisting socio-cultural layers and dynamics [81], [92] as an integral part of their architectural considerations. Here, architecture becomes a dialogical medium to collaboratively formulate the appropriate building technology that truly addresses the genuine concerns of the beneficiaries, i.e., the end-users.

## **7.2 The Learnings in Research Methodology**

The exploration of research methodology yielded several valuable insights. First, the shift from positivist to constructivist “*systems of inquiry* [82]” or “*system of belief*,” i.e., “*paradigm* [86], [87]” illuminated the nuanced corresponding epistemological spectrum between the two systems of inquiry. Recognizing that neither approach is inherently superior, I understand that research context and utility dictate the most appropriate epistemology and methods. This recognition guided research planning and decision-making processes, ensuring a systematic understanding of

root problems and the synthesis of effective research design. By embracing diverse ways of looking at issues and phenomena, researchers can develop comprehensive plans that address the needs of various stakeholders.

Working with qualitative data and corresponding tools within the chosen epistemological framework provided valuable experiential learning. Learning and implementing the constructivist epistemology shed a better understanding of the power difference and the resulting positionality derived from the privilege of being an “expert” (i.e., researchers, practitioners) relative to the “non-experts.” The positional discrepancy can be quite significant when the experts enter supposedly collaborative relationships with the underprivileged non-experts<sup>274</sup>. There will always be a potential for perpetuating the marginalization of the less privileged partners and exclusion of their voices, even when the collaboration aims to benefit these partners as the end users or actual beneficiaries.

One of the critical lessons of critical theory, as explained above, involved a series of questions. These questions highlight power and positionality, such as "Who is seeing the world and how?", "Whose problem is the researcher seeing?" and “Who is benefiting from the research products?” These questions highlight different perspectives on reality and problem identification. Qualitative methods, especially those employing primary data from end-users' voices and first-hand experiences, were instrumental in understanding the factors influencing the successes and failures of exclusively technological implementation in real-world settings. The research

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<sup>274</sup>, i.e., the less skilled, those less attended from their status as minority groups, the less financially capable, the ones with limited connections or networks, and those already marginalized socially because of specific needs.

methodology journey of this dissertation underscored the importance of methodological coherence, the rigor of qualitative data processing, and the acknowledgment of the potential of collaborative research practices. The process also reveals areas for further growth and refinement in understanding and application of the member checks as a critical part of the constructionist methodologies.

In retrospect, although I planned in my research design the member checks milestones (by consulting some key contributors to discuss the preliminary findings), the failure to thoroughly conduct the member checks calls for a more systematic preparatory discussion with these individuals. Preparation for member checks should involve accounting and consulting on contributors' activities and timelines, as well as whether their interests or concerns are accommodated by my research design. Timing the planning itself is crucial, especially when factoring in the fact that I had limited in-person availability to be able to engage the contributors intensively and collaborate to plan the suitable member-check methods.

Second, using qualitative methodologies, such as case studies [82], [128] and Constructivist Grounded Theory [82], [129], [130], [140], [141], [142], proved beneficial in expanding the development of the architecture discipline. In particular, the experience heightened the awareness of the interdisciplinary nature of architecture that many practitioners might have overlooked. The learning processes during this dissertation provided valuable insights into interdisciplinary approaches in architectural research, particularly concerning building technology's application in humanitarian contexts.

Despite encountering difficulties halfway through understanding grounded theory methodologies, the experience provided valuable insights for future research endeavors. This experience highlighted the inherent merits of various research methods and underscored the importance of selecting methodologies that align with the desired scope and potential impact of the research output. The learning process expanded the knowledge of architectural design practice and served as a foundation for further exploration of grounded theory methodologies, contributing to the humanistic aspect of the discipline.

### **7.3 The Merit of the Framework for Participatory Architectural Practice**

The framework for participatory architectural practice serves as a way for the end-users to develop a sense of ownership of the architectural products because it ensures that the participatory architectural practice addresses the end-users' genuine concerns as the manifestation of their right to housings that suit their concerns. The framework offers power-sharing strategies and methods to establish effective and equitable collaboration by enriching the architectural project flow with participatory principles. Thus, the framework enables the end-users and other stakeholders to have a share of power and control throughout the participatory architectural project flow: the sharing of the architectural authority.

For the end-users of the architectural products in urban redevelopment and disaster mitigation contexts, specifically the less privileged communities and groups, the participatory architectural framework offers an equitable way to access architectural services to help address their genuine built-environmental needs. The framework can help architects contribute their services to





underprivileged groups, which were previously unavailable or likely inaccessible due to the power difference and the groups' lack of procurement capacity.


More importantly, the framework can help architects and their partners reframe architecture as a medium to negotiate a more equitable and just approach to solving humanitarian built-environmental challenges, which in such a context involving marginalized communities as end users tend to be solved through a top-down approach that can undermine the voices of the underprivileged communities, resulting in irrelevant architectural products. The framework can alleviate the power difference between the well-meaning architects, the other privileged stakeholders, and the marginalized communities. In other words, the framework can inform and help well-meaning architects produce useful and meaningful built environmental products for the end-users by shifting the focus of architecture from providing a design practice that solely concentrates on producing physical artifacts to one that turns architecture into a medium to foster equitable, two-way dialogues towards the formulation of the more useful and meaningful architectural outcomes.















## Appendix: Matrix of Participatory Project Flow









The matrix below elaborates the diagram of “Participatory Architectural Flow for Humanitarian Settings” in Figure 16 (Section 6.8.1, Chapter 6) and explains each point in each phase in the project flow to comprehensively yet concisely explain the relationship between the CBPR Principles and each phase of the project flow. The CBPR Principles modify and expand the conventional architectural design phases into ones that accommodate participatory engagements. The modifications are shown in the matrix below, expressed within the squares where the rows (CBPR Principles) and columns (design phases) intersect. Bold texts show the items from the conventional project flow.

### MATRIX OF PARTICIPATORY PROJECT FLOW

- Legend**
-  Collaborative partnership with the full sharing of architectural authority
  -  Expert-led, beneficiary-consented collaborative partnership
  -  Beneficiary-supervised, expert-advocated collaborative partnership
  -  Expert inquiry, non-collaborative work

	Pre-design	Design	Construction	Post Construction
<b>Recognizing Community as Identity</b>	Recognizing pre-existing attributes, structures, positionalities, and dynamics (between and within partners) that are impacting decision-making  			

<b>Fostering Equitable &amp; Collaborative Partnership</b>	Identifying & affirming local needs, pre-existing situations, overarching context (who gets to say & affirm those) 	Fully collaborative <b>schematic design</b> workshop focusing on local architectural issues & resources (who gets to decide what architectural design and how) 	Consultative <b>contract procurement</b> (who gets to decide what and how) 	Maintaining, evaluating partnership 
	Identifying & affirming community's resources & strengths (who gets to say & affirm those) 	Expert-led collaborative <b>design development</b> (who gets to decide what architectural design and how to keep partners as co-decision makers) 	Consultative <b>bidding &amp; contractor appointment</b> (who gets to decide what and how) 	Expert-Led Post Occupancy Evaluation (who gets to evaluate what architectural output and how to maintain equitable inclusion) 
	Forming partnership & collaboration towards co-creating the <b>design brief</b> and architectural goals (who gets to be included and shared architectural authority) 	Consultative <b>tender document</b> preparations 	Co-supervision of project <b>construction</b> (who gets to supervise, how to report & discuss issues to maintain transparency) 	
<b>Focusing on Local Relevance</b>	<b>Sourcing geotechnical data</b> <b>Identifying relevant codes &amp; regulations</b> 			
	Identifying & affirming local needs, pre-existing situations, and overarching context (what matters to whom, where & why) 			
	Identifying & affirming community's resources & strengths (who has those and the extent they are ready to be committed) 			

	Forming partnership & collaboration towards co-creating the <b>design brief</b> and architectural goals (what goals to aim, to whom those will matter & why) 			
<b>Fostering Co-Learning &amp; Capacity Building</b>	Identifying & affirming local needs, pre-existing situations, overarching context (what to learn, from whom & how) 	Capacity building of partners throughout the design phases (what to learn, why, from whom & how) 	Capacity building of partners throughout the construction phases (what to learn, why, from whom & how) 	
	Identifying & affirming community's resources & strengths (what to learn, from whom & how) 		<b>Co-supervision</b> of project <b>construction</b> (what to learn, why, from whom & how) 	
<b>Building on Communities' Strength &amp; Resources</b>	Learning & affirming: capacities, preparedness & extent to commit of all partners (in place of contractual appointment) (who has what, where, and the extent to commit) 		<b>Co-supervision</b> of project <b>construction</b> (availability, basic knowhow, personalities) 	
<b>Focusing on Systems Development</b>	See the legend and symbol in each square above			



## Bibliography

- [1] P. R. Cummins, “Geohazards in Indonesia: Earth science for disaster risk reduction – introduction,” *SP*, vol. 441, no. 1, pp. 1–7, Jan. 2017, doi: 10.1144/SP441.11.
- [2] S. J. Hutchings and W. D. Mooney, “The Seismicity of Indonesia and Tectonic Implications,” *Geochem Geophys Geosyst*, vol. 22, no. 9, p. e2021GC009812, Sep. 2021, doi: 10.1029/2021GC009812.
- [3] S. Protschky, “Disaster in Indonesia: Along the Fault Line toward New Approaches,” *Indonesia*, vol. 113, no. 1, pp. 1–8, Apr. 2022, doi: 10.1353/ind.2022.0000.
- [4] P. Supendi *et al.*, “On the potential for megathrust earthquakes and tsunamis off the southern coast of West Java and southeast Sumatra, Indonesia,” *Nat Hazards*, vol. 116, no. 1, pp. 1315–1328, Mar. 2023, doi: 10.1007/s11069-022-05696-y.
- [5] BNPB, “Rencana Strategis Penanggulangan Bencana 2015-2019 (Perubahan) / Disaster Countermeasures Strategic Plan 2015-2019 (Revised),” Badan Nasional Penanggulangan Bencana (BNPB), 2018. Accessed: Feb. 15, 2022. [Online]. Available: <https://bnpb.go.id>
- [6] A. Das, “A City of Two Tales: Shelter and Migrants in Surabaya,” *Environment and Urbanization ASIA*, vol. 8, no. 1, pp. 1–21, Mar. 2017, doi: 10.1177/0975425316686501.
- [7] World Health Organization and United Nations. Human Settlements Programme, “Hidden cities: unmasking and overcoming health inequities in urban settings,” *La face cachée des villes : mettre au jour et vaincre les inégalités en santé en milieu urbain*, 2010, Accessed: Jul. 15, 2024. [Online]. Available: <https://iris.who.int/handle/10665/44439>
- [8] E. United Nations, “Urbanization trends in Asia and the Pacific: Factsheets,” Nov. 2013.
- [9] UN-Habitat, Ed., *Envisaging The Future of Cities*. in World cities report, no. 2022. Nairobi, Kenya: UN-Habitat, 2022.
- [10] UN-Habitat, *Prosperity of Cities*. in World Cities Report, no. 2012. Nairobi, Kenya: UN-Habitat, 2012.
- [11] M. Amado, I. Ramalhete, J. C. Freitas, A. Amado, and A. A. Silva, “TOWARDS THE SUSTAINABLE CITY: A MODEL TO TRANSFORM THE INFORMAL INTO FORMAL,” presented at the ECOSUD 2017, Cadiz, Spain, Apr. 2017, pp. 21–33. doi: 10.2495/ECO170031.
- [12] J. Bredenoord and P. van Lindert, “Pro-poor housing policies: Rethinking the potential of assisted self-help housing,” *Habitat International*, vol. 34, no. 3, pp. 278–287, Jul. 2010, doi: 10.1016/j.habitatint.2009.12.001.
- [13] S. Funo, N. Yamamoto, and J. Silas, “Typology of Kampung Houses and Their Transformation Process-- A Study on Urban Tissues of an Indonesian City,” *Journal of Asian Architecture and Building Engineering*, vol. 1, no. 2, pp. 193–200, Nov. 2002, doi: 10.3130/jaabe.1.2\_193.
- [14] J. Silas and R. Ernawati, “Liveability of Settlements by People in the Kampung of Surabaya,” p. 7.

- [15] E. Hausler, T. M. Hart, and G. Goodell, "CASE STUDY: DESIGN AND CONSTRUCTION OF CONFINED MASONRY HOUSES IN INDONESIA," *Structural Engineer*, p. 11, 2014.
- [16] Shelter Project Working Group, "shelterprojects.org," Global Shelter Cluster. Accessed: Sep. 29, 2020. [Online]. Available: <https://shelterprojects.org/>
- [17] UN-HABITAT, "What Are Slums And Why Do They Exist?," UN-HABITAT, Nairobi, Kenya, Press Release, 2007. [Online]. Available: [https://web.archive.org/web/20110206143558/http://www.unhabitat.org/downloads/docs/4625\\_51419\\_GC%2021%20What%20are%20slums.pdf](https://web.archive.org/web/20110206143558/http://www.unhabitat.org/downloads/docs/4625_51419_GC%2021%20What%20are%20slums.pdf)
- [18] United Nations, *New Urban Agenda: H III: Habitat III: Quito 17-20 October 2016*. in New Urban Agenda. Nairobi: United Nations, 2017.
- [19] K. Dovey, B. Cook, and A. Achmadi, "Contested riverscapes in Jakarta: flooding, forced eviction and urban image," *Space and Polity*, vol. 23, no. 3, pp. 265–282, Sep. 2019, doi: 10.1080/13562576.2019.1667764.
- [20] A. Widyaningsih and P. Van den Broeck, "Social innovation in times of flood and eviction crisis: The making and unmaking of homes in the Ciliwung riverbank, Jakarta," *Singapore Journal of Tropical Geography*, p. sjtg.12370, Apr. 2021, doi: 10.1111/sjtg.12370.
- [21] M. Louro and V. Catalfamo, "Dwelling on earth... about the Kampung of Tongkol in Jakarta," in *Drawing (...) City (...) Body, Dwelling on Earth*, 1st ed., P. A. Janeiro, Ed., CRC Press, 2019, pp. 137–145. doi: 10.1201/9780429398773-17.
- [22] A. Fitrianto, "Securing local ownership, and the architect's dilemma," in *Claiming The City: Civil Society Mobilisation by the Urban Poor*, Uppsala, Sweden: Uppsala Centre for Sustainable Development, Uppsala University, 2014, p. 10.
- [23] R. Luck, "Participatory design in architectural practice: Changing practices in future making in uncertain times," *Design Studies*, vol. 59, pp. 139–157, Nov. 2018, doi: 10.1016/j.destud.2018.10.003.
- [24] D. Lutfiyah and H. Herlily, "Participatory in Kampung's Co-Housing Development: Learning From Kampung Muka, North Jakarta," *CSID-JID*, vol. 2, no. 1, p. 74, Jan. 2019, doi: 10.32783/csid-jid.v2i1.43.
- [25] H. Iskandaria, I. Sumarno, and J. Silas, "PERAN KAMPUNG LUAR BATANG KECAMATAN PENJARINGAN JAKARTA UTARA DALAM MENUNJANG KONSERVASI KOTA," p. 7.
- [26] D. A. Lestari and I. M. B. Ariwangsa, "Dampak Sosial Budaya Pro-Poor Tourism: Social Humanity Tour Di Jakarta (Studi Kasus Di Kampung Tongkol dan Kampung Luar Batang)," *Jurnal Destiniasi Pariwisata*, vol. 6, no. 2, p. 6, 2018, doi: <http://dx.doi.org/10.24843/JDEPAR.2018.v06.i02.p01>.
- [27] E. Mariani, "Hikayat Kunir: Kampung Para Hansip Penjaga Kota yang Bertahan di Reruntuhan," Project Multatuli. Accessed: Nov. 09, 2023. [Online]. Available: <https://projectmultatuli.org/hikayat-kunir-kampung-para-hansip-penjaga-kota-yang-bertahan-direruntuhan/>
- [28] H. Pasuhuk, "Upaya Mempertahankan Kampung Tongkol Dengan Isu Hijau | DUNIA: Informasi terkini dari berbagai penjuru dunia | DW | 20.03.2017," *DW News*, Mar. 20, 2017. Accessed: Dec. 05, 2021. [Online]. Available: <https://www.dw.com/id/upaya-mempertahankan-kampung-tongkol-dengan-isu-hijau/a-38025340>

- [29] C. Waha and J. Sondakh, "PEMENUHAN HAK ATAS PERUMAHAN YANG LAYAK BAGI MASYARAKAT MISKIN DI PERKOTAAN," *Jurnal LPPM Bidang EkoSosBudKum*, vol. 1, no. 2, pp. 86–99, 2014.
- [30] R. Luck, "What is it that makes participation in design participatory design?," *Design Studies*, vol. 59, pp. 1–8, Nov. 2018, doi: 10.1016/j.destud.2018.10.002.
- [31] H. Sanoff, *Democratic design: participation case studies in urban and small town environments*. Blue Kids Of America, 2010.
- [32] H. Sanoff, "Participatory Design in Focus," *Architecture and Behavior*, vol. 4, no. 1, pp. 27–42, 1988.
- [33] H. Sanoff and S. Conn, "Integrating human needs in environmental design," *C R C Critical Reviews in Environmental Control*, vol. 4, no. 1–4, pp. 507–534, Jan. 1974, doi: 10.1080/10643387409381623.
- [34] N. J. Habraken, "The Control of Complexity," *Places Journal*, vol. 4, no. 2, p. 14, 1987.
- [35] D. M. Nascimento, "Interview: N. J. Habraken Explains The Potential of The Open Building Approach in Architectural Practice," *OHI*, vol. 37, no. 4, pp. 5–13, Dec. 2012, doi: 10.1108/OHI-04-2012-B0001.
- [36] IFRC and UN-OCHA, *Shelter After Disaster*. Genève (Suisse): International federation of red cross and red crescent societies, 2015.
- [37] IFRC, "Participatory Approach For Safe Shelter Awareness." Koninklijke Brill NV, 2015. doi: 10.1163/2210-7975\_HRD-9813-2015012.
- [38] N. Ismail, K. Okazaki, C. Ochiai, and G. Fernandez, "Livelihood Strategies after the 2004 Indian Ocean Tsunami in Banda Aceh, Indonesia," *Procedia Engineering*, vol. 212, pp. 551–558, 2018, doi: 10.1016/j.proeng.2018.01.071.
- [39] D. Paredes Grijalva, "Book Review: Samuels, A. (2019). After the Tsunami: Disaster Narratives and the Remaking of Everyday Life in Aceh.," *Austrian Journal of South-East Asian Studies*, p. ONLINE FIRST, Oct. 2020, doi: 10.14764/10.ASEAS-0036.
- [40] J. Da Silva, *Lessons from Aceh: Key considerations in post-disaster reconstruction*. Rugby, Warwickshire, United Kingdom: Practical Action Publishing, 2010. doi: 10.3362/9781780440606.
- [41] OXFAM International, "Sheltering People After Disaster," OXFAM International, Filed Studies-Tsunami Response, 2008. Accessed: Aug. 27, 2021. [Online]. Available: <https://s3.amazonaws.com/oxfam-us/static/oa3/files/sheltering-people-after-disasters.pdf>
- [42] E. Hausler, "Building Earthquake-Resistant Houses in Haiti: The Homeowner-Driven Model," *Innovations: Technology, Governance, Globalization*, vol. 5, no. 4, pp. 91–115, Oct. 2010, doi: 10.1162/INOV\_a\_00047.
- [43] International Federation of Red Cross and Red Crescent Societies, "Post Disaster Shelter: Ten Designs." Koninklijke Brill NV, Geneva, Switzerland, 2013. doi: 10.1163/2210-7975\_HRD-9813-2015012.
- [44] A. Maurina and B. Prastyatama, "Bamboo Deployable Structural Systems: An Exploration Study in Responding to Rapid Alteration Challenges," in *Proceedings of the 18th International Conference on Sustainable Environment and Architecture (SENVAR 2018)*, Surakarta, Indonesia: Atlantis Press, 2019. doi: 10.2991/senvar-18.2019.10.
- [45] A. Maurina, B. Prastyatama, A. Sagara, S. N. Rizkiani, B. Sian, and J. E. Shin, "Bumi Awi Kabula Kabale," in *PROCEEDING OF THE 15TH INTERNATIONAL CONFERENCE QUALITY IN RESARCH (QIR)*, Bali, Indonesia: Universitas Indonesia, 2017, pp. 714–723.

- [46] A. Rapoport, *The Meaning of the Built Environment: A Nonverbal Communication Approach*. Tucson, Arizona: The University of Arizona Press, 1982. Accessed: Jan. 19, 2024. [Online]. Available: [https://books.google.com/books?id=bn\\_7\\_UFABdUC&newbks=0&printsec=frontcover&hl=en](https://books.google.com/books?id=bn_7_UFABdUC&newbks=0&printsec=frontcover&hl=en)
- [47] D. L. Lawrence and S. M. Low, "The Built Environment and Spatial Form," *Annual Review of Anthropology*, vol. 19, pp. 453–505, Oct. 1990, doi: <https://doi.org/10.1146/annurev.an.19.100190.002321>.
- [48] W. R. McClure and T. J. Bartuska, Eds., *The built environment: a collaborative inquiry into design and planning*, 2nd ed. Hoboken: J. Wiley & Sons, 2007.
- [49] S. L. Handy, M. G. Boarnet, R. Ewing, and R. E. Killingsworth, "How the built environment affects physical activity," *American Journal of Preventive Medicine*, vol. 23, no. 2, pp. 64–73, Aug. 2002, doi: [10.1016/S0749-3797\(02\)00475-0](https://doi.org/10.1016/S0749-3797(02)00475-0).
- [50] M. Heidegger, *Poetry, language, thought*, 20. print. New York: Perennial Classics, 2009.
- [51] A. Handel, "What's in a home? Toward a critical theory of housing/dwelling," *Environment and Planning C: Politics and Space*, vol. 37, no. 6, pp. 1045–1062, Sep. 2019, doi: [10.1177/2399654418819104](https://doi.org/10.1177/2399654418819104).
- [52] H. A. Rowe, "The Rise and Fall of Modernist Architecture - Inquiries Journal," *Inquiries - Social Sciences, Arts & Humanities*, vol. 3, no. 04, p. 1, 2011.
- [53] S. Mannakkara and S. Wilkinson, "Re-conceptualising 'Building Back Better' to improve post-disaster recovery," *International Journal of Managing Projects in Business*, vol. 7, no. 3, pp. 327–341, May 2014, doi: [10.1108/IJMPB-10-2013-0054](https://doi.org/10.1108/IJMPB-10-2013-0054).
- [54] Palang Merah Indonesia, *Panduan Shelter Untuk Kemanusiaan*, 2nd Edition. Indonesia: Kementerian Sosial Republik Indonesia, 2019.
- [55] G. Cherry, "\$1.5M study to explore human-centered engineering instruction | University of Michigan News," Michigan News - University of Michigan. Accessed: Dec. 11, 2021. [Online]. Available: <https://news.umich.edu/1-5m-study-to-explore-human-centered-engineering-instruction/>
- [56] K. Liapi, "Transformable Structures: Design Features and Preliminary Investigation," *J. Archit. Eng.*, vol. 7, no. 1, pp. 13–17, Mar. 2001, doi: [10.1061/\(ASCE\)1076-0431\(2001\)7:1\(13\)](https://doi.org/10.1061/(ASCE)1076-0431(2001)7:1(13)).
- [57] E. Durmisevic, "Transformable building structures. Design for disassembly as a way to introduce sustainable engineering to building design & construction.," [s.n.], S.l., 2006.
- [58] N. De Temmerman, "Design and Analysis of Deployable Bar Structures for Mobile Architectural Applications," PHD Thesis, Dept. of Architectural Engineering Sciences, Vrije Universiteit Brussel, Brussel, Belgium, 2007.
- [59] N. De Temmerman and L. Alegria Mira, "Development of a sustainable construction system for temporary structures," presented at the SUSTAINABLE DEVELOPMENT AND PLANNING 2011, New Forest, UK, Jul. 2011, pp. 285–296. doi: [10.2495/SDP110251](https://doi.org/10.2495/SDP110251).
- [60] L. Alegria Mira, A. P. Thrall, and N. De Temmerman, "Deployable scissor arch for transitional shelters," *Automation in Construction*, vol. 43, pp. 123–131, Jul. 2014, doi: [10.1016/j.autcon.2014.03.014](https://doi.org/10.1016/j.autcon.2014.03.014).
- [61] N. De Temmerman, L. A. Mira, A. Vergauwen, H. Hendrickx, and W. P. De Wilde, "Transformable structures in architectural engineering," presented at the HPSM2012, New Forest, UK, Jun. 2012, pp. 457–468. doi: [10.2495/HPSM120411](https://doi.org/10.2495/HPSM120411).

- [62] S. Brancart, A. Paduart, A. Vergauwen, C. Vandervaeren, L. De Laet, and N. De Temmerman, “Transformable structures: Materialising design for change,” *Int. J. DNE*, vol. 12, no. 3, pp. 357–366, Sep. 2017, doi: 10.2495/DNE-V12-N3-357-366.
- [63] W. Galle, “MULTIPLE DESIGN APPROACHES TO TRANSFORMABLE BUILDING: CASE STUDIES,” in *Portugal SB13 Contribution of Sustainable Building To Meet EU 20-20 Targets*, Portugal: Multicomp, 2013, p. 11.
- [64] A. Koumar, T. Tysmans, and N. De Temmerman, “Component reuse for disaster sheltering: from deployable scissor structures to kit-of-parts structures,” presented at the MARAS 2014, Ostend, Belgium, Jun. 2014, pp. 71–82. doi: 10.2495/MAR140061.
- [65] E. Rivas-Adrover, *Deployable structures*. in Form + Technique. London: Laurence King Publishing, 2015.
- [66] D. L. Schodek and M. Bechthold, *Structures*, Seventh edition. Boston: Pearson, 2014.
- [67] A. Charleson, *Structure As Architecture*, 2nd Edition. New York: Routledge, Taylor & Francis Group, 2015.
- [68] A. Macdonald, *Structural design for architecture*. Oxford ; Boston: Architectural Press, 1997.
- [69] Global Shelter Cluster, “Shelter & Settlements Strategy 2018-2022: Narrative,” IFRC, UNHCR, 2018. Accessed: Aug. 19, 2021. [Online]. Available: <https://www.sheltercluster.org/sites/default/files/docs/gsc-strategy-narrative.pdf>
- [70] N. De Temmerman *et al.*, “Lightweight transformable structures: materialising the synergy between architectural and structural engineering,” presented at the MARAS 2014, Ostend, Belgium, Jun. 2014, pp. 1–20. doi: 10.2495/MAR140011.
- [71] “Transitional Shelter Guidelines,” p. 242.
- [72] H. Frick, *Konstruksi Arsitektur 7 ILMU KONSTRUKSI BANGUNAN BAMBU, Pengantar Konstruksi ... - Heinz Frick - Google Books*. in *Konstruksi Arsitektur*, no. 7. Semarang: Penerbit Kanisius, 2004.
- [73] A. Maurina and B. Prastyatama, “Bamboo Architectonic: Experimental Studies Using Bundled-Bamboo-Split (BBS),” *International Journal on Advanced Science, Engineering and Information Technology*, vol. 7, no. 3, p. 850, Jun. 2017, doi: 10.18517/ijaseit.7.3.2131.
- [74] J. J. A. Janssen, *Designing and building with bamboo*. in INBAR technical report, no. 20. 2000.
- [75] S. Kaminski, A. Lawrence, D. Trujillo, I. Feltham, and L. Lopez, “Structural Use Of Bamboo Part 3: Design Values,” *Structural Engineer*, vol. 94, pp. 42–45, 2016.
- [76] D. J. A. Trujillo, “AXIALLY LOADED CONNECTIONS IN GUADUA BAMBOO,” p. 8.
- [77] B. N. Sandaker, A. P. Eggen, and M. Cruvellier, *The structural basis of architecture*, Third edition. London ; New York: Routledge, Taylor & Francis Group, 2019.
- [78] B. Onouye and K. Kane, *Statics and Strength of Materials for Architecture and Building Construction*, Fourth Edition. Boston: Prentice Hall, 2012.
- [79] B. A. Israel, E. Eng, A. J. Schulz, and E. A. Parker, “Introduction to Methods For CBPR for Health,” in *METHODS FOR COMMUNITY-BASED PARTICIPATORY RESEARCH FOR HEALTH*, San Francisco, CA: John Wiley & Sons, Inc., 2012, pp. 3–38. Accessed: May 25, 2023. [Online]. Available: <https://ebookcentral.proquest.com/lib/umichigan/detail.action?pq-origsite=primo&docID=7103486>

- [80] V. Sánchez *et al.*, “CBPR Implementation Framework for Community-Academic Partnerships,” *Am J Community Psychol*, vol. 67, no. 3–4, pp. 284–296, Jun. 2021, doi: 10.1002/ajcp.12506.
- [81] A. Mosurska and J. D. Ford, “Unpacking Community Participation in Research: A Systematic Literature Review of Community-based and Participatory Research in Alaska,” *ARCTIC*, vol. 73, no. 3, pp. 347–367, Sep. 2020, doi: 10.14430/arctic71080.
- [82] L. N. Groat and D. Wang, *Architectural Research Methods*, 2nd ed. Hoboken, New Jersey: John Wiley & Sons, Inc., 2013.
- [83] J. Rendell, “Architectural research and disciplinarity,” *Arq*, vol. 8, no. 2, pp. 141–147, Jun. 2004, doi: 10.1017/S135913550400017X.
- [84] W. Mauser *et al.*, “Transdisciplinary global change research: the co-creation of knowledge for sustainability,” *Current Opinion in Environmental Sustainability*, vol. 5, no. 3–4, pp. 420–431, Sep. 2013, doi: 10.1016/j.cosust.2013.07.001.
- [85] C. Pohl *et al.*, “Researchers’ roles in knowledge co-production: experience from sustainability research in Kenya, Switzerland, Bolivia and Nepal,” *Sci. and Pub. Pol.*, vol. 37, no. 4, pp. 267–281, May 2010, doi: 10.3152/030234210X496628.
- [86] E. G. Guba and Y. S. Lincoln, “Competing Paradigm in Qualitative Research,” in *Handbook of qualitative research*, 2nd ed., N. K. Denzin and Y. S. Lincoln, Eds., in 1st Edition. , Thousand Oaks, Calif: Sage Publications, 1994.
- [87] Y. S. Lincoln and E. G. Guba, *The Constructivist Credo*. Abingdon, Oxon: Routledge, 2016.
- [88] B. Burnes, “The Origins of Lewin’s Three-Step Model of Change,” *The Journal of Applied Behavioral Science*, vol. 56, no. 1, pp. 32–59, Mar. 2020, doi: 10.1177/0021886319892685.
- [89] J. M. Chevalier and D. Buckles, *Participatory action research: theory and methods for engaged inquiry*, Second edition. Abingdon, Oxon ; New York: Routledge, Taylor & Francis Group, 2019.
- [90] K. Lewin, “Action Research and Minority Problems,” *Journal of Social Issues*, vol. 2, no. 4, pp. 34–46, Nov. 1946, doi: 10.1111/j.1540-4560.1946.tb02295.x.
- [91] E. G. Guba and Y. S. Lincoln, “Guidelines and Checklist for Constructivist (aka Fourth-Generation) Evaluation,” 1985.
- [92] N. Wallerstein and B. Duran, “The theoretical, historical, and practice roots of CBPR,” in *Community Based Participatory Research For Health*, 2nd ed., Jossey Bass, 2008, p. 480. Accessed: Oct. 25, 2021. [Online]. Available: <http://rgdoi.net/10.13140/RG.2.2.34282.72648>
- [93] S. R. Arnstein, “A Ladder Of Citizen Participation,” *Journal of the American Institute of Planners*, vol. 35, no. 4, pp. 216–224, Jul. 1969, doi: 10.1080/01944366908977225.
- [94] K. Collins and R. Ison, “Jumping off Arnstein’s ladder: social learning as a new policy paradigm for climate change adaptation,” *Env. Pol. Gov.*, vol. 19, no. 6, pp. 358–373, Nov. 2009, doi: 10.1002/eet.523.
- [95] H. Sanoff, “Multiple Views of Participatory Design,” *Focus*, vol. 8, no. 1, Apr. 2011, doi: 10.15368/focus.2011v8n1.1.
- [96] N. Cross, “Designerly ways of knowing,” *DESIGN STUDIES*, vol. 3, no. 4, p. 7, 1982.
- [97] R. Luck, “Dialogue in participatory design,” vol. 24, no. 6, p. 14, 2003.
- [98] T. McGinley, “An Architecture Framework for Open Building,” p. 8 p., 2015, doi: 10.3929/ETHZ-A-010577396.

- [99] A. Minton, "Byker Wall: Newcastle's noble failure of an estate," *The Guardian*, UK, May 21, 2015. [Online]. Available: <https://www.theguardian.com/cities/2015/may/21/byker-wall-newcastles-noble-failure-of-an-estate-a-history-of-cities-in-50-buildings-day-41>
- [100] J. Longfield, "Echoes of Erskine: reflections on the working life of a citizen architect in Byker," *Arq*, vol. 18, no. 3, pp. 218–233, Sep. 2014, doi: 10.1017/S1359135514000578.
- [101] N. Cross, Ed., *Design Participation - Proceedings of the Design Research Society Conference, 1971*. London: Design Research Society, 1972. [Online]. Available: <https://dl.designresearchsociety.org/cgi/viewcontent.cgi?article=1000&context=conference-volumes>
- [102] H. Sanoff, *Community Participation Methods in Design and Planning*, vol. 50. 2000. Accessed: Mar. 11, 2022. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S0169204600000633>
- [103] C. Boano and E. Kelling, "Towards an Architecture of Dissensus: Participatory Urbanism in South-East Asia," *FOOTPRINT\_Delft Architecture Theory Journal*, vol. Autumn 2013-The Participatory Turn in Urbanism, no. 13, p. 22, 2013, doi: <https://doi.org/10.7480/footprint.7.2.769>.
- [104] T. McGinley and K. Nakata, "A participatory design approach to the wicked problem of designing sustainable communities," 2012, doi: 10.13140/2.1.2552.7367.
- [105] M. L. Katoppo and I. Sudradjat, "Combining Participatory Action Research (PAR) and Design Thinking (DT) as an Alternative Research Method in Architecture," *Procedia - Social and Behavioral Sciences*, vol. 184, pp. 118–125, May 2015, doi: 10.1016/j.sbspro.2015.05.069.
- [106] A. D. Campbell, "Lay Designers: Grassroots Innovation for Appropriate Change," vol. 33, no. 1, p. 18, 2017.
- [107] I. S. Cho, "Fostering Community Bonding in High-Density Habitations," in *Future Urban Habitation*, 1st ed., O. Heckmann, Ed., Wiley, 2022, pp. 149–163. doi: 10.1002/9781119734895.ch7.
- [108] M. A. Andersen and M. B. Lyhne, "Co-creating Danish cohousing," *Arq*, vol. 26, no. 2, pp. 197–208, Jun. 2022, doi: 10.1017/S1359135522000355.
- [109] A. Heylighen and H. Neuckermans, "Design(ing) Knowledge in Architecture," presented at the Research and Architecture. EAAE-ARCC Conference, Paris: Architectural Research Centers Consortium (ARCC), Jul. 2000.
- [110] J. M. Thornberg and D. M. Saura, "Architecture in the Wild (Architectural Research in a Digital and Global World)," in *Proceedings of ARCC/EAAE 2010 International Conference on Architectural Research*, Washington, D.C.: Architectural Research Centers Consortium (ARCC), Jun. 2010, p. 9.
- [111] C. Garcia, D. Hermann, A. Bartels, P. Matamoros, L. Dick-Olson, and J. Guerra De Patino, "Development of Project Wings Home Visits, a Mental Health Intervention for Latino Families Using Community-Based Participatory Research," *Health Promotion Practice*, vol. 13, no. 6, pp. 755–762, Nov. 2012, doi: 10.1177/1524839911404224.
- [112] B. A. Israel, A. J. Schulz, E. A. Parker, and A. B. Becker, "REVIEW OF COMMUNITY-BASED RESEARCH: Assessing Partnership Approaches to Improve Public Health," *Annu. Rev. Public Health*, vol. 19, no. 1, pp. 173–202, May 1998, doi: 10.1146/annurev.publhealth.19.1.173.

- [113] N. B. Wallerstein and B. Duran, “Using Community-Based Participatory Research to Address Health Disparities,” *Health Promotion Practice*, vol. 7, no. 3, pp. 312–323, Jul. 2006, doi: 10.1177/1524839906289376.
- [114] L. Belone *et al.*, “Community-Based Participatory Research Conceptual Model: Community Partner Consultation and Face Validity,” *Qual Health Res*, vol. 26, no. 1, pp. 117–135, Jan. 2016, doi: 10.1177/1049732314557084.
- [115] H. Rosenberg, D. Karp, and D. Baldwin, “Expanding the dimensions of best practice in CBL,” *Partnerships: A Journal of Service-Learning and Civic Engagement*, vol. 7, no. 2, pp. 51–69, 2016.
- [116] E. Chaplin, “The Photo Diary as an Autoethnographic Method,” in *The SAGE Handbook of Visual Research Methods*, 1 Oliver’s Yard, 55 City Road, London EC1Y 1SP United Kingdom: SAGE Publications Ltd, 2011. Accessed: Apr. 19, 2023. [Online]. Available: <https://methods.sagepub.com/book/sage-hdbk-visual-research-methods>
- [117] H. Weinronk *et al.*, “New understandings of communities and ourselves: community-based participatory research with Alaska Native and Lower 48 youth,” *Educational Action Research*, vol. 26, no. 3, pp. 439–455, May 2018, doi: 10.1080/09650792.2017.1348958.
- [118] G. True, L. Davidson, R. Facundo, D. V. Meyer, S. Urbina, and S. S. Ono, “‘Institutions Don’t Hug People’: A Roadmap for Building Trust, Connectedness, and Purpose Through Photovoice Collaboration,” *Journal of Humanistic Psychology*, p. 002216781985334, Jun. 2019, doi: 10.1177/0022167819853344.
- [119] N. Wallerstein *et al.*, “Engage for Equity: A Long-Term Study of Community-Based Participatory Research and Community-Engaged Research Practices and Outcomes,” *Health Educ Behav*, vol. 47, no. 3, pp. 380–390, Jun. 2020, doi: 10.1177/1090198119897075.
- [120] D. Munk, “Jakarta’s eco future? River community goes green to fight eviction threat | Cities | The Guardian,” *The Guardian*, Nov. 24, 2016. Accessed: Dec. 05, 2021. [Online]. Available: <https://www.theguardian.com/cities/2016/nov/25/jakarta-kampung-tongkol-eco-future-river-community--green-to-fight-eviction-threat>
- [121] Z. Prihatini and I. A. Arbi, “Riwayat Kampung Susun Kunir: Pernah Digusur Ahok hingga Dibangun Kembali oleh Anies untuk Korban Gusuran Halaman all - Kompas.com,” *Kompas.Com*, Sep. 12, 2022. Accessed: Oct. 24, 2023. [Online]. Available: <https://megapolitan.kompas.com/read/2022/09/12/08203151/riwayat-kampung-susun-kunir-pernah-digusur-ahok-hingga-dibangun-kembali?page=all>
- [122] E. M. Sofjan, “Jakarta’s urban poor have found a new way to fight City Hall – and win | Cities | The Guardian,” *The Guardian*, Apr. 04, 2018. Accessed: Dec. 11, 2021. [Online]. Available: <https://www.theguardian.com/cities/2018/apr/04/jakartas-urban-poor-have-found-a-new-way-to-fight-city-hall-and-win>
- [123] R. Hidayat, “Memotong rumah dan tinggal seataap dengan 20 orang agar tidak digusur - BBC News Indonesia,” *BBC Nes Indonesia*, Dec. 11, 2016. Accessed: Dec. 05, 2021. [Online]. Available: <https://www.bbc.com/indonesia/majalah-38279822>
- [124] Union Internationale des Architectes, *Guidelines for the UIA Accord on Recommended International Standards of Professionalism in Architectural Practice Policy on Ethics and Conduct*, 2011, 2010, 1999, 1998, 1997 2017. Accessed: Sep. 02, 2021. [Online]. Available: <https://www.uia-architectes.org/webApi/en/working-bodies/pro>
- [125] Union Internationale des Architectes, *UIA Accord on Recommended International Standards of Professionalism in Architectural Practice*, 2014, 2002, 1999 2017. Accessed:



- Sep. 02, 2021. [Online]. Available: <https://www.uia-architectes.org/webApi/en/working-bodies/pro>
- [126] K. M. Staller, “Epistemological boot camp: The politics of science and what every qualitative researcher needs to know to survive in the academy,” *Qualitative Social Work*, vol. 12, no. 4, pp. 395–413, Jul. 2013, doi: 10.1177/1473325012450483.
- [127] S. N. Hesse-Biber and P. Leavy, Eds., *Approaches to Qualitative Research - A Reader on Theory and Practice*. New York: Oxford University Press, 2004.
- [128] R. E. Stake, “Case Studies,” in *Handbook of Qualitative Research*, 2nd ed., N. K. Denzin and Y. S. Lincoln, Eds., SAGE Publications, Inc., 2000, pp. 435–454. Accessed: Apr. 28, 2023. [Online]. Available: <https://www.worldcat.org/title/handbook-of-qualitative-research/oclc/43384732>
- [129] W. A. Babchuk and E. Boswell, “Grounded theory,” in *International Encyclopedia of Education(Fourth Edition)*, Elsevier, 2023, pp. 107–122. doi: 10.1016/B978-0-12-818630-5.11013-9.
- [130] K. Charmaz, “Constructionism and the Grounded Theory Method,” in *Handbook of Constructionist Research*, J. A. Holstein and J. F. Gubrium, Eds., New York: The Guilford Press, 2008.
- [131] K. Charmaz, “The Power of Constructivist Grounded Theory for Critical Inquiry,” *Qualitative Inquiry*, vol. 23, no. 1, pp. 34–45, Jan. 2017, doi: 10.1177/1077800416657105.
- [132] B. A. Israel *et al.*, “Critical Issues In Developing And Following CBPR Principles,” in *Community-Based Participatory Research for Health: Advancing Social and*, Third Edition., N. Wallerstein, B. Duran, J. G. Oetzel, and M. Minkler, Eds., Jossey-Bass, 2018. [Online]. Available: <https://books.google.com/books?id=Gkk3DwAAQBAJ&newbks=0&printsec=frontcover&pg=PA13&dq=Wallerstein+N,+Duran+B,+Oetzel+J,+Minkler+M.+Community-based+participatory+research+for+health&hl=en>
- [133] “Kampung Tongkol residents propose to guard heritage, river - Tue, May 24 2016 - The Jakarta Post.” Accessed: Apr. 19, 2021. [Online]. Available: <https://www.thejakartapost.com/news/2016/05/24/kampung-tongkol-residents-propose-guard-heritage-river.html>
- [134] archyw, “Anies Rebuilds the Kunir Village that Ahok Evicted - Archyworldys,” Archyworldys. Accessed: Dec. 06, 2021. [Online]. Available: <https://www.archyworldys.com/anies-rebuilds-the-kunir-village-that-ahok-evicted/>
- [135] E. M. Sofjan, “Jakarta’s urban poor have found a new way to fight City Hall – and win | Cities | The Guardian.” Accessed: Mar. 30, 2021. [Online]. Available: <https://www.theguardian.com/cities/2018/apr/04/jakartas-urban-poor-have-found-a-new-way-to-fight-city-hall-and-win>
- [136] “Jakarta’s eco future? River community goes green to fight eviction threat | Cities | The Guardian.” Accessed: Mar. 30, 2021. [Online]. Available: <https://www.theguardian.com/cities/2016/nov/25/jakarta-kampung-tongkol-eco-future-river-community--green-to-fight- eviction-threat>
- [137] United Nations, “Sendai Framework for Disaster Risk Reduction 2015 - 2030,” United Nations Disaster Risk Reduction, Framework, 2015. [Online]. Available: [https://www.unisdr.org/files/43291\\_sendaiframeworkfordrren.pdf](https://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf)

- [138] “Rumah Contoh di Kampung Tongkol, Jakarta Utara – meniti batas.” Accessed: Apr. 19, 2021. [Online]. Available: <http://blog.asf.or.id/2016/07/rumah-contoh-di-kampung-tongkol-jakarta-utara/>
- [139] Z. M. Ramadhan, F. A. Sidebang, and E. P. Putra, “Sudah Tiga Kampung Korban Gusuran Ahok yang Dibangun Anies | Republika Online,” *Republika*, Oct. 15, 2021. Accessed: Oct. 24, 2023. [Online]. Available: <https://news.republika.co.id/berita/r10ioo484/sudah-tiga-kampung-korban-gusuran-ahok-yang-dibangun-anies>
- [140] K. Charmaz, *Constructing Grounded Theory*, Second Edition. in *Introducing Qualitative Methods Series*. London ; Thousand Oaks, California ; New Delhi ; Singapore: Sage Publications, 2014.
- [141] K. Charmaz and R. Thornberg, “The pursuit of quality in grounded theory,” *Qualitative Research in Psychology*, vol. 18, no. 3, pp. 305–327, Jul. 2021, doi: 10.1080/14780887.2020.1780357.
- [142] K. Charmaz, “Grounded Theory,” in *Approaches to Qualitative Research A Reader on Theory And Practice*, S. N. Hesse-Biber and P. Leavy, Eds., Oxford University Press, 2004, pp. 496–521.
- [143] K. Charmaz, “Grounded Theory as an Emergent Method,” in *Handbook of Emergent Methods*, S. N. Hesse-Biber and P. Leavy, Eds., New York: The Guilford Press, 2008, pp. 155–172.
- [144] S. B. Merriam and E. J. Tisdell, *Qualitative Research: A Guide to Design and Implementation*, 4th Edition. John Wiley & Sons, Inc., 2015. Accessed: Apr. 18, 2023. [Online]. Available: <https://ebookcentral.proquest.com/lib/umichigan/detail.action?docID=2089475>
- [145] J. M. Morse *et al.*, Eds., *Developing grounded theory: the second generation revisited*, Second Edition. in *Developing qualitative inquiry*. New York: Routledge, Taylor & Francis Group, 2021.
- [146] M. Misawa, “Queer Race Pedagogy for Educators in Higher Education: Dealing with Power Dynamics and Positionality of LGBTQ Students of Color,” *International Journal of Critical Pedagogy*, vol. 3, no. 1, p. 10, 2010.
- [147] F. Khatun and S. Y. Saadat, “Focus Group Discussion (FGD),” in *Youth Employment in Bangladesh*, Singapore: Springer Singapore, 2020, pp. 77–88. doi: 10.1007/978-981-15-1750-1\_6.
- [148] Union Internationale des Architectes, *Recommended Guideline For The Accord Policy On The Scope Of Practice*, 2009. Accessed: Sep. 02, 2021. [Online]. Available: <https://www.uia-architectes.org/webApi/en/working-bodies/pro>
- [149] Badan Keprofesian Ikatan Arsitek Indonesia, *Pedoman Hubungan Kerja Antara Arsitek Dengan Pengguna Jasa*, Jakarta, Indonesia., 1991, 1986, 1982 2007.
- [150] Badan Keprofesian Ikatan Arsitek Indonesia, *Anggaran Dasar-Anggaran Rumah Tangga IAI*, Surabaya., 2018.
- [151] A. Irfansyah, “Si Tua Major Massie yang Menyimpan Sejarah Kampung Tongkol,” Project Multatuli. [Online]. Available: <https://projectmultatuli.org/si-tua-major-massie-yang-menyimpan-sejarah-kampung-tongkol/>
- [152] E. Mariani and M. A. Fahriza, “Perkara Menghidupkan Lagi Sejarah Kampung Kota,” Project Multatuli. Accessed: Nov. 09, 2023. [Online]. Available: <https://projectmultatuli.org/perkara-menghidupkan-lagi-sejarah-kampung-kota/>

- [153] D. O. Santi, “Menggusur Adalah Taktik Elite, Bukan Jawaban: Berbagi Solusi Banjir Dengan Warga Kota,” Project Multatuli.
- [154] ANTARA, “Ahok Ready to be Acting Governor - En.tempo.co,” *Tempo*, May 31, 2014. [Online]. Available: <https://en.tempo.co/read/581396/ahok-ready-to-be-acting-governor>
- [155] BBC, “Jakarta governor Ahok found guilty of blasphemy - BBC News,” *BBC News Indonesia*, May 09, 2017. [Online]. Available: <https://www.bbc.com/news/world-asia-39853280>
- [156] L. Huda, “Ahok Sent to 2 Years in Prison for Blasphemy - En.tempo.co,” *Tempo*, May 09, 2017. [Online]. Available: <https://en.tempo.co/read/873617/ahok-sent-to-2-years-in-prison-for-blasphemy>
- [157] K. Lamb, “Jakarta governor Ahok sentenced to two years in prison for blasphemy | Indonesia | The Guardian,” *The Guardian*, May 09, 2017. [Online]. Available: <https://www.theguardian.com/world/2017/may/09/jakarta-governor-ahok-found-guilty-of-blasphemy-jailed-for-two-years>
- [158] A. B. Da Costa and F. Jensen, “Indonesian Muslim candidate wins Jakarta election - pollsters | Reuters,” *Reuters*, Apr. 19, 2017. Accessed: Mar. 11, 2024. [Online]. Available: <https://web.archive.org/web/20170419220742/http://www.reuters.com/article/indonesia-election-int-idUSKBN17K2I2>
- [159] The Jakarta Post, “Supporters greet new Jakarta leaders at Sunda Kelapa Mosque - City - The Jakarta Post,” *The Jakarta Post*, Oct. 16, 2017. [Online]. Available: <https://www.thejakartapost.com/news/2017/10/16/supporters-greet-new-jakarta-leaders-at-sunda-kelapa-mosque.html>
- [160] People’s Representative Council, *Undang-Undang Republik Indonesia Nomor 23 Tahun 2014 Tentang Pemerintah Daerah (Law No. 23 of 2014)*. 2014. [Online]. Available: <http://dpr.go.id/dokjdi/document/uu/1605.pdf>
- [161] Union Internationale des Architectes, *Recommended Guidelines for the UIA Accord On Recommended International Standards of Professionalism in Architectural Practice Policy on Demonstration of Professional Knowledge and Ability*, 1998 1999. Accessed: Sep. 02, 2021. [Online]. Available: <https://www.uia-architectes.org/webApi/en/working-bodies/pro>
- [162] A. Aksamija, *Research Methods for the Architectural Profession*. New York: Routledge, Taylor & Francis Group, 2021. [Online]. Available: <https://web.p.ebscohost.com/ehost/ebookviewer/ebook?sid=03c7d21c-b3cb-4b02-9f29-4d29a65a329d%40redis&vid=0&format=EB>
- [163] K. Frampton, “Introduction: The Work of Architecture in The Age of Commodification,” *Commodification and Spectacle in Architecture*, Sep. 2005.
- [164] K. E. Kelley, “Architecture for Sale(s): An Unabashed Apologia,” *Commodification and Spectacle in Architecture*, p. 141, Sep. 2005.
- [165] A. C. for H. R. ACHR, *Design By / With / For People - Community Architects in Asia 2010*, CAN Publication., vol. 1, 1 vols. Bangkok, Thailand: Asian Coalition for Housing Rights (ACHR), 2010. Accessed: Mar. 25, 2021. [Online]. Available: [http://www.achr.net/upload/downloads/file\\_13122013124301.pdf](http://www.achr.net/upload/downloads/file_13122013124301.pdf)
- [166] A. Valladares, “The Community Architect Program: Implementing participation-in-design to improve housing conditions in Cuba,” *Habitat International*, vol. 38, pp. 18–24, Apr. 2013, doi: 10.1016/j.habitatint.2012.09.004.
- [167] “ASF-ID – Architecture Sans Frontières Indonesia.” Accessed: Apr. 07, 2021. [Online]. Available: <http://asf.or.id/>

- [168] M. R. Simon, "What is Building Approval (PBG) in Indonesia? 3-Step Guide!," *Own Property Abroad*. Accessed: Mar. 22, 2024. [Online]. Available: <https://ownpropertyabroad.com/indonesia/building-approval-pbg/>
- [169] G. Budiartie, "Certification of Occupancy: Who Does It Serve?," Jakarta Property Insitute. [Online]. Available: <https://jpi.or.id/certification-of%20occupancy.html>
- [170] N. V. Mead, "The World's Worst Traffic: Can Jakarta Find an Alternative to The Car?," *The Guardian*, Jakarta, Indonesia, Nov. 23, 2016. Accessed: Mar. 22, 2024. [Online]. Available: <https://www.theguardian.com/cities/2016/nov/23/world-worst-traffic-jakarta-alternative>
- [171] N. A. Loasana, "Jakarta's global traffic ranking improves, but congestion worsens -," *Jakarta Post - Asia News Network*, Jakarta, Indonesia, Jan. 16, 2024. Accessed: Mar. 22, 2024. [Online]. Available: <https://asianews.network/jakartas-global-traffic-ranking-improves-but-congestion-worsens/>
- [172] N. N. Fauziyah, "Jakarta Traffic Jam Worsens, in Addition to Increasing Air Pollution," *Tempo*, Jakarta, Indonesia, Mar. 22, 2024. Accessed: Mar. 22, 2024. [Online]. Available: <https://en.tempo.co/read/1759121/jakarta-traffic-jam-worsens-in-addition-to-increasing-air-pollution>
- [173] N. Isnaeni, "6 Sejarah Banjir Terbesar Jakarta - Page 7 - News Liputan6.com," *Liputan 6*, Jakarta, Indonesia, Feb. 11, 2015. [Online]. Available: <https://www.liputan6.com/news/read/2174552/6-sejarah-banjir-terbesar-jakarta?page=7>
- [174] A. Dwi, "Ini 10 Banjir Terparah di Jakarta Sepanjang Sejarah," *Tempo*, Jakarta, Indonesia, Oct. 18, 2022. [Online]. Available: <https://metro.tempo.co/read/1646650/ini-10-banjir-terparah-di-jakarta-sepanjang-sejarah>
- [175] P. H. Untari and A. D. Tolok, "Kaleidoskop 2022: Deretan Banjir Terbesar di Jakarta," *Bisnis*, Jakarta, Dec. 20, 2022. [Online]. Available: <https://jakarta.bisnis.com/read/20221220/77/1610473/kaleidoskop-2022-deretan-banjir-terbesar-di-jakarta>
- [176] M. Taufiq, "Pemindahan Ibu Kota dan Potensi Konektivitas Pemerataan Ekonomi," *JVI*, vol. 8, no. 1, Jan. 2020, doi: 10.7454/jvi.v8i1.156.
- [177] C. Alexander, "Systems Generating Systems," *Architectural Design*, vol. 38, 1968.
- [178] P. Freire, *Pedagogy of the oppressed*, 30th anniversary ed. New York: Continuum, 2000.
- [179] S. E. Collins *et al.*, "Community-based participatory research (CBPR): Towards equitable involvement of community in psychology research.," *American Psychologist*, vol. 73, no. 7, pp. 884–898, Oct. 2018, doi: 10.1037/amp0000167.
- [180] Dewan Kehormatan Arsitek - Ikatan Arsitek Indonesia and Badan Keprofesian Ikatan Arsitek Indonesia, *Kode Etik Arsitek Dan Kaidah Tata Laku Profesi Arsitek*, 1992, 1991, 1987 2007.
- [181] Union Internationale des Architectes, *Recommended Guideline for the Accord Policy on Forms of Practice*, 2005. Accessed: Sep. 02, 2021. [Online]. Available: <https://www.uia-architectes.org/webApi/en/working-bodies/pro>
- [182] Union Internationale des Architectes, *Guideline for Procurement of Architectural Services*, 2016, 2009, 2008 2017. Accessed: Sep. 02, 2021. [Online]. Available: <https://www.uia-architectes.org/webApi/en/working-bodies/pro>
- [183] J. Peng, D. Strijker, and Q. Wu, "Place Identity: How Far Have We Come in Exploring Its Meanings?," *Front. Psychol.*, vol. 11, p. 294, Mar. 2020, doi: 10.3389/fpsyg.2020.00294.

- [184] sr, "Ahok: Harusnya Mereka Terima Kasih. Kalau Tak Digusur, Ahmad Dhani Tak Bisa Upacara," *Demokrasi News*, Jakarta, Indonesia, Aug. 19, 2016. Accessed: Mar. 26, 2024. [Online]. Available: <https://www.demokrasi.co.id/2016/08/ahok-harusnya-mereka-terima-kasih-kalau.html>
- [185] M. van Huystee, "The Lost Gateway of Jakarta - On The PORTICO of the VOC Castle of Batavia in 17th Century Dutch East India," Western Australia Maritime Museum - Department Maritime Archaeology, Australia, 92, 1994. [Online]. Available: [https://museum.wa.gov.au/maritime-archaeology-db/sites/default/files/no.\\_092\\_batavia\\_portico.pdf](https://museum.wa.gov.au/maritime-archaeology-db/sites/default/files/no._092_batavia_portico.pdf)
- [186] C. Attahiyyat, Jakarta, Indonesia. *Waterpoort Kastil Batavia Ditemukan*, (Oct. 02, 2022). [Online]. Available: <https://www.youtube.com/watch?v=FKGb6wxrhbk>
- [187] T. Buffel, L. De Donder, C. Phillipson, N. De Witte, S. Dury, and D. Verté, "Place Attachment Among Older Adults Living in Four Communities in Flanders, Belgium," *Housing Studies*, vol. 29, no. 6, pp. 800–822, Aug. 2014, doi: 10.1080/02673037.2014.898741.
- [188] R. Straubhaar, "The stark reality of the 'White Saviour' complex and the need for critical consciousness: a document analysis of the early journals of a Freirean educator," *Compare: A Journal of Comparative and International Education*, vol. 45, no. 3, pp. 381–400, May 2015, doi: 10.1080/03057925.2013.876306.
- [189] M. Minkler, A. P. Garcia, V. Rubin, and N. Wallerstein, "Community-Based Participatory Research: A Strategy for Building Healthy Communities and Promoting Health through Policy Change," PolycyLink, 2012. [Online]. Available: <https://www.policylink.org/resources-tools/building-healthy-communities-and-promoting-health-through-policy-change>
- [190] S. Swartz and A. Nyamnjuh, "Research as freedom: Using a continuum of interactive, participatory and emancipatory methods for addressing youth marginality," *HTS Teologiese Studies / Theological Studies*, vol. 74, no. 3, Oct. 2018, doi: 10.4102/hts.v74i3.5063.
- [191] P. Guthrie, *The architect's portable handbook: first-step rules of thumb for building design*. New York: McGraw-Hill, 2003. Accessed: Sep. 09, 2021. [Online]. Available: <http://site.ebrary.com/id/10153020>
- [192] S. Unwin, *Analyzing Architecture*. Routledge, 1997.
- [193] J. Anderson, *Architectural design*. in Basics architecture, no. 3. Lausanne: AVA Academia, 2011.
- [194] Y. B. Mangunwijaya, *Wastu Citra*. Jakarta, Indonesia: Gramedia Pustaka Ilmu, 2013.
- [195] N. Auemanekul, "The Continuum from Action Research to Community Based Participation Research," *Thai Journal of Public Health*, vol. 40, no. 1, pp. 86–100, 2010.
- [196] M. B. Dodig and L. N. Groat, *The Routledge Companion to Games in Architecture and Urban Planning: Tools for Design, Teaching, and Research*, 1st ed. New York: Routledge, 2020.: Routledge, 2019. doi: 10.4324/9780429441325.
- [197] K. Hergenrather, "Photovoice as Community-Based Participatory Research: A Qualitative Review," *ajhb*, vol. 33, no. 6, 2009, doi: 10.5993/AJHB.33.6.6.
- [198] M.-A. Sanon, R. A. Evans-Agnew, and D. M. Boutain, "An exploration of social justice intent in photovoice research studies from 2008 to 2013," *Nurs Inq*, vol. 21, no. 3, pp. 212–226, Sep. 2014, doi: 10.1111/nin.12064.
- [199] R. W. Strack, C. Magill, and K. McDonagh, "Engaging Youth through Photovoice," *Health Promotion Practice*, vol. 5, no. 1, pp. 49–58, Jan. 2004, doi: 10.1177/1524839903258015.

- [200] M. Kuo, C. Chen, F. Wu, C. Chen, Z. Yin, and C. Wang, “Use of photo diary and focus group to explore needs for digital disease management program among community older adults with chronic disease,” *Health Social Care Comm*, vol. 30, no. 3, pp. 926–936, May 2022, doi: 10.1111/hsc.13241.
- [201] “Research tools: focus group discussion | Overseas Development Institute (ODI).” Accessed: Jun. 21, 2020. [Online]. Available: <https://www.odi.org/publications/5695-research-tools-focus-group-discussion>
- [202] American Institute Of Architects, *The Architecture Student’s Handbook of Professional Practice*, 1st ed. Wiley, 2017. doi: 10.1002/9781119304364.
- [203] M. Parker *et al.*, “Engage for Equity: Development of Community-Based Participatory Research Tools,” *Health Educ Behav*, vol. 47, no. 3, pp. 359–371, Jun. 2020, doi: 10.1177/1090198120921188.