KAMPUNG RESILIENCE:

Mitigating threats of eviction in Kampung Muara Baru

by

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A thesis

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis including any required final revisions as accepted by my examiners

I understand that my thesis may be made electronically available to the public.

ABSTRACT

The following research investigates the National Capital Integrated Coastal Development (NCICD) master plan within the context of Muara Baru, Jakarta, as a neo-colonial practice that threatens to displace marginalized urban communities, commonly referred to as *kampungs*. In response, this thesis proposes small-scale, community-engaged architectural interventions to drive economic and social growth within these marginalized communities, subsequently allowing residents to counter urban displacement. The Jakartan *kampung* is a vulnerable housing type that has been labelled "overcrowded, unsanitary, and lacking proper infrastructure" by mainstream political and social narratives. The *kampung's* stigma as a primitive settlement, one that has historically been excluded from colonial city planning initiatives, renders it a prime target for urban renewal, therefore jeopardizing the livelihoods of its marginalized residents by putting them at risk of mass forced evictions.

The NCICD master plan sets a clear neocolonial precedent. The development is an engineered urban island along the Bay of Jakarta, conceptualized in collaboration with the Dutch government, with a completion scheduled for 2050. The plan attempts to address issues of flooding and land subsidence by proposing large-scale urban land reclamation and the development of a giant seawall along the northern bay. However, the design solutions proposed in the NCICD master plan fail to respond to the core challenges of rapid urbanization and unregulated groundwater extraction that greatly contribute to the degradation of land and quality of life for marginalized residents.

To counter the threat of eviction, this research draws on existing design strategies to propose a prospective design framework to be implemented in Kampung Muara Baru. The proposal consists of a series of small-scale architectural interventions acting as a catalyst for community development and enhancement. This design research method involves: i) documenting and observing the existing site conditions and residents' livelihoods; ii) documenting and observing a local precedent site, Kampung Tongkol, to understand how its residents were allowed to remain in place after the threat of eviction; iii) proposing some of Kampung Tongkol's design strategies among others on the chosen research site; and iv) depicting these design alternatives at the scale of the single house, the community (cluster of houses), and the larger research site.

These retrofits are proposed as a more considered solution to the *kampung's* modern problems as they are intended to inform an argument for an improvement plan that, in contradiction to the goals of the NCICD, creates better communities for the people who currently inhabit them. This proposed solution will allow residents to remain in place while also cleaning, greening, and upgrading neighborhood fronts and structures, accomplishing the political goals and requirements of city planning policies without adding to a cycle of population displacement and underserving *kampung* communities.

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This thesis is dedicated to the residents of Kampung Muara Baru

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PART_0

0.1 Introduction

PREFACE

Kampung: An urban Village

Displacement: the forced relocation of people from their homes

Urban Renewal: the redevelopment of areas within a city, particularly the clearance of marginalized neighbourhoods

The View

After months of waiting for the Covid-19 pandemic to stabilize, Indonesia finally re-opened its borders for international travel in May 2022. Coordinating a flight ticket and accommodation moments after the travel restrictions were lifted remains among the most stressful tasks I've undertaken over the course of this thesis. I managed to find a reasonably priced hotel room located in the city center, with good pedestrian access to the various amenities I would require during my research. After a 26-hour journey I arrived at the hotel with my travel companion, my aunt, and checked us into our room. I opened the curtains to take in my new surroundings and—to my surprise—the view I was greeted with was dramatically different from the front of the hotel (Fig. 0.1 and Fig 0.2). This view revealed the rear perimeter of the hotel: a 20 m wide canal adjacent to the perimeter polluted with waste and garbage. On the other side of this canal was a row of small settlements that encroached the waterway. Beyond this, a road separated these settlements from a series of mid-rise developments gradually transitioning into a sea of urban high-rise towers. Looking out at this view served as a constant reminder of the startling socio-economic disparities that exist within Jakarta's urbanism. This made me question the interchangeable use of the word "kampung" and "slum", particularly in politically charged narratives. Did they mean the same thing? What were the differences between these two urban typologies?

The Stigma: *Kampung* vs. Slum

In the early days of my thesis research, my understanding of the *kampung* was in line with the original translation of the word—an urban village. These urban villages are characterized by a cluster of single or double storey settlements with self-sustaining ecosystems.¹ The *kampung* provides its inhabitants with a sense of security as it offers spaces to live, work, trade, and grow as a community. More importantly, the *kampung* can create unique opportunities to accommodate residents' precarious livelihoods. *Kampungs* contain a complex socio-economic and cultural framework in the form of communal housing integrated within Jakarta's urban fabric (Fig 0.3). This is one of many reasons why the *kampung* has proven to be an exceptionally resilient and flexible housing-type chosen by many urban marginalized groups in Jakarta.

The *kampung* first emerged over four hundred years ago as Jakarta's indigenous people developed "another commons." These "commons" refer to a gathering space for living, working, and community building for people of lower income statuses as they were excluded from Dutch city planning practices. Historic maps and images have recorded the indigenous people's alienation from the city centre, and having survived years of colonial governance, the kampung typology offered native residents an alternate accommodation from the city's dramatic plans of modernization. While city planning officials continued to neglect the *kampung*, deeming it as an obstruction in the city's path to modernization, native residents strived for the kampung to be recognized as an accepted and integrated form of living. Regardless of the kampungs' independent social networks and affordability to the community they served, over time they have been categorized as a space synonymous with pollution, disorganized infrastructure, and socio-economic degradation. ² This negative perspective on the *kampung* formed in the early 1600s, with the Dutch colonization of Jakarta, and has evolved dramatically over the last four centuries, making its way into modern, post-colonial city planning policies.

¹ Silver, Christopher. (2008). "Chapter 1: Understanding Urbanization and the Megacity in Southeast Asia." In Planning the Megacity: Jakarta in the Twentieth Century. New York: Routledge, 18-35.

² Tunas, Devisari, and Andrea Peresthu. (2010). "The self-help housing in Indonesia: The only option for the poor?." Habitat International 34.3: 315-322.

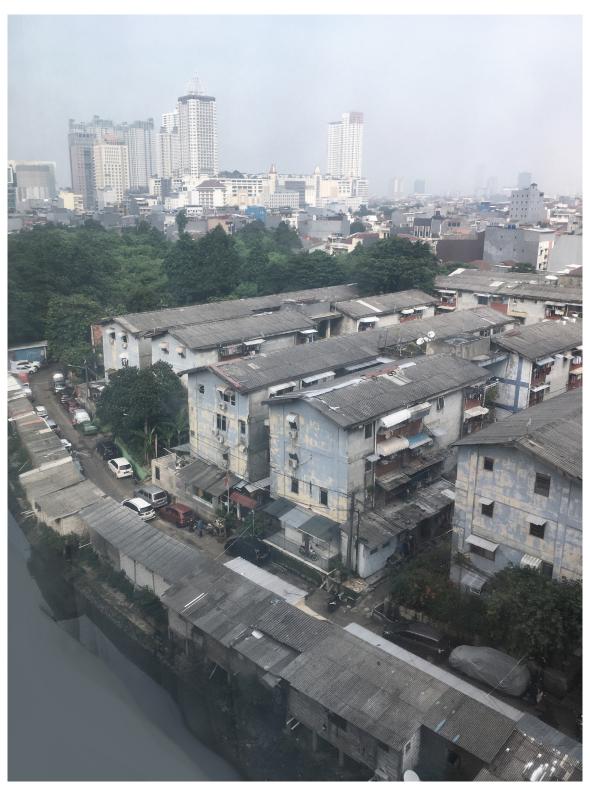


Fig. 0.1 The back view from the hotel room Image by author

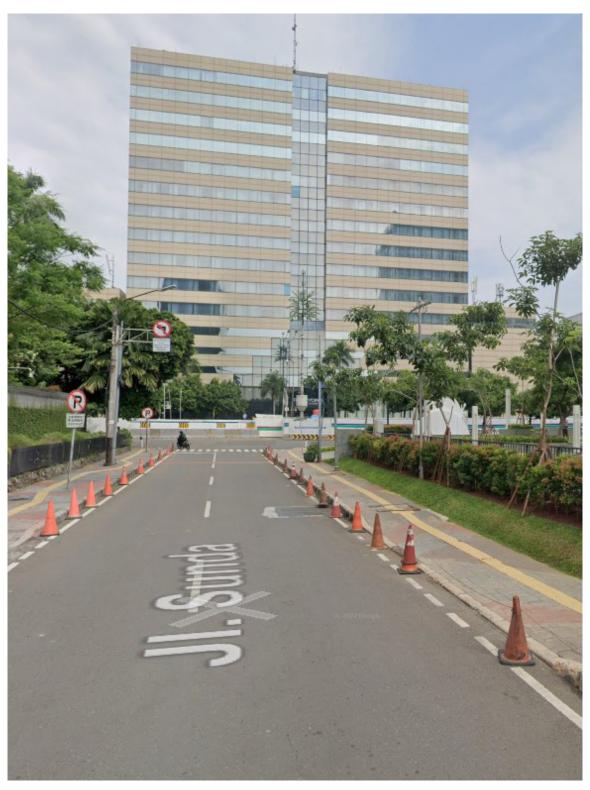


Fig. 0.2 The front view of the hotel Source: Google Maps

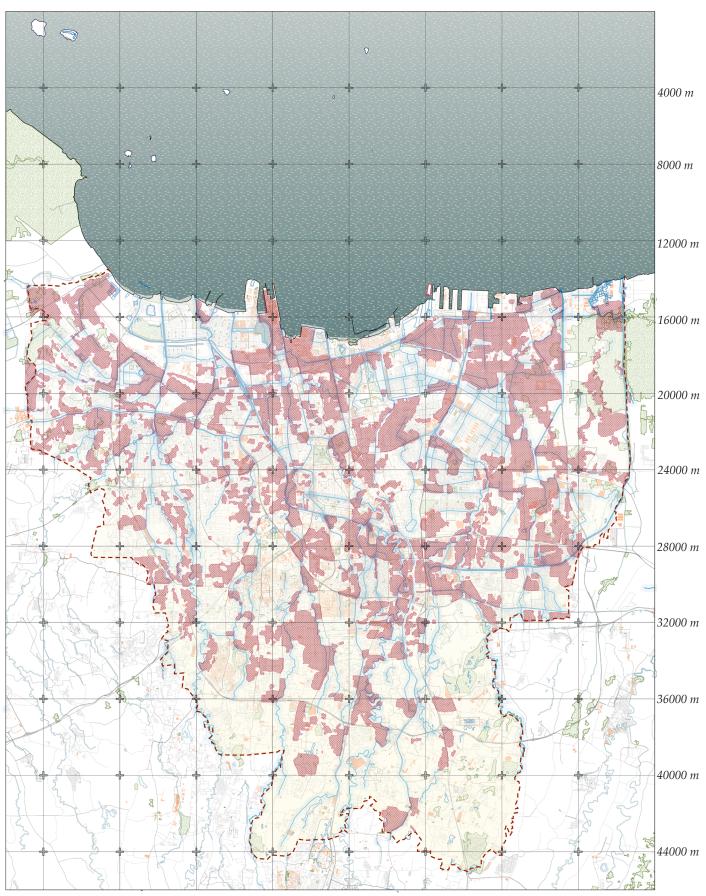


Fig. 0.3 Site Plan of Jakarta showing existing kampung neighborhoods
Drawing by author

Through the lens of colonial city planning policies, the *kampung* gradually evolved from a shelter for Jakarta's urban poor into an antithesis of modernity. In the economic boom following the 1945 Independence of Jakarta, government officials and policy makers first targeted land occupied by *kampung* dwellers for urban renewal. In order to justify *kampung* demolitions and forced resident relocation from these sites, official policy changes removed the word "*kampung*" and gradually introduced the term "slum". Political rhetoric, economic turmoil, and social divisions over the last four centuries have seen the term "*kampung*" become synonymous with— if not entirely replaced by—the term "slum".

As the *kampung* faced political relegation as a slum, the government, and by association police forces and military personnel, implemented violent methods of "slum clearance" or "*kampung* evictions" in its quest to acquire developable land. Forced *kampung* evictions have led residents to resist in the form of protests, alternative design solutions, and policy changes. While their perseverance in retaining their right to the land through collective demonstration has captured the interest of the wider public, these residents are still at high risk of losing their land and homes acquired over generations.

My thesis research attempts to dissociate the words *kampung* and slum by proposing design solutions to counter the *kampung's* stigma as a space of disorganized infrastructure and unsanitary conditions. The thesis proposal achieves this without the threat of eliminating the typology thereby allowing residents to remain in place. Through this design intervention, the *kampung* is reinstated as a space of community-building, dignity and resilience for Jakarta's urban poor.



INTRODUCTION

While the word colonialism might seem like a term of the past, its devastating effects linger in many nations today. According to MacKinnon, Stevens, and Campbell's *An Introduction to Global Studies*, "[...] the impacts of colonialism were similar, regardless of the specific colonizer: disease; destruction of indigenous social, political, and economic structures; repression; exploitation; land displacement; and land degradation." Colonialism was skewed against indigenous people as it created the divisions that exist between social and ethnic classes, formed an unequal distribution of natural resources, destroyed indigenous forested land, and violated human rights through forced displacement, all in the name of modernization. This hierarchical matrix imposed by colonizers sprung a severe lack of cultural growth and diversity among native populations during the colonial era.

This phenomenon rendered many presently independent nations unable to navigate the post-colonialist era adequately and strategically without foreign influence. ⁴ Campbell et al. render this circumstance as neo-colonialism, which is defined as "[...] the involvement of more powerful states in the domestic affairs of less powerful ones." ⁵ Contrary to the obvious effects of colonialism, neo-colonialism is veiled with "less-drastic" forms of modernization such as urban renewal projects, free-trade agreements, landscape beautification, etc. The introduction and implementation of such actions in developing nations by former colonial forces suggest the materializing effects of neo-colonialism. The areas of interest within this thesis research lie in the repercussions of colonialism and neo-colonialism including the creation of marginalized communities and their subsequent forced displacement under the guise of urban renewal projects.

Forced evictions have detrimental and cascading effects on evictees' welfares and livelihoods. An eviction, and its resultant displacement of people, can prove threatening not only to individual residents, but to entire neighbourhoods and communities. This can cause extreme pressure on the social, cultural, and environmental networks the residents have built over many years.

³ Campbell, P. J., A. MacKinnon, and C. R. Stevens. (2010). "An introduction to global studies" United Kingdom: Wiley-Blackwell.

⁴ Campbell, P. J., A. MacKinnon, and C. R. Stevens. (2010). "An introduction to global studies" United Kingdom: Wiley-Blackwell.

⁵ Campbell, P. J., A. MacKinnon, and C. R. Stevens. (2010). "An introduction to global studies" United Kingdom: Wiley-Blackwell.

Forced evictions are typically carried out to establish a political and social hierarchy under neo-liberal actions of gentrification, urban renewal projects, or landscape beautification processes. Forcefully displacing individuals calls into question the processes that governments and other political agencies misrepresent to be of mutual advantage to the evicted residents as well as themselves. The phenomenon of neo-colonialism is further examined by researching forced evictions from *kampungs*, a marginalized housing type found in the city of Jakarta, Indonesia.

The *kampung* has historically been considered an antithesis to modernity, thereby forming its own socio-political standard of urban living. However, in recent years, the *kampung* has been targeted as a slum in matters of political discourse. This contemporary labelling of an impoverished neighbourhood as a slum was intensified through the "City Without Slums" initiative by the World Bank and UN-Habitat in 1999. ⁶ This initiative would see many developing nations eradicate slums across their cities in the quest to achieve modernism. While some cities chose a participatory approach towards reclaiming slum lands—including upgrading existing buildings and responsibly relocating some residents—others took a less democratic planning approach, leading to the displacement of thousands of residents within a given city. ⁷

Jakarta's last major urban boom occurred in the late twentieth century and saw the gradual clearance of an urban fabric that was dominated by informal settlements just a few years prior in 1980.8 Through this urban renewal, Jakarta saw a mass clearance of one of its oldest urban typologies, the *kampung*. The *kampung* settlement's disappearance was largely led by government induced neoliberal practices. However, in clearing out mass *kampung* communities, the government authorities failed to understand that uprooting a *kampung* community does not only disrupt the lives of *kampung* inhabitants, but also disrupts the complex socio-economic network that surrounds it. *Kampung* residents bridge the socio-economic gap between themselves and the middle

⁶ UN-Habitat, and The World Bank. (2002). "Cities Alliance for Cities Without Slums." UN-Habitat. Available at: https://unhabitat.org/cities-without-slums

⁷ UN-Habitat, and The World Bank. (2002). "Cities Alliance for Cities Without Slums." UN-Habitat. Available at: https://unhabitat.org/cities-without-slums

⁸ Herlambang, S., H. Leitner, L. J. Tjung, E. Sheppard, and D. Anguelov. (2019). "Jakarta's great land transformation: Hybrid neoliberalisation and informality." Urban Studies, 56(4), 627–648. Available at: https://doi.org/10.1177/0042098018756556.

class by offering cheap labour through operating food stalls and working as transit drivers, street vendors, etc. The relocation of *kampung* residents from their origin removes an essential labour foundation from the social and economic hierarchy. Attempts to modernize *kampung* living by evicting and relocating residents into new high-density apartments also fail as the apartment's inherent urban geometry does not provide the space required for the unique community-building atmosphere that the *kampung*'s architecture promotes.

Jakarta's neo-colonial, mass urban renewal project, the NCICD master plan, threatens to displace residents of Kampung Muara Baru, located in the northern district along the Bay of Jakarta. Within this context, this thesis research focuses on analyzing the impacts of the NCICD master plan in direct relation to the residents of Kampung Muara Baru. The main objective of this thesis is to graphically address and counter the effects of colonialism and neo-colonialism in *kampung* communities across Jakarta. This is executed in order to spread awareness and knowledge to local and international audiences regarding the *kampung* residents' right to remain. Considering the negative psychological and physical impacts this urban renewal will have on the Muara Baru residents, this research intends to address the future threat of displacement by proposing an in-situ retrofit architecture and practices of community building in Kampung Muara Baru. Learning from the successes of neighbouring, resident-led kampung improvement projects, the proposed design solutions aim to navigate the delicate and precarious nature of kampung living by offering the least disruptive solutions to residents' daily lives. The research and site analysis collected over the duration of this thesis research will help inform a framework for an alternative community-sensitive and sustainable design approach to mitigate future forced evictions.

METHODOLOGY

The summer of 2022 was the first time I visited Jakarta in my lifetime. The gradual decline of pandemic cases made it possible to visit my site in Jakarta to conduct much-needed research and document my analysis. My field trip was vastly different from the research work I had been doing over the one and a half year duration of my masters prior to travel. During my stay in Jakarta, I visited my research site, Kampung Muara Baru at least four or five times as it was simply too big to cover within a day or two. Visiting the site multiple times allowed me to have a more holistic perspective of the site in contrast to the images I had been viewing online over the previous year. Over the course of my site visits, I found the city to be hot and chaotic, but Kampung Muara Baru was less disorganized which struck me as unusual. The Muara Baru residents seemed to enjoy the beaming sun, while chatting with their neighbours and attending to their work and children. The alleyways that networked the Muara Baru kampung were lined with multiple shops, food stalls, and houses. After my aunt and I made our way through the tail end of the site on the fifth day, we sat down under the shade of a food kiosk. It was during this time that my sketches and photographs of the local people, my site, and social interactions reinforced my decision to capture these sights through a series of drawing narratives, mappings, and photography.

The research methods used in this thesis consist of primarily using "drawing as narrative", and documenting accurate and purposeful photographs and maps. Through this form of documentation, I was able to understand the city of Jakarta at multiple scales. This understanding began at the scale of the city through maps, followed by the scale of the site through photographs, and finally at the scale of the community, house, and resident interactions through drawing. Through the lens of my architectural education, I believe that every architectural drawing has a story and methodology behind it. Drawings have a powerful way of communicating what we see, what we think; it is a way to make intangible matters tangible. This thesis uses the power of graphic representation and visualization tools as a method of documenting, story-telling, and designing.

During my thesis research, I had come across multiple articles, research papers, theses and dissertations regarding the history of Jakarta, Muara Baru, the NCICD, and other relevant topics. However, I was never able to find a theoretical work that told the same stories visually, as they did in writing. It was through this discovery that I became determined to include the complexities of the socio-political, economic, and psychological narratives in my drawings and purposeful photographs. The drawing style used in this thesis is partially

inspired by the work of Feral Atlas.⁹ The fluidity and seamless transitions between elements in space is something I took particular interest in. The multiple projection styles and drawing techniques including axonometric, perspective, plan, section, and elevation helped organize, consolidate, and communicate my proposed research arguments in an effective manner.

The visual and graphic works in this thesis are meant to lend a voice to the historically oppressed native people of Jakarta; it is meant for the current *kampung* residents all through the city. Drawing as narrative in this research is created to empower the lower class by accumulating and spreading knowledge and awareness about Jakarta's past, present and future, particularly for *kampung* residents. The knowledge embedded in the drawing narratives can be communicated to residents through workshop handbooks, neighborhood bulletin boards, map displays, etc. This accumulation of new and old information will serve as a foundation to educate *kampung* residents on the importance of maintaining their communities once the design retrofits are introduced, as upkeep failure could result in resident evictions and *kampung* demolitions.

While the use of graphic representation as a primary communication tool is directed towards *kampung* residents as a form of empowerment through knowledge accumulation, it is also meant to target sectors of the middle and upper classes to spread critical awareness regarding the importance and legitimacy of kampungs and their residents. These visual communications hope to educate upper classes on the co-dependency of kampung residents and the rest of Jakarta's working classes by highlighting the economic networks that exist between these social groups.

The graphic styles in this thesis are sensitive to the content being represented. It takes this information into consideration when deciding which styles to use at what juncture of the thesis research. While the drawing styles begin as relatively desaturated representations, towards the end of the research the design chapter 3.3 - the drawing's color palette becomes more saturated and vibrant. This particular method of drawing representation conveys information through the various time periods in the thesis.

⁹ Tsing, A., Jennifer D., Alder S., and Feifei Z. Feral Atlas. (2021). "The More-Than-Human Anthropocene." Redwood City: Stanford University Press. Available at: http://doi.org/10.21627/2020fa

PART SUMMARIES

Part 1 explores Jakarta's history, including the factors that led to the development of the NCICD master plan. Subsection 1.1 highlights a brief account of kampung origin beginning in the colonial era. This chapter also elaborates the historic displacement of the kampung within both colonial and post-independence contexts and ends with a discussion on the emergence of the NCICD master plan as an attempt to overcome urban issues aggravated as a result of colonial intervention. Subsection 1.2 highlights Jakarta's history of using forced eviction as a method to reclaim land for large-scale urban renewal projects. It underlines the subtleties of gentrification by documenting and analyzing methods by which residents are displaced. It elaborates the city's desire to adopt a westernized way of empowering middle and upper classes at the cost of depriving lower classes of basic necessities and livelihoods. This section documents the repercussions of forced evictions, and the challenges that evicted residents face to secure alternate housing arrangements. Subsection 1.3 discusses the complications that emerged and intensified over the past four hundred years since Jakarta's colonization, and outlines how the city currently addresses the issues that endure into the present day. These problems include a discriminatory water policy, grey infrastructure to mitigate flooding, rapid urbanization, land subsidence, and human displacement.

Part 2 reflects extensively on the formulation of the National Capital Integrated Coastal Development (NCICD) master plan as a form of urban renewal spearheaded by the Indonesian and Dutch governments. It highlights the wide-spread current displacement and future threats of displacement to the people of Jakarta living in marginalized *kampung* communities. It discusses how the NCICD master plan fails to effectively address land subsidence and pollution management systems, and instead how the development of the master plan places Jakarta at further risk of pollution, subsidence, and community degradation.

Part 3, Subsection 3.1 analyzes two local precedents in Jakarta. The first analysis focuses on the eviction of Kampung Pulo, and the detrimental effects it had on its residents as many were forced to relocate miles away to high-rise social housing (rusunawa). The second precedent demonstrates the successful implementation of resident-led *kampung* upgrades and revitalization processes to combat the threat of forced community eviction as a result of a governmentled river normalization project. The latter portion of subsection 3.1 outlines and analyzes the methods used by residents in Kampung Tongkol to fight evictions including self-initiated cleaning and greening efforts and upgrading building materials. This section continues to analyze other design strategies like rainwater harvesting, mangrove planting, and mussel harvesting to be used as design proposals. Subsection 3.2 analyzes the research site, Kampung Muara Baru. It begins by documenting the daily ongoings of residents where they work, what they do for a living, existing housing typologies, and the availability of resources like water and food. The thesis research analyzes these realities in order to propose a design solution that is suitable for the site. This study was conducted to develop an argument to combat future threats of eviction in Kampung Muara Baru as a result of the NCICD master plan. Subsection 3.3 consists of the last segment of this research and aims to propose a viable in situ retrofit for the kampungs in Muara Baru. Retrofits and upgrades are also proposed at the individual home, community, and sitelevel over distinct phases to introduce gradual, but effective change. At the scale of the site, the cleaning and greening of the site reservoir, Waduk Pluit, is proposed to maintain the city standard requiring clean waterfronts while also acting as a water retention basin in the event of flooding. Individual home and community-scale rainwater harvesting systems are also included to provide filtered water for washing, bathing and cleaning.

A community initiative for garbage collection is also proposed, as an alternative to the privatized garbage collection found throughout most of Jakarta, and to economically curb the current practice of *kampung* residents disposing of their waste in nearby rivers and reservoirs. Retrofits at the scale of the home include constructing second storeys on some houses for the ground level to act as a retail space for residents, providing material upgrades for homes that are not situated firmly on the ground, adding toilets and showers to some housing types depending on space and feasibility, and adding private gardens to produce food, and catch rainwater. Communal upgrades include the construction of community-wide gardens and local market construction for vendors. These proposed strategies and initiatives offer the residents of Kampung Muara Baru a plan that takes their homes and communities into account to prevent future threats of eviction as a result of the NCICD master plan.

PART_01 1.1 The First Urbanization

A brief history of the evolution of Jakarta between 1605-2013

A history of colonization by the Dutch has led to a complex web of urban problems that still exist in Jakarta today. Some of these include displacement through eviction, land subsidence, flooding, unfair distribution of resources through a discriminatory water policy, rapid urbanization, and uncontrolled pollution levels. This section discusses *kampung* history, a gradual erosion of the *kampung*'s presence and significance, as well as its absorption into an urbanized city fabric. *Kampung* residents have had to face these challenges over five distinct periods: the invasion of the Dutch East India Company, the migration to Weltevreden, the post-independence presidency, a new era under the second president, and during the developmental stages of the NCICD master plan.

The first Kampungs, Canalization and Displacement

In 1605, the city of Jakarta was conquered by the Dutch East India Company and was re-named Batavia. Over the next four centuries, Jakarta's urban and natural landscapes were dramatically altered by the Dutch. As the Dutch established a foothold in Batavia, they quickly outgrew the small footprint of the original town. Dwindling land stocks resulted in a race towards acquiring new land. The native Javanese rebelled heavily against this since it would result in lesser land ownership rights for them. However, the protests failed to create change, resulting in the displacement of the native Javanese population out of the town limits. Consequently, the indigenous Javanese population first constructed kampungs in Batavia as a form of "another commons." These first kampung commons functioned as urban villages, sharing resources and engaging in communal activities separate from the wealthier European and Chinese immigrants.² In contrast to the Dutch-influenced development of Batavia, which was informed by European city planning methods, the kampung was an informal and self-built settlement.³ As a result of Batavia's proximity to the Bay of Jakarta and rivers that cut through the landscape (Fig. 1.1), its residential dwellings, especially *kampungs*, were more vulnerable to floods and other natural hazards. While independent researchers, such

¹ Octavianti, Thanti, and Katrina Charles. (2019). "The evolution of Jakarta's flood policy over the past 400 years: The lock-in of infrastructural solutions." Environment and Planning C: Politics and Space, 37(6), 1102–1125. Available at: https://doi.org/10.1177/2399654418813578.

² Silver, Christopher. (2008). "Chapter 1: Understanding Urbanization and the Megacity in Southeast Asia." In Planning the Megacity: Jakarta in the Twentieth Century. New York: Routledge, 18-35.

³ Colombijn, Freek. (2013). "Under construction: The politics of urban space and housing during the decolonization of Indonesia, 1930-1960." Brill.

as Christopher Silver and Pauline Roosmalen, present varying opinions on whether the *kampung* originated because of either social class or ethnic segregation^{4,5}, the *kampung* was historically always at the bottom of the city's socio-economic hierarchy. This strict hierarchal order led to a tight governance of Jakarta's water policy in which the city's water supply was distributed unevenly between communities.⁶ This discrimination in water policy exists even today, reinforcing patterns of colonial prejudice against marginalized Javanese communities. The impact of this policy will be further examined in chapter 1.3 under the section titled "Water Policy."

Soon after its submission to the Dutch following 1605, the city was hit with a devastating flood in 1621. As a response, colonial planners constructed the first canal to divert flood waters away from the newly built urban landscape. Over the next three centuries, the use of canalization became the preferred solution to combat flooding, which led to raised land masses of excavated dirt forming "island-like" platforms. As a result, the inner town of Batavia became a myriad of canals that lined and laced the landscape. The town also became a center for the spice trade and attracted European settlers due to its mobility and ease of access through waterways. However, over time excessive canalization, both in Batavia and further upstream in agricultural lands, slowed the river current significantly. This ultimately caused sediment build-up along the canals, blocking the water from running freely. In addition to sediment collection in the waterways, the population of Batavia grew considerably and exerted unprecedented strain on its canals. This strain occurred in the form of unchecked waste disposal, including agricultural deposits from upstream

⁴ Silver, Christopher. (2008). "Chapter 1: Understanding Urbanization and the Megacity in Southeast Asia." In Planning the Megacity: Jakarta in the Twentieth Century. New York: Routledge, 18-35.

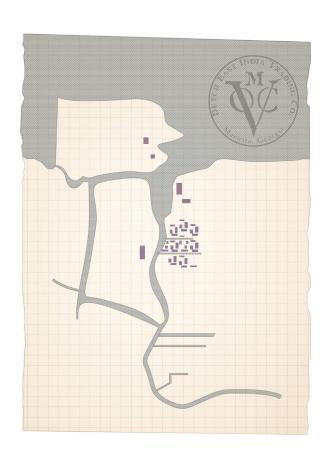
⁵ Colombijn, Freek. (2013). "Under construction: The politics of urban space and housing during the decolonization of Indonesia, 1930-1960." Brill.

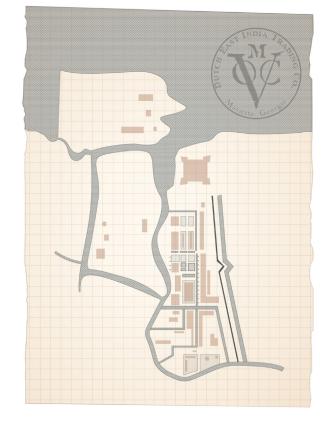
⁶ Kooy, Michelle, and Karen Bakker. (2015). "(Post)Colonial Pipes: Urban Water Supply in Colonial and Contemporary Jakarta." Cars, Conduits, and Kampongs, n.d., 63–86. doi:10.1163/9789004280724_004.

⁷ Octavianti, Thanti, and Katrina Charles. (2019). "The evolution of Jakarta's flood policy over the past 400 years: The lock-in of infrastructural solutions." Environment and Planning C: Politics and Space, 37(6), 1102–1125. Available at: https://doi.org/10.1177/2399654418813578.

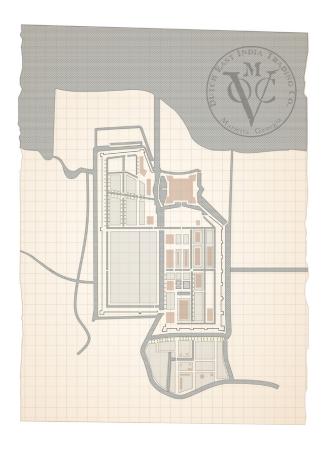
⁸ Waworoentoe, Willem. (2022). "Jakarta national capital, Indonesia". Britannica. Available at: https://www.britannica.com/place/Jakarta.

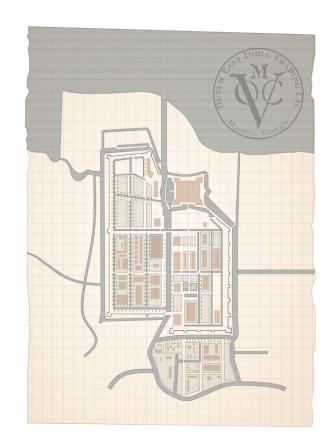
⁹ Balk, G. L., F. Van Dijk, J. Kortlang, F. S. Gaastra, H. E. Niemeijer, and P. Koenders. (2007). "The Archives of the Dutch East India Company (VOC) and the Local Institutions in Batavia (Jakarta)." Leiden - Boston Brill. January 01, 2007.





Batavia-1619 Batavia-1627





Batavia-1635 Batavia-1650

Fig. 1.1 Evolution of Batavia between 1619-1650

First Kampungs Water Buildings Landscape

Diagram re adapted by author. Source: Putri, P. W. and Rahmanti, A. S. (2010) 'Jakarta waterscape : From structuring water to 21st century hybridnNature ?', Nakhara, 6, pp. 59–74. plantations.¹⁰ The pollution in the waterways remained stagnant in canals bypassing housing settlements where indigenous residents and immigrant laborers took drinking and bathing water, resulting in the death of more than 4000 laborers.¹¹ The water deterioration continued as Batavia's landmass eroded into its canals due to natural hazards such as volcanic eruptions and earthquakes. ^{12,13}

The presence of heat and humidity from the warm climate to the already languished waterfronts caused a widespread malaria epidemic along the canals. ¹⁴ Since the Dutch primarily inhabited Batavia's canal fronts, they were most impacted by the outbreak, experiencing significant deaths. ¹⁵ The Dutch colonizers employed Javanese laborers to tackle the compounding issue of waste and sediment build-up by dredging the waterways in 1718. ¹⁶ When this venture failed, more canals and dams were constructed westward of Batavia in 1725. ¹⁷ Despite new infrastructure, the existing stagnated and polluted waterways were beyond conservation, thus creating unhealthy environments for riverfront dwellings. ¹⁸ Other key infrastructural attempts included the addition of a large new canal, Mookervarrt, reaching in from the north in Ommelanden (areas outside the walled town), to create a clean source of water. ¹⁹ This proved unsuccessful due to unchecked deforestation and dam construction, with river run-off from Ommelanden to downstream areas like

¹⁰ Miksic, J. (1989). "Jakarta: A History." Singapore: Oxford University Press, 1987. Pp. xiv, 280. Figures, Maps, Plates, Glossary, Index. Journal of Southeast Asian Studies, 20(1), 120-122. doi:10.1017/S0022463400019974.

¹¹ Heuken, Adolf. (2007). "Historical sites of Jakarta." Jakarta: Cipta Loka Caraka.

¹² Kanumoyoso, B. (2011) Beyond the City Wall: Society and Economic Development in the Ommelanden of Batavia, 1684-1740. Leiden University.

¹³ Heuken, Adolf. (2007). "Historical sites of Jakarta." Jakarta: Cipta Loka Caraka.

¹⁴ Brug PH van der (1997) Malaria in Batavia in the 18th century. Tropical Medicine and International Health 2(9): 892–902.

¹⁵ Vlekke, B. H. M. (1943). "Nusantara: A history of the East Indian archipelago." Cambridge, Massachusetts, USA: Harvard University Press.

¹⁶ Vlekke, B. H. M. (1943). "Nusantara: A history of the East Indian archipelago." Cambridge, Massachusetts, USA: Harvard University Press.

¹⁷ Miksic, J. (1989). "Jakarta: A History." Singapore: Oxford University Press, 1987. Pp. xiv, 280. Figures, Maps, Plates, Glossary, Index. Journal of Southeast Asian Studies, 20(1), 120-122. doi:10.1017/S0022463400019974.

¹⁸ Jayapal, M. (1993). "Old Jakarta." Kuala Lumpur: Oxford University Press.

¹⁹ Blussé, L. (1986). "Strange company: Chinese settlers, mestizo women and the Dutch in VOC Batavia." Dordrecht-Holland; Riverton-N.J.: Foris Publications.

Batavia becoming increasingly more difficult to navigate and control.²⁰ These issues, coupled with a complex set of policy responses to disaster recognition and mitigation by the Dutch East-India Company, caused the European elites and other upper classes to migrate to Weltevreden, leaving behind a dilapidated town (Fig 1.2, 1.3 and 1.4).

²⁰ Kanumoyoso, B. (2011). "Beyond the City Wall: Society and Economic Development in the Ommelanden of Batavia, 1684-1740." Leiden University.

Kampungs were developed in the rural parts of Batavia on agricultural land. Kampung residents during this time typically worked as farm laborers, growing spices that were traded

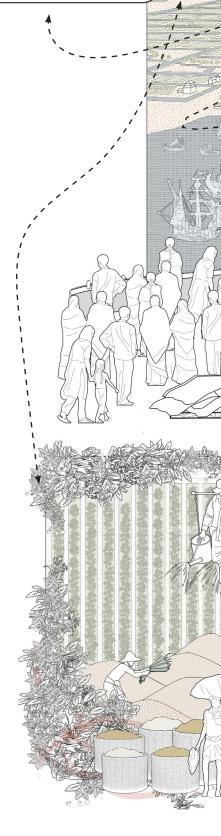
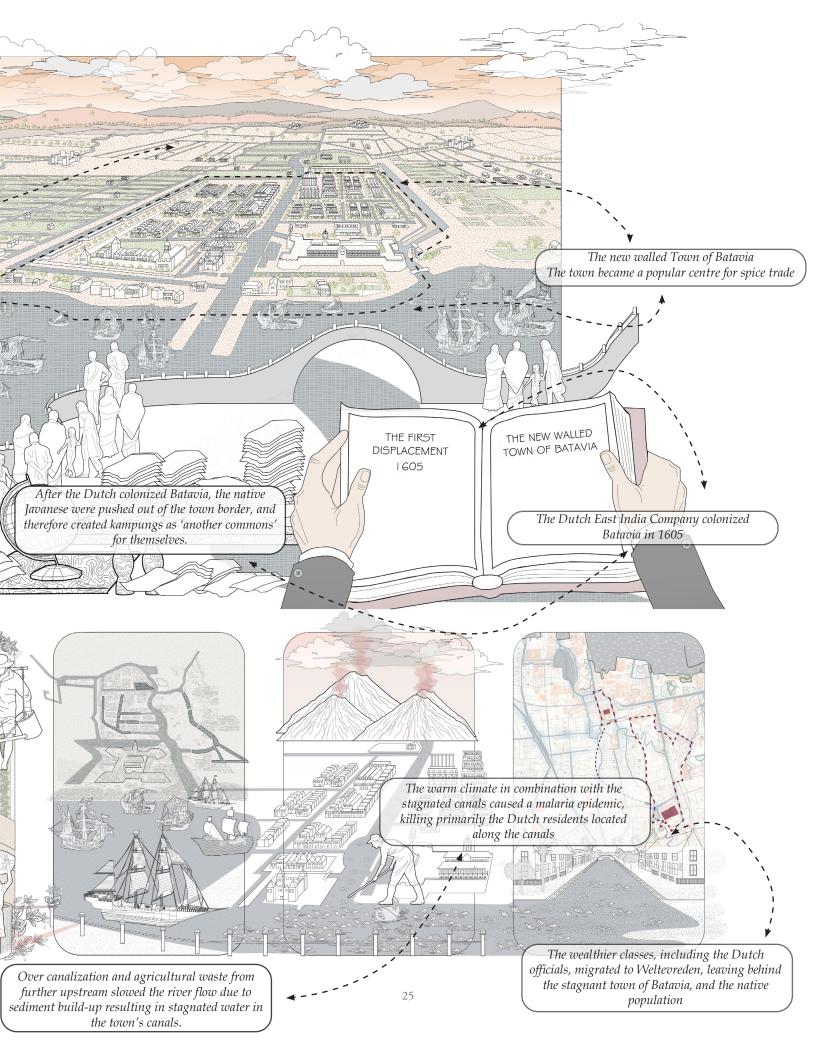
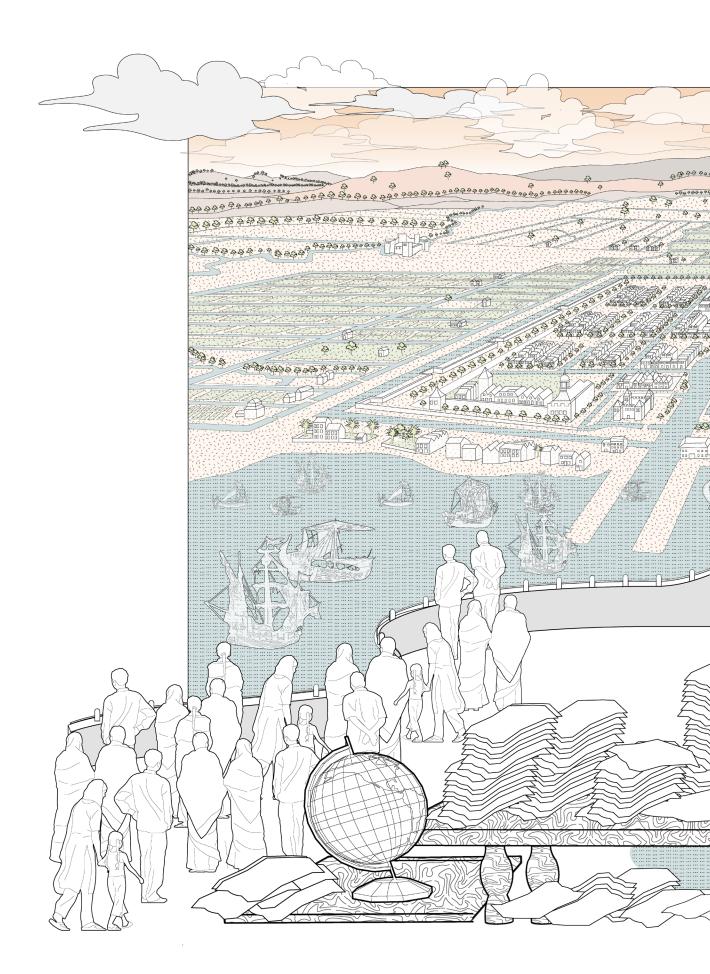


Fig. 1.2 First Kampungs and Displacement Narrative
Drawing by author
* Base city drawing source image: Fraga, Kaleena. (2022). "The story of Batavia, the
Indonesian city violently colonized by the Dutch." Allthat's interesting. Available at:
https://allthatsinteresting.com/batavia





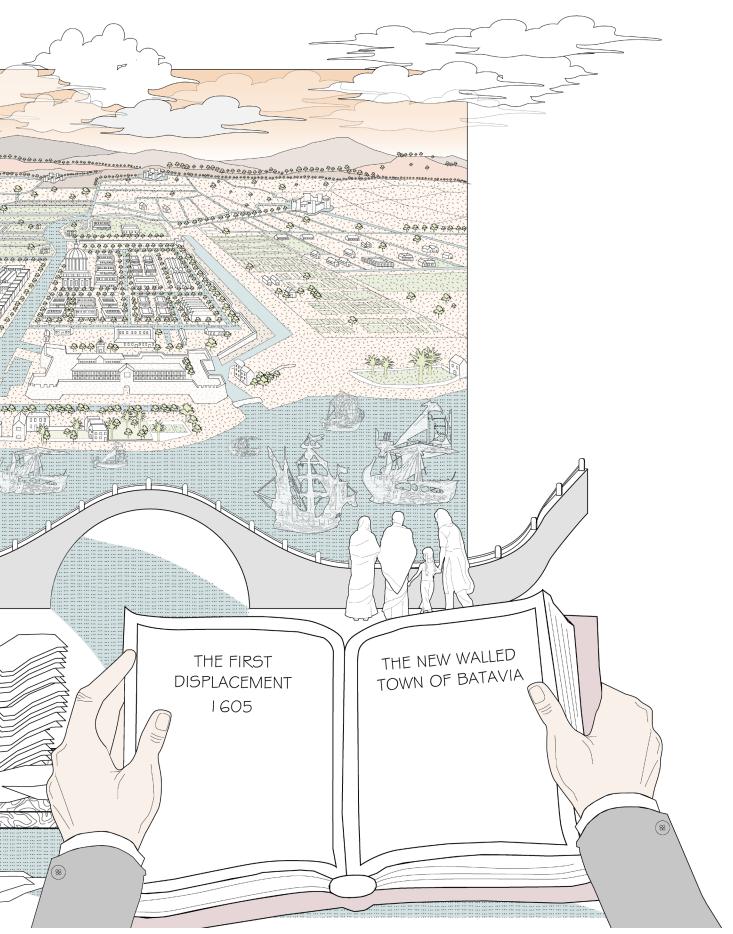
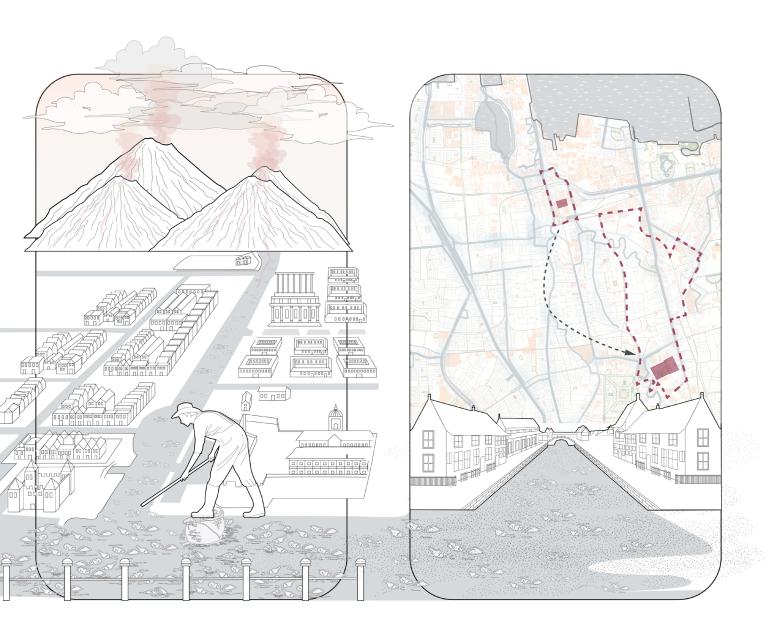


Fig. 1.3 First Kampungs and Displacement Narrative Drawing by author



Native Javanese left to farm in Batavia

Batavia as a major trading port



Native laborers were forced to dredged the polluted canals

The move from the polluted town of Batavia to Weltevreden

Fig. 1.4 First Kampungs and Displacement Narrative Drawing by author

The Move to Weltevreden

The late 18th century marked the collapse of the Dutch East India Company due to a variety of complex factors including rising corruption, an overstretched empire, and eventual bankruptcy. While the Dutch East India Company was formally dismantled, the employees and Dutch elite of the company retained a strong presence and position in Batavia. After Batavia could no longer support a healthy lifestyle for its residents, the wealthier classes, along with many former Dutch East India Company officials, migrated further south to the city of Weltevreden (Fig 1.5).²¹ This move further highlighted the economic wealth and freedom of the Dutch relative to the native Javanese. Marking a new period in colonial history, the prosperous Dutch moved to the lush and healthy city of Weltevreden, leaving behind the Javanese (Fig 1.6, 1.7 and 1.8).

After the collapse of the Dutch East India Company, legislative changes were made in Batavia's local administration. Some of these policy changes included the implementation of a forced cultivation system, also known as *cultuurstelsel*. ²² However, this system ultimately failed as it did not address the declining living standards in Batavia. Batavia's native population saw a mass health decline that slowed down crop production and eventually caused a shortage of food. ²³

Once the Dutch administration observed the impact of declining health standards, they adopted a new policy known as the "ethical policy." This new legislature was introduced to formally allocate capital and resources to improve the living conditions in Batavia—including the construction of new infrastructure. In addition to providing new amenities to the native

²¹ Octavianti, Thanti, and Katrina Charles. (2019). "The evolution of Jakarta's flood policy over the past 400 years: The lock-in of infrastructural solutions." Environment and Planning C: Politics and Space, 37(6), 1102–1125. Available at: https://doi.org/10.1177/2399654418813578.

²² Carey, P. B. R. (1980) "Aspects of Javanese history in the nineteenth century", in Aveling, H. (ed.) The Development of Indonesian Society: From the Coming of Islam to the Present Day. New York, USA: St Martin Press.

²³ Furnivall, J. S. (1939). "Netherlands India: A study of plural economy." Cambridge: The University Press.

²⁴ Miksic, J. (1989). "Jakarta: A History." Singapore: Oxford University Press, 1987. Pp. xiv, 280. Figures, Maps, Plates, Glossary, Index. Journal of Southeast Asian Studies, 20(1), 120-122. doi:10.1017/S0022463400019974.

²⁵ Vlekke, B. H. M. (1943) Nusantara: A history of the East Indian archipelago. Cambridge, Massachusetts, USA: Harvard University Press.



Fig. 1.5 Aeriel image of Weltevreden by Gambir station during the colonial era Source: Arshafin. (2022). "History of Weltevreden, Jakarta city center in the Dutch East Indies Era." NetralNews. Available at: https://www.netralnews.com/sejarah-weltevreden-pusat-kota-jakarta-di-zaman-hindia-belanda/N0xHNWIFNXRXRGhQWmM5Tkw0N1NDUT09

residents of Batavia, this decentralization was also seen as a way for the colonial government to offload some of their municipal responsibilities, as these policy changes had a significant impact on the city's water policy.²⁶ Since the colonial government wanted to maintain their power in Batavia, while establishing a more comfortable and healthier lifestyle in Weltevreden, they began transferring the control of artesian wells to the native population in Batavia. This move further emphasized the urban differences between the native Javanese and the Europeans, as the elite class of Weltevreden now enjoyed the luxury of consuming clean, piped spring water and no longer had any use for the polluted wells in Batavia.²⁷ At the same time, this notion of colonial superiority was reinforced through infrastructural modernization by the introduction of the Kampung Improvement Program (KIP) in 1928. The segregation of people through modern urban planning policies started in the early 1600s with the development of Batavia, and evolved to include the "upgrading and redevelopment" of kampungs, as they were perceived as unhygienic autonomous settlements that did not follow city planning methods. The Kampung Improvement Program was under municipal authority with capital funding from the public health budget.²⁸ While this program was meant to improve the living conditions of the kampungs, residents were not allowed to participate in the design process.²⁹ Designs were prepared by municipal city planning authorities and were then executed by the public works, creating a wide disparity between resident requirements for the *kampung* and city planning requirements.³⁰

²⁶ Octavianti, Thanti, and Katrina Charles. (2019). "The evolution of Jakarta's flood policy over the past 400 years: The lock-in of infrastructural solutions." Environment and Planning C: Politics and Space, 37(6), 1102–1125. Available at: https://doi.org/10.1177/2399654418813578.

²⁷ Kooy, Michelle, and Karen Bakker. (2015). "(Post)Colonial Pipes: Urban Water Supply in Colonial and Contemporary Jakarta." Cars, Conduits, and Kampongs, n.d., 63–86. doi:10.1163/9789004280724 004.

²⁸ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

²⁹ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

³⁰ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

Over time, many key figures led improvement initiatives through the Kampung Program; one individual of significance was Hoesni Thamrin. Thamrin fought to voice the concerns of kampung residents while simultaneously trying to preserve the culture, lifestyle, and livelihoods that *kampung* living offered.³¹ Shortly after the KIP was introduced, it was criticized with regards to its urban impact. Since many kampung communities and houses did not align with city building regulations, they had to be demolished, which resulted in the displacement of many kampung residents. These residents eventually sought accommodation elsewhere, including neighboring kampungs and other areas of the city, creating uneven densification and overcrowding in specific areas. In addition, the improvement plan for the kampung resulted in street improvement, the creation of communal facilities, and increased sanitation, which all contributed to increased land value and ultimately increased rents.³² Since residents could no longer afford the rising cost of accommodations, it further exacerbated overcrowding in the more affordable regions of the city.³³ An overburdened infrastructure caused issues of overcrowding that magnified problems of sanitation and pollution. Limited budgets and resources resulted in reactive maintenance measures as opposed to proactive future planning.

³¹ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

³² Kooy, Michelle, and Karen Bakker. (2015). "(Post)Colonial Pipes: Urban Water Supply in Colonial and Contemporary Jakarta." Cars, Conduits, and Kampongs, n.d., 63–86. doi:10.1163/9789004280724_004.

³³ Kooy, Michelle, and Karen Bakker. (2008). "Splintered networks: The colonial and contemporary waters of Jakarta." Geoforum. 39. 1843-1858. 10.1016/j.geoforum.2008.07.012.



Fig. 1.6 Old town of Batavia Image by author



Fig. 1.7 Old town of Batavia Image by author





Fig. 1.8 Old town of Batavia Image by author

<u>Soekarno's Reign: An independent Jakarta: Rapid Urbanization, Contemporary Urban Renewal and Displacement.</u>

During the second world war, Japan had primary control of Indonesia's islands between 1942-1945. Shortly after Japan surrendered in 1945, Indonesia declared its independence. Soekarno was appointed as Indonesia's first president the day after the country gained independence on August 17th, 1945. As an architect and civil engineer by trade, President Soekarno had a grand vision to transform Jakarta into one of the greatest cities and led the race towards modernism. 34 Blinded by his vision to transform Jakarta into a nationwide symbol of independence, Soekarno redirected administrative and capital resources towards materializing a new modernist Jakarta (Fig 1.9). The slow bureaucratic processes associated with city-wide infrastructure development was eliminated when Soekarno introduced a series of Presidential Decrees.³⁵ These decrees sought to provide Jakarta's urban development sector with more self-governance. It was after the implementation of these decrees that the eviction rate among kampung residents increased drastically. This occurred in part due to the Asian Games of 1962, which saw the eviction of nearly 47,000 people.³⁶ The construction of a sporting arena for the Asian Games forced residents from Kampung Senayan to relocate to other sites that were originally allocated for stormwater infiltration.³⁷ As this land was historically zoned for stormwater infiltration, only five percent of the land could be built on.³⁸ Additionally, rapid population growth had exacerbated Jakarta's housing crisis and flood mitigation issues, forcing new towns to be constructed on dried swamps.³⁹ As the city developed at a pace faster than its residents could sustain, Soekarno attempted to create the initial stages of a master plan for

Leclerc, J. (1993). "Mirrors and the lighthouse. A search for meaning in the Monuments and great works of Sukarno's Jakarta, 1960-1966". Urban Symbolism. Leiden, The Netherlands: E.J. Brill, pp. 38–58.

³⁵ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

³⁶ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

³⁷ Szczepanski, Kallie. (2019). "Biography of Sukarno, Indonesia's First President." ThoughtCo. August 21, 2019. Available at: https://www.thoughtco.com/sukarno-indonesias-first-president-195521.

³⁸ Szczepanski, Kallie. (2019). "Biography of Sukarno, Indonesia's First President." ThoughtCo.

³⁹ Gunawan, R. (2010). Gagalnya sistem kanal: Pengendalian banjir Jakarta dari masa ke masa. Jakarta, Indonesia: Kompas.

modernizing the city. Some of these targeted programs included large-scale urban renewal, improved city-wide drainage, increased potable water supply, and investing in housing programmes. 40 Jakarta was also managing issues of post-war migration after World War II—which further reinforced informal settlements across the city. President Soekarno was determined to "fix" these settlements by relocating residents to high-density social housing, also known as rusunawa. 41 This solution of "vertical" living was not compatible nor suitable for kampung residents, as their livelihoods depended on working in informal sectors within the city consisting of a "horizontal" way of trading. However, as Soekarno was committed to transforming Jakarta into a modernized capital, he viewed the *rusunawas* as a stepping stone towards achieving this change. Soekarno's ambitious, yet unsustainable, plans to alter Jakarta's appearance into a modernized city, namely by "fixing" kampung settlements through demolition and urban renewal, were eventually unrealized due to the unstable political and financial support at the time. 42 Kampung residents who lived under the threat of eviction during Soekarno's administration were relieved by the dismissal of the plan, but it raised important questions on the tools and agencies available for *kampung* residents to combat potential evictions. 43

⁴⁰ Miksic, J. (1989). "Jakarta: A History." Singapore: Oxford University Press, 1987. Pp. xiv, 280. Figures, Maps, Plates, Glossary, Index. Journal of Southeast Asian Studies, 20(1), 120-122. doi:10.1017/S0022463400019974.

⁴¹ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

⁴² Miksic, J. (1989). "Jakarta: A History." Singapore: Oxford University Press, 1987. Pp. xiv, 280. Figures, Maps, Plates, Glossary, Index. Journal of Southeast Asian Studies, 20(1), 120-122. doi:10.1017/S0022463400019974.

⁴³ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

Suharto's Regime:

After a military coup in 1966, a Major General, Suharto, rose in popularity by successfully cracking down on communist supporters at the time. While Soekarno's influence was weakening amidst this political uprising, Suharto's power and influence among Indonesians increased substantially in 1966-1967 when he officially became the new president. President Suharto's reign was a dictatorship that saw the appointment of Ali Sadikin as Governor of Jakarta, where he was tasked with attending to the rapid influx of immigrants and the consequential housing crisis. 44 Since *kampungs* had dodged the earlier threat of eviction during President Soekarno's administration, they became the dominant settlement during the 1960s. 45 Sadikin was determined to address Jakarta's housing issues without disrupting the socio-economic and cultural ecosystems of the kampung settlements. He considered kampungs an integral part of the urban fabric and could not justify evicting kampung residents to rusunawa located miles away. 46 In order to preserve the cultural value of these communities, Sadikin revived the Kampung Improvement Program, but executed it very differently from their colonial predecessor.⁴⁷ This renewed KIP promised to improve the physical conditions of the kampung while simultaneously improving the residents' livelihoods. This approach respected the needs of the community while also satisfying official city planning guidelines. 48 The shared success with the launch of six pilot projects prompted the Jakarta government to secure a substantial loan from the World Bank. In 1993, a loan of US\$438.3 million was given by the World Bank to Jakarta to improve the conditions of other informal marginalized settlements.⁴⁹ The project was named after Muhmmad Husni Thamrin who, as mentioned previously, fought for the survival of kampung communities in the early 20th century. With more than 500 kampungs

⁴⁴ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

⁴⁵ Darrundono. (2011). "Proyek MHT: Berhasil Meningkatkan Kualitas Habitat Orang Miskin di Jakarta." Jakarta: Artha Lintas Graphia.

⁴⁶ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

⁴⁷ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Fuure." UCLA..

⁴⁸ Silver, Christopher. (2008). "Chapter 1: Understanding Urbanization and the Megacity in Southeast Asia." In Planning the Megacity: Jakarta in the Twentieth Century. New York: Routledge, 18-35.

Wallsten, Scott J. (1993). "Indonesia-Enhancing the quality of life in urban Indonesia: the legacy of Kampung Improvement Program." The World Bank. Available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/927561468752367336/indonesia-enhancing-the-quality-of-life-in-urban-indonesia-the-legacy-of-kampung-improvement-program

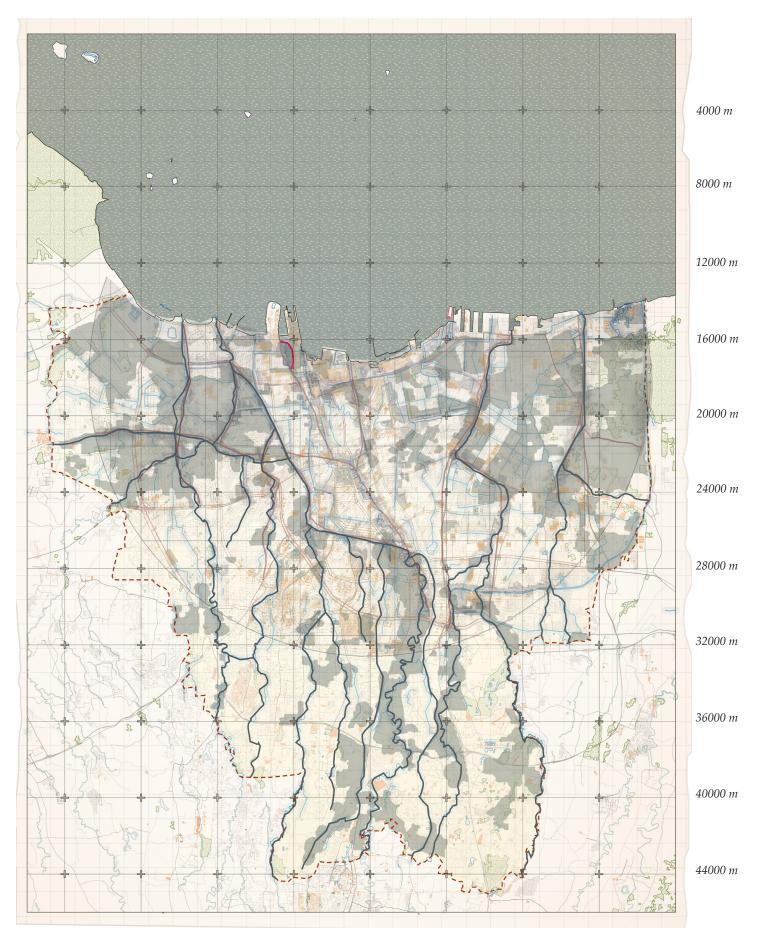


Fig. 1.9 Flood canals development and landscape transformation Drawing by author

improved between 1969-1982, and at a fraction of the city budget, the Thamrin project received local and national acclaim. Despite such success and positive response from the World Bank, residents and scholars called attention to critical issues that remained unsolved by the program including, but not limited to, the infrequency in garbage collection, poor maintenance of communal toilets, demolishing improved kampungs for urban renewal projects, neglecting to address settlements located along railways and canals, and ignoring the poorest communities within kampung groups. 50, 51, 52 This kampung improvement project was eventually transferred to the Housing Agency, which failed to retain a community-based approach towards *kampung* improvement initiatives and questioned the need to improve the physical conditions as well as *kampung* residents' welfare. Consequently, the Housing Agency decided that the approach of carte blanche urban renewal was better for Jakarta, especially to achieve modernization in a faster, more controlled manner. This resulted in kampung residents being evicted to rusunawas and police authorities clearing out the kampung settlements that were originally preserved by Sadikin, officially ending the Thamrin Kampung Improvement Program in 1999.

⁵⁰ Werlin, Herbert. (1999). "The Slum Upgrading Myth." Urban Studies. 36.9: 1523-1534.

⁵¹ Winayanti, Lana, and C. Lang. Heracles. (2004). "Provision of urban services in an informal settlement: a case study of Kampung Penas Tanggul, Jakarta." Habitat International 28.1: 41-65.

⁵² Blackburn, S. (2011). "Jakarta; Sejarah 400 Tahun." Translated By Gatot Triwira. Depok: Masup Jakarta, Pg 416.

The initial development of a master plan

Jakarta's economic crisis in 1997-1998 forced President Suharto to resign after 32 years of presidency and a new, democratic government came to power. The years between 1998 and 2016 saw more frequent flooding with particularly disastrous floods occurring in 2002, 2007, and 2013. Due to its severity, the 2002 flood triggered an urgent response to develop Jakarta's current East Flood Canal to mitigate flood waters. Subsequently, the flood in 2007 triggered a massive river dredging project assisted by the World Bank. Uring this time, Jakarta also began conducting flood control research in collaboration with the Dutch government. When the next flood hit in 2013, it submerged Jakarta's central business district. This caused the national government to act swiftly on multiple dredging projects in Jakarta's main river, the Ciliwung, and brought urgent attention to issues like land subsidence. In order to adapt to changing terrain conditions, and synchronously plan to protect the city from future floods, the National Capital Integrated Coastal Development (NCICD) plan was created and launched.

⁵³ Simanjuntak, I., N. Frantzeskaki, B. Enserink, and W. Ravesteijn. (2012). "Evaluating Jakarta's flood defence governance: The impact of political and institutional reforms." Water Policy, 14(4), p. 561. doi: 10.2166/wp.2012.119.

⁵⁴ The World Bank. (2008). Project Information Document (PID) Concept Stage - Jakarta Urgent Flood Mitigation Project. Jakarta, Indonesia. Available at: http://documents.worldbank.org/curated/en/911741468040156450/pdf/PID0]EDI1concept0stage.pdf.

⁵⁵ NL Agency, Ministry of Infrastructure and the Environment. (2012). "Jakarta Coastal Development Strategy, End-Of-Project Review. Final Mission Report." The Netherlands.

PART_01

1.2 Forced Evictions

Large-scale forced eviction by the national government and other government-led agencies

"Around 7 or 8 a.m., the military arrived. All together, there were about twenty military officers and some police—I saw them directly because I was already up and outside. I already knew their faces because they often came to our housing complex. But I was wondering why they were coming now. I asked one of them why they were here so early. I asked a military man directly. They were wearing full uniform. He said: "I have received orders from above to come here." I asked: "For what purpose?" The military man answered: "I have instructions from my commander, but it's not clear what my instructions are." So I thought, he must think I'm stupid if he tells me he has instructions from above that are not clear!...

Starting around 9 a.m. the gangs of thugs arrived. When I saw the thugs arrive in their cars, I went to tell my friend that they'd arrived. And I said it very calmly, because I still didn't understand, and then I went home... They were just wearing normal clothes, shirts and jeans. I was still convinced that nothing was going to happen. I had already taken a shower, had my breakfast, and was looking after my children. Then I heard the sound of the bulldozer. I heard it, I came out of my house and saw that it was digging out the front of the complex, and I said "Oh my God, this is happening."

Then the thugs started coming into our houses and into my home. They told me to leave. They came into my house, into all the rooms. They smashed the windows of the house...I don't know how many came into my room. So many. They didn't want to give us an opportunity to get anything. They just came in to move everything and everyone out of the house. Some of them were carrying big knives, others had iron poles...My oldest daughter arrived. She was very angry with them...They destroyed her study desk...

We were forced to leave the location. We took out things and went to the side of the street... So now I just have to be strong...I think we should continue to pray that everything will be okay."

—Eva Sugiharto, forty-three years old, evicted resident of Siliwangi Housing Complex (Fig. 1.10)

46

¹ Human Rights Watch interview with Eva Sugiharto. (2006). "Eva Sugiharto was evicted from her home in Siliwangi, Pasar Baru, Central Jakarta, on December 21, 2005." Human Rights Watch. Volume 18, No. 10.



Fig. 1.10 Kampung Pulo along the 30m wide normalized river Image by author

Forced Evictions

This section of the research will investigate the context, factors, and impacts of eviction and displacement of marginalized groups in the city of Jakarta. The aim of this chapter is to understand and document the reasons why evictions occur and outline ways to respond. In studying how forced evictions take place in Jakarta, it becomes clear that the needs of *kampung* residents are traditionally not taken into account as their communities are displaced under the guise of mitigating flood risks, or in the pursuit of beautification projects, landscape greening developments, or simply removing illegal settlements. The majority of these evictions occur without appropriate plans in place to thoughtfully meet the needs of the marginalized Javanese community once they have been evicted from their *kampung* communities.

What is a "forced eviction"?

The term "forced eviction" is defined for the purposes of international law as "the permanent or temporary removal against their will of individuals, families and/or communities from the homes and/or land which they occupy, without the provision of, and access to, appropriate forms of legal or other protection."

"Condemned Communities – Forced Evictions in Jakarta." Human Rights Watch.

Volume 18, No. 10 ©. September 2006.

Land reclamation, whether public, private or government-owned, has been a long-standing underlying motive to legitimate cases to evict and displace Jakarta's marginalized urban groups. The Jakarta government has failed to address the prejudiced nature of forced evictions within these vulnerable social groups. City authorities view these marginalized settlements as obstructions in the way of achieving an "urban commons" that caters primarily to the middle and upper financial classes. Jakarta's colonial history still influences its methods of developing infrastructure that repeatedly proves to privilege the city's wealthy as it attracts large domestic and foreign investments. As post-colonialist era political and governmental leaders sought to re-imagine the new Indonesian capital, they still upheld values adopted from a westernized

¹ Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.

perspective seeking to empower the middle and upper classes,² and entice the city's inhabitants with the luxuries and exclusivities of urban investment, privatized lands and segregated communities. As a result, the Indonesian government gave developers the opportunity to acquire developable lands nationwide. This rapid privatization of property consequently displaced thousands of people from marginalized, low-income communities.³ These people typical lived in unchecked, informal settlements dispersed all over the city, occupying space underneath railway structures, beside riverbanks, under highways, etc. These settlements are typically built from materials such as recycled metal sheets, plastic tarps, reclaimed wood and brick (Fig 1.11). In addition, the Jakarta government also sanctioned brutal large-scale evictions to facilitate the needs of the city's planners and developers, thereby serving the interests of a newly privileged urban group, occupied by the middle and upper classes. 4 Of the thousands of residents forcibly evicted from their homes, many state that they received little to no compensation and/or were given a week's notice, or less, to relocate themselves (Fig 1.12).⁵ Residents have also described multiple occasions of police, military, and other government officials forcefully and inhumanely removing people from their kampungs, regardless of whether these communities were built on lands owned by the state, private owners, or where ownership rights were unclear (Fig 1.13).

Since a large portion of land in Jakarta was officially unregistered during the 1960s, many *kampung* residents may not have had an appropriate land tenure when immigrating into Jakarta, thus calling into question the legality and land status of the *kampung*. While some residents have been able to achieve a form

² Story, Matthew. (2013). "Bad Camouflage: Jakarta: Trash, Flooding, and the Optics of Green Governance." Available at: http://cargocollective.com/storyarchitecture/Bad-Camouflage-Jakarta.

³ Leitner, Helga, and Eric Sheppard. (2018). "From Kampungs to Condos? Contested accumulations through displacement in Jakarta." Environment and Planning A: Economy and space 2018, Vol. 20, Issue 2, Pg. 437-456.

⁴ Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10

⁵ Baker, Judy. (2011). "Jakarta- Urban Challenges in a Changing Climate." Mayor's Task Force on Climate Change, Disaster Risk and the Urban Poor, The World Bank. January 01, 2011.

⁶ Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.

⁷ Voorst, Roanne van, and Jörgen Hellamn. (2015). "One Risk Replaces Another: Floods, Evictions and Policies on Jakarta's Riverbank" Asian Journal of Social Science, Vol. 43, No. 6, special focus: disasters, vulnerability and local governance in southeast asia, pp. 786-810.

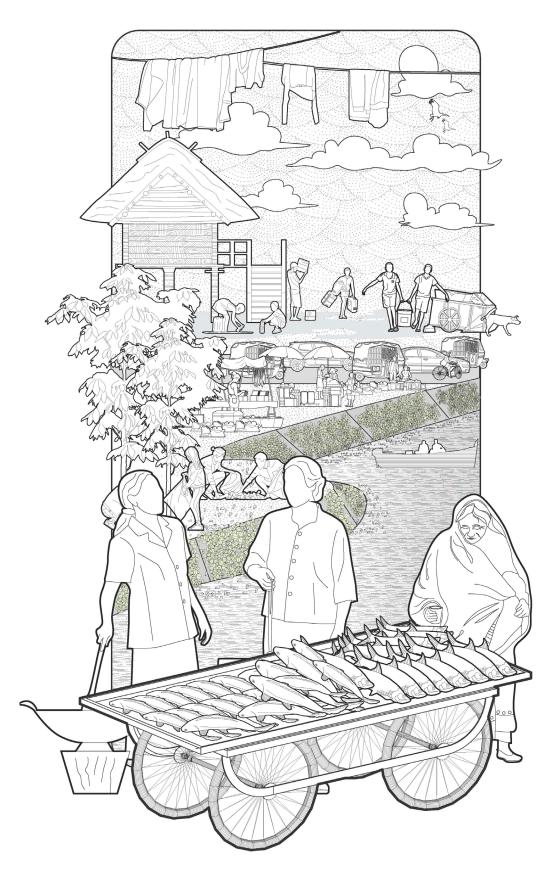


Fig. 1.11 Residents have grown to adapt to their living and working conditions regardless of physical barriers as they are able to attain an affordable lifestyle in the kampungs Drawing by author

of legitimacy by compensating city officials to allow them to live on their land (using limited government provided utilities, etc.8), in many instances, the government is still able to justify the *kampung* clearance programs by reciting arguments to mitigate flood water, increase urban land-use by developing large infrastructural projects, and facilitate landscape beautification projects. As recourse, authorities typically propose sites for community relocation, but often these are a great distance from the original *kampung*, impacting the already vulnerable livelihoods of residents, rendering them unable to appropriately re-establish themselves elsewhere within the city.9 According to the Human Rights Watch, an international non-governmental organization, the enforcement of these evictions not only halts the lives of the residents living in the *kampung*s, but also violates basic human rights under both Indonesian and international law.¹⁰

⁸ Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.

⁹ Onion, Amanda, Missy Sullivan, and Matt Mullen. (2020). "Suharto takes full power in Indonesia." History. February 19, 2020. Available at: https://www.history.com/this-day-in-history/suharto-takes-full-power-in-indonesia.

¹⁰ Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.

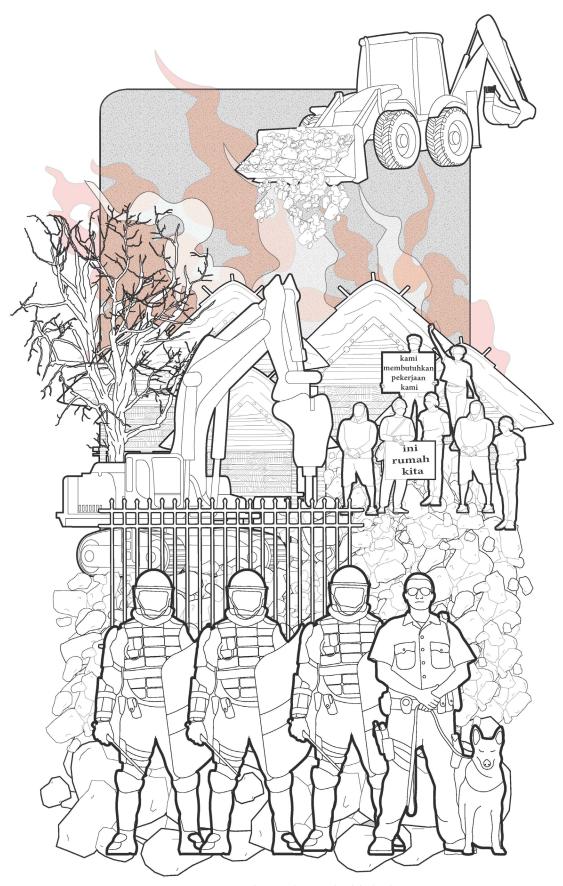


Fig. 1.12 Kampung residents are often evicted and displaced unannounced by the police and government officials causing uprisings and protests Drawing by author

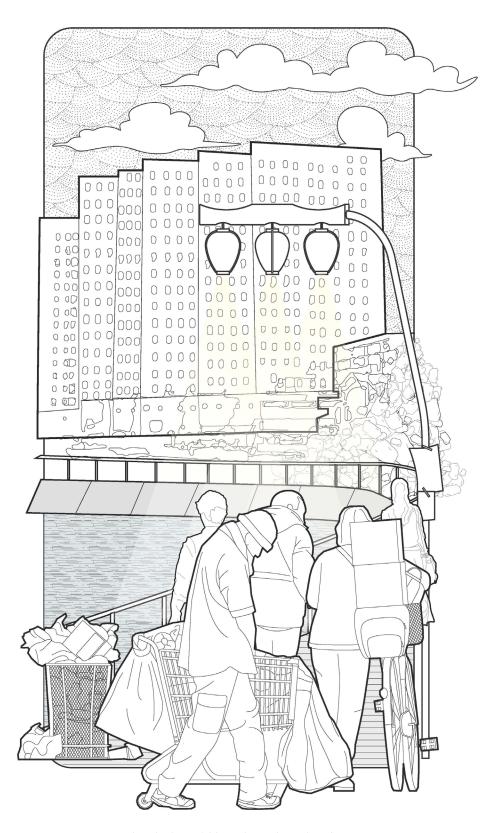


Fig. 1.13 Residents that have valid forms of ID cards are relocated to apartments 10-20km away from their current homes posing a huge impact on their livelihoods

Drawing by author

A History of Eviction

Historically, Jakarta's Dutch colonizers have used divisive construction and fortifications to build segregation into the city's fabric, furthering the socioeconomic divide between the Dutch and the indigenous populations. As the Dutch built Batavia, they sought to construct an "ideal" city free from the Javanese people who were considered of inferior class and economic status by the colonizers. Centuries of centralized governments in conjunction with foreign investors seeking power and the right to the city have followed closely in the footsteps of their original Dutch predecessors, allowing the city's wealthy and politically elite to control the occupation of land. As noted by several scholars in the decades following 1960, Jakarta saw large-scale urban displacement of kampungs due to increased private development.¹¹ This period was rife with a brutal history of eviction under three different governors, Sutiyoso (1997-2007), Fauzi Bowo (2007-2012), and Jokowi-Ahok (2012-2017). The last section examines two different governors, Jokowi and Ahok, since Jokowi became president in 2014 after only two years as governor. The headings below will document the governorships that saw the most devastating examples of forced urban displacement in Jakarta's history.

¹¹ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

Sutiyoso (1997-2007)

During Sutiyoso's governorship under President Suharto, approximately 200,000 residents lost the right to their homes through forced evictions, often with little to no compensation. 12 Governor Sutiyoso envisioned a grand, new modern city of Jakarta. Keeping with this vision, he embarked on massive beautification projects that forced Jakarta's urban marginalized groups out of the city center. Referred to as the "King of Evictions," 13,14 Sutiyoso's severe and harsh stance on kampungs was evident through the gangs and hired muscle that were often employed to forcibly remove residents from their homes and aid in kampung demolitions.¹⁵ Since the majority of Jakarta's land status and availability was disputed or in a state of uncertainty, Sutiyoso's administration justified these forced evictions based on: "(i) illegality; (ii) disruption of public order; and (iii) evictions due to a public interest-development project."16 The basis of Sutiyoso's illegality argument lay in the lack of proof kampung residents had for the property they occupied i.e. permits, and land-ownership documents. This demand for government-issued proof of land ownership was an effective tool against kampung residents because, often times kampungs were situated on "abandoned or unused land"—along riverbanks and roads, and under highways—which made evicting them acceptable under the label of "illegality." Kampung were also accused of "disrupting public order" due to their unpleasant and unsanitary nature, and so residents were evicted from public greenspaces and along transitways. Sutiyoso's reign saw numerous development projects be constructed under public interest to cater to the growing needs of Jakarta's middle and upper classes. In executing these developments, Sutiyoso saw a strong opportunity to evict kampungs situated on prospective development lands¹⁷

¹² Jellinek, Lea. (2011). "Kampung Demolition in Jakarta 1970-2009" in Kampung Perkotaan Indonesia: Kajian Historis-Antropologis atas Kesenjangan Sosial dan Ruang Kota. Yogyakarta: New Elmatera.

¹³ Silver, Christopher. (2008). "Chapter 1: Understanding Urbanization and the Megacity in Southeast Asia." In Planning the Megacity: Jakarta in the Twentieth Century. New York: Routledge, 18-35.

¹⁴ Kusno, Abidin. (2004). "Whither nationalist urbanism? Public life in Governor Sutiyoso's Jakarta." Urban Studies 41.12: 2377-2394.

¹⁵ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

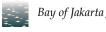
¹⁶ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

¹⁷ Sheppard, Bede. (2006). "Condemned communities: Forced evictions in Jakarta." Vol. 18. Human Rights Watch.

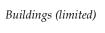
Fauzi Bowo (2007-2012)

Governor Fauzi Bowo under President Susilo Yudhoyono continued to evict kampung residents once he took office, but he justified these evictions differently than his predecessor. In the pursuit of a "Clean and Green" Jakarta, Fauzi Bowo issued a law that required Jakarta to acquire 30% of green space. For the city of Jakarta, this goal was meant to be accomplished by the year 2030. In order to attain this, the retention of green space in public areas was required. However, since many kampungs were located on these "empty lands", Fauzi ordered the evictions of nearly 15,000 "squatters" throughout the city. 18,19 Evictees were compensated in two forms: noncitizens received the equivalent of \$50-100 USD per household20, while Jakartan citizens were relocated to social housing, rusunawas, many miles away (Fig 1.14). The Urban Poor Consortium (UPC), an NGO, challenged Fauzi's execution of these forced evictions, who justified evictions to increase Jakarta's urban water retention capacity through the landscape project. The UPC's report exhibited statistics that underlined only a minority of green zones—approximately 218.2 ha—within the city of Jakarta were encroached upon by squatters, compared to the areas occupied in 1960 by new urban developments such as malls, apartment buildings, and offices. ²¹ This "green branding" approach is an ideal method to attract foreign investments for middle and upper-class land acquisition, and "reconquering urban space" at the cost of evicting marginalized communities.²² As stated by Kusno, "this interest in a green urban environment reflects the paradoxical situation where,

Legend



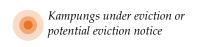
Bay of Jakarta / Java Sea

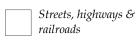


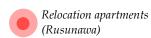












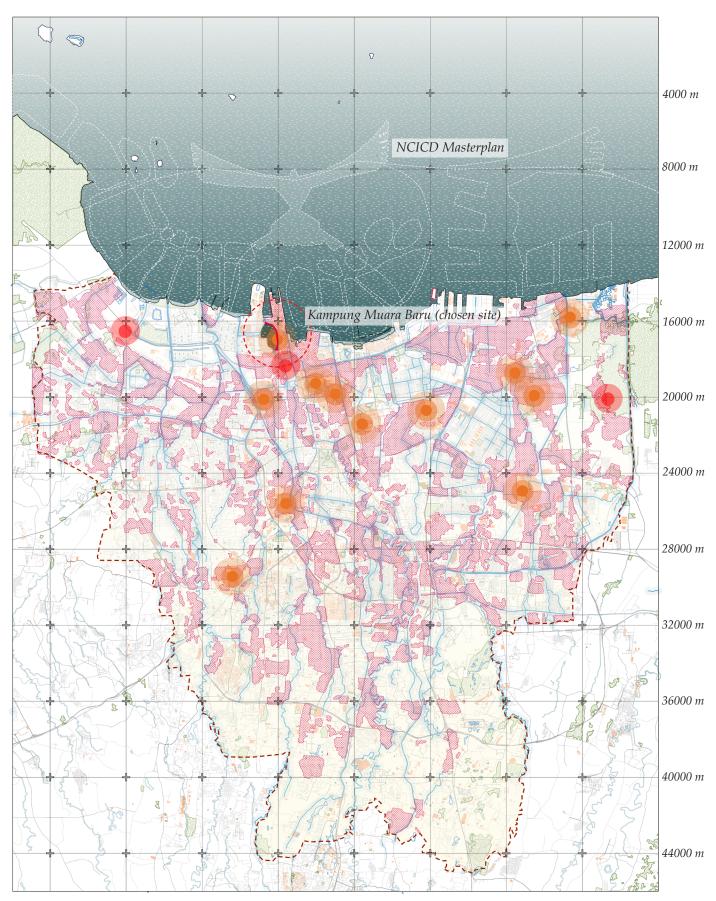
¹⁸ Kusno, Abidin. (2004). "Whither nationalist urbanism? Public life in Governor Sutiyoso's Jakarta." Urban Studies 41.12: 2377-2394.

Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

²⁰ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

Human Rights Watch. (2006). Condemned Communities - Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.

Kusno, Abidin. (2004). "Whither nationalist urbanism? Public life in Governor Sutiyoso's Jakarta." Urban Studies 41.12: 2377-2394.



 $Fig. \ 1.14 \ \ Site \ Plan \ of \ Jakarta \ showing \ existing \ kampung \ neighborhoods \ with \ limited \ eviction \ and \ relocation \ areas \\ Drawing \ by \ author$

creating green spaces for the upper middle and middle classes to return to Jakarta necessitates the eviction of the poor from livelihoods and residences in urban spaces." ²³ According to international human rights, while many evictions that take place in Jakarta may stem from a legal right to the land, the eviction itself is illegal, since in most cases, the local authorities have failed to provide alternative forms of housing with little to no compensation, further distressing the evictees. ²⁴

²³ Kusno, Abidin. (2004). "Whither nationalist urbanism? Public life in Governor Sutiyoso's Jakarta." Urban Studies 41.12: 2377-2394.

²⁴ Human Rights Committee. (1999). General Comment 27: Freedom of movement (art. 12). U.N. Doc. ccPR/C/21/Rev.1/Add.9.

Jokowi-Ahok (2012-2017)

Unlike previous regimes, Jokowi's kampung resettlement approach was vastly different from his predecessors as he took a more "participatory approach" with *kampung* residents.²⁵ His Kampung Deret (*kampung* upgrading) program had similar intentions to the Kampung Improvement Program (KIP) under Governor Ali Sadikin in the 1970s. Jokowi's program aimed to secure proof of legality of the land tenure for the *kampung* residents to help improve the housing quality of *kampungs*. Residents who were able to provide this documentation were able to secure financial aid, valued around \$4,750 USD per household, for renovations to their kampung houses.²⁶ While Jokowi aimed to preserve the *kampung* lifestyle without heavy interference, a disastrous flood in 2013 prompted Jokowi to relocate residents from a northern fishing community who lived along the community reservoir: this is Kampung Muara Baru, the site that is the focus of this thesis. His intention to relocate the residents of Kampung Muara Baru to a different rusunawa across the city was met with harsh resistance as the residents were not provided compensation and would be dispersed to the city's peripheries—far away from their occupations and livelihoods.²⁷ In response, Jokowi countered that residents could propose alternatives to this move, which resulted in the agreed relocation of residents to a nearby rusunawa one mile from their original community site.²⁸ However, in 2014 Jokowi was elected as president, and governor Ahok took over this initiative. His kampung response shifted drastically from Jokowi's and mirrored the response of Sutiyoso.²⁹ While Ahok allowed the relocation of some residents to a nearby housing block named Rusunawa Muara Baru, residents who failed to present valid documents of land tenure were treated brutally and forcibly evicted by military and police forces.30 During his administration, Ahok was accused several times of supporting the middle classes at the expense of lower classes. He was known to blatantly dismiss the needs of *kampung* communities, while blaming them for many urban problems, including floods, to gain support from the middle

²⁵ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

²⁶ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA

²⁷ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA

²⁸ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA

²⁹ Wilson, Ian. (2016). "Making Enemies out of friends." New Mandala. Available at: http://www.newmandala.org/making-enemies-friends/.

³⁰ Wilson, Ian. (2016). "Making Enemies out of friends." New Mandala.

classes. During his regime, many large-scale forced evictions occurred, most notably the brutal eviction of Kampung Pulo, which will be elaborated on in chapter 3.1.

A Lack of Adequate Compensation and Excessive use of Force

While the benefits to property value are seen by the government as acceptable reasons to conduct urban beautification and infrastructure development projects, the authorities pay evicted people for this land at market value or at a value known as N.J.O.P. (Nilai Jual Obyek Pajak; Sale Value of Tax Object) 31 which is significantly lower than market values. 32 Since most people living on evicted lands are considered "illegal squatters", the government determines that they are under no obligation to provide them with any form of compensation. 33 Sometimes compensation is provided to evictees who can produce a valid form of ID, but this compensation is not comparable to the costs of relocating to rusunawa, miles away from their origin site, and the loss of their livelihoods (Fig 1.15). 34 Residents moving from "horizontal" kampung neighborhoods into "vertical" apartment dwellings face a difficult lifestyle transition. Kampung residents typically hold informal occupations ranging from fishing to basket weaving. These activities would either occur in and around the home transforming the domestic space into a space of trade. By moving to apartments, not only are kampung residents distanced from their place of work but also the facilities to engage in informal trade and commerce. Living in kampungs allowed residents to have a freer and more affordable lifestyle as low-rise settlements were self-constructed and easy to pay for, or individual houses had been within the family for generations.³⁵ This low-rent or rent-free form of living meant most of a residents' earnings went

³¹ Human Rights Watch interview with H. Amidhan, Chairperson of Sub-commission on Economic, Social, and Cultural Rights. (2006). Komnas HAM (Komisi Nasional Hak Asasi Manusia; National Commission on Human Rights).

³² Human Rights Watch interview with H. Amidhan.

³³ Human Rights Watch interview with H. Amidhan.

³⁴ Tilley, Lisa, Juanita Elias, and Lena Rethel. (2019). "Urban evictions, public housing and the gendered rationalization of kampung life in Jakarta." Special Issue: The production and contestation of Exemplary Centres in Southeast Asia, Volume 60, Issue 1. Pg. 80-93.

³⁵ Michael, Chris, and M Yusni Aziz. (2016). "My House was turned to debris': Jakarta's evicted write their story." The Guardian. November 23, 2016. Available at: https://www.theguardian.com/cities/2016/nov/23/house-turned-debris-voices-evicted-kampung-pulo-jakarta.

towards groceries, education for their children, and savings.³⁶ Additionally, the informal community of the *kampung* permitted them to trade goods with neighbors and community members in a way that cannot exist in an apartment building. Without fair compensation and facing the loss of their established communities, many residents unsurprisingly do not wish to leave their *kampung*s willingly. Refusal to leave is often addressed with excessive and brutal force used against the residents. It has been noted that many of the officials and police conducting these evictions are in possession of firearms, knives, baton sticks, tear gas, and water cannons, while other intimidation strategies involve setting fire to houses, physically blocking access routes to neighborhoods, and throwing rocks to force residents to leave their homes.³⁷ Evictees also report police brutality in response to residents' protests and rallies.³⁸

³⁶ Michael, Chris, and M Yusni Aziz. (2016). "My House was turned to debris': Jakarta's evicted write their story." The Guardian.

³⁷ Human Rights Committee. (1999). General Comment 27: Freedom of movement (art. 12). U.N. Doc. ccPR/C/21/Rev.1/Add.9.

³⁸ Human Rights Committee. (1999). General Comment 27: Freedom of movement (art. 12). U.N. Doc. ccPR/C/21/Rev.1/Add.9.

Below is a copy of a compiled list of tables by researchers Tassaya Charupatanapongse and Andrew Jarvis dating from 1997-2016. These tables exhibits the evolution of rationales, compensation and relocation, and protests and resistances in response to eviction procedures specifically in the years 1997, 2003, 2010, 2014, and 2016.

1997

Rationale: 1988 Public Order Rule (deems squatters' land as illegal), rudimentary reasons such as pig stable construction, one mention to a transit system, river becomes of interest after Sutiyoso takes office.

Compensation and Relocation

Widely disputed, squatters demand compensation and receive none; considerable discussion over low-cost replacement apartments, but there is little supply to match the demand.

Protest and Resistance

Peaceful, no injuries or death by police.

2003

Rationale

Prevent river flooding, minimize traffic, and stop squatters from occupying illegal land.

Compensation and Relocation

Land that is developed is used for commercial purposes, such as sports complexes and malls, but not much discussion over land for apartment complexes.

Protest and Resistance

Protest and resistance becomes more intense and complex as physical clashes between squatters and police become more violent.

Other notes

Scale of evictions evidently increased during this period

Source: Charupatanapongse, Tassaya and Andrew Jarvis. (2018). "Qualitative analysis notes, 1997" 1997. "Evictions in Jakarta Through the Lens of the Media." Aleph, UCLA Undergraduate Research Journal for the Humanities and Social Sciences.

2010

Rationale The river dredging project as a preventative measure for floods and the Adipura Award which is a clean city award granted to a district in Jakarta. This is the first time that the importance of a place's cultural and historic roots emerge since residents are seen resisting the evictions on the rationale that a place has historical value.

Compensation and Relocation

This is the first time that the idea of giving compensation to those without Jakarta ID cards is brought up. While this mention is met with contradiction from Governor Fauzi Bowo, the World Bank makes clear that they have a resettlement policy and agenda and want to offer posteviction plans for the victims.

Protest and Resistance

Protests and resistance regularly accompany the evictions and the means of resistance continue to become more varied and creative, though some use legal methods as well.

2014

Rationale

Flooding is the main justification

Compensation and Relocation

No specific cash amounts for compensation, but rather, compensation is offered as replacement housing. There is construction of low-cost apartments, but not all residents receive this benefit.

Protest and Resistance

Meager mention of specific riots or physical confrontations between the squatters and public order police, but there continues to be description of legal challenges to the evictions and the role of NGOs and activists

Other notes

Media begins to pick up on Governor Ahok's ruthless mentality as he puts the public's interest over those of evicted kampung residents

Source: Charupatanapongse, Tassaya and Andrew Jarvis. (2018). "Qualitative analysis notes, 1997" 1997. "Evictions in Jakarta Through the Lens of the Media." Aleph, UCLA Undergraduate Research Journal for the Humanities and Social Sciences.

<u>2016</u>

Rationale The two dominant rationales for evictions this year are to normalize the river and to provide additional green space in the city.

Compensation and Relocation

Discussion on compensation and relocation remains consistent with the previous years, whereby only those with Jakarta ID cards or land certificates will receive compensation and be offered alternative housing. The problem with alternative low-cost housing is also still present since the new location is too far from where the residents used to live, making it extremely difficult to earn a living.

Protest and Resistance Protests and resistance have taken the form of refusing to leave one's dwelling and physical occupation of streets and public areas and legal action against the administration is still occurring.

Other Notes

The Jakarta Post centers around Governor Ahok in the wake of the election, reflecting on his policies and strategies and how this is picked up by the public. It is clear that eviction is one of Ahok's main projects.

Source: Charupatanapongse, Tassaya and Andrew Jarvis. (2018). "Qualitative analysis notes, 2016" 2016. "Evictions in Jakarta Through the Lens of the Media." Aleph, UCLA Undergraduate Research Journal for the Humanities and Social Sciences.



Fig. 1.15 River normalization leading to residents getting evicted in 2015- river width ranges up to 30m Image by author

PART_01 1.3 Urban Challenges

Issues of Flooding, discriminatory Water Policy, Rapid Urbanization and Land Subsidence

The colonization of Jakarta by the Dutch East India Company in 1605 saw the city's landscape transform into that of a typical Dutch town lined with buildings and canals. This drastic remaking of the land can still be seen rippling through modern Jakarta, as current planning practices continue to reference Jakarta's colonial past. This chapter highlights four critical issues that have been exacerbated over four centuries of colonial intervention: (1) flooding and grey infrastructure, (2) discriminatory water policy, (3) rapid urbanization, and (4) land subsidence.

Flooding

Flooding in Jakarta is a natural part of its existing deltaic topography; located along the Java Sea, the city has always faced flooding, especially during the monsoon seasons. However, Jakarta's natural topography has been compromised by an over-canalized landscape and grey infrastructure construction by the Dutch that has eliminated the terrain's natural ability to mitigate flood water (Fig 1.16). Under Dutch rule, the grey infrastructural interventions typically came in the form of canals that were used as transit routes, trading ports, engineered solutions for flooding, and to direct fresh water (Fig 1.17). This use of grey infrastructure became the primary response to natural hazards. While these were appropriate policy responses, they are widely understood as neoliberal capitalist developments that prioritize private economic benefit over public protection.1 While the excessive use of grey infrastructure to solve issues of modernization in Jakarta may have been feasible four hundred years ago in a city with limited urbanity and a smaller population, this strategy is no longer realistic or viable in an overly densified, urbanizing city. Today, as tidal surges from the Bay of Jakarta threaten to flood neighborhoods along the northern and central areas of Jakarta, the government has implemented large, heightened sea walls along the northern perimeter to protect the city from flood disasters. The most recent response engineered solution to combat flooding hazards is the construction of the NCICD—an urban renewal master plan located in the Bay of Jakarta. The continued use of grey infrastructure since 1650 as a solution to mitigate flooding is also aligned with historic patterns of foreign exploitive capitalism leveraging natural hazard events.² Regardless of the numerous water gates constructed along the shores of northern Jakarta, the hazard response

¹ Argo, T. A. (1999). "Thirsty downstream: The provision of clean water in Jakarta, Indonesia." University of British Columbia.

² Stinchcombe, A. L. (1968). "Constructing Social Theories". New York, USA: Harcourt, Brace and World.

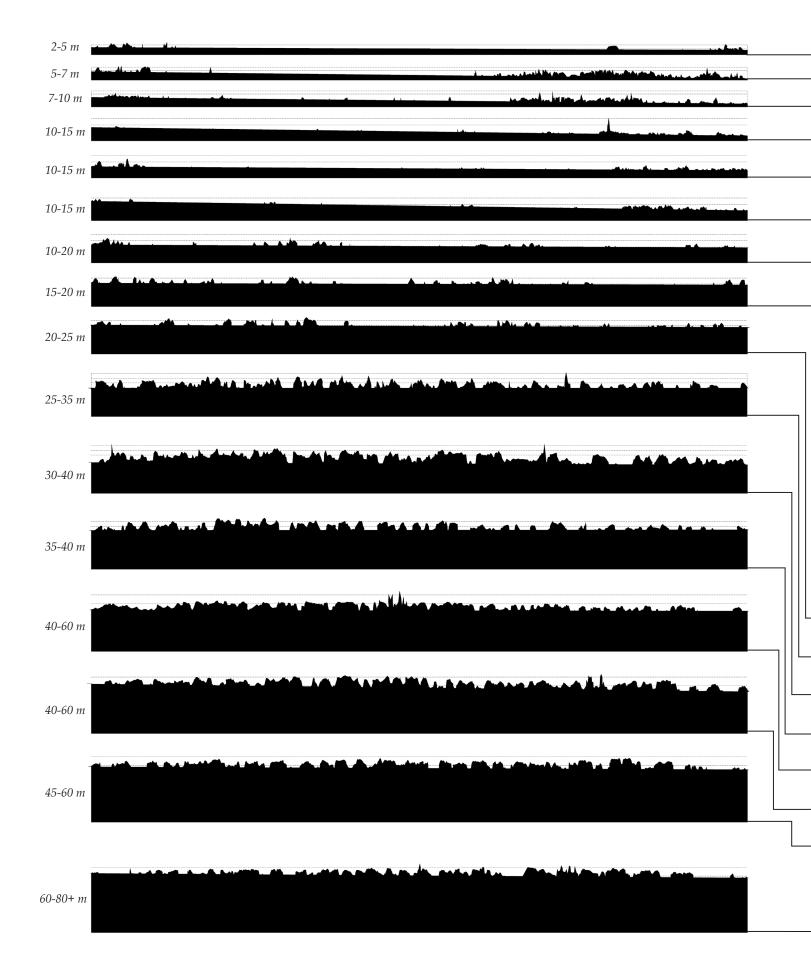
infrastructures quickly reach their capacity, forcing many marginalized communities to gather their possessions and wait out the floods in two or three storey buildings or on rooftops.³ Flood frequencies are often blamed on anthropogenic activities, especially those relating to the industrialization and modernization of rural places around the world.⁴ These modernizations largely include the construction of more residences and city blocks, in both rural and urban contexts, to accommodate an increasing population, therefore decreasing the amount of absorbent land that is needed to mitigate flood water.⁵ In Jakarta specifically, severe flooding is also blamed on the silent encroachment of *kampungs* and other informal settlements along riverbanks. However, once cleared, the land is typically used for large scale urban renewal projects thus calling into question the severity of the encroachments to begin with. Around 70 to 75% of Jakarta's waterways are clogged with garbage and debris, leaving the functioning 25% of sewage drains to handle 100% of the city's needs—this is clearly not enough to drain flood water adequately resulting in increased flood levels due to anthropogenic progression. 6 As the population of Jakarta is not projected to decrease, this is a problem of increasing severity that is not being addressed by current grey infrastructural interventions.

³ Sheehan, Molly, and Linda Strake. (2007). "Our Urban Future: A Worldwatch Institute Report on Progress toward a Sustainable Society." New York: W.W. Norton, 2007.

⁴ School of Environment and Geographical Sciences, University of Nottingham, and Department of Civil Engineering, University of Nottingham. (2018). "Anthropocene Climate and Landscape Change That Increases Flood Disasters." International Journal of Hydrology 2, no. 4. August 13, 2018. Available at: http://medcraveonline.com/IJH/IJH-02-00115.pdf

⁵ Sheehan, Molly, and Linda Strake. (2007). "Our Urban Future: A Worldwatch Institute Report on Progress toward a Sustainable Society." New York: W.W. Norton, 2007.

⁶ Cochrane, Joe. (2018). "What's Clogging Jakarta's Waterways?" The New York Times. January 20, 2018. Available at: https://www.nytimes.com/2016/10/04/world/asia/jakarta-indonesia-canals.html.



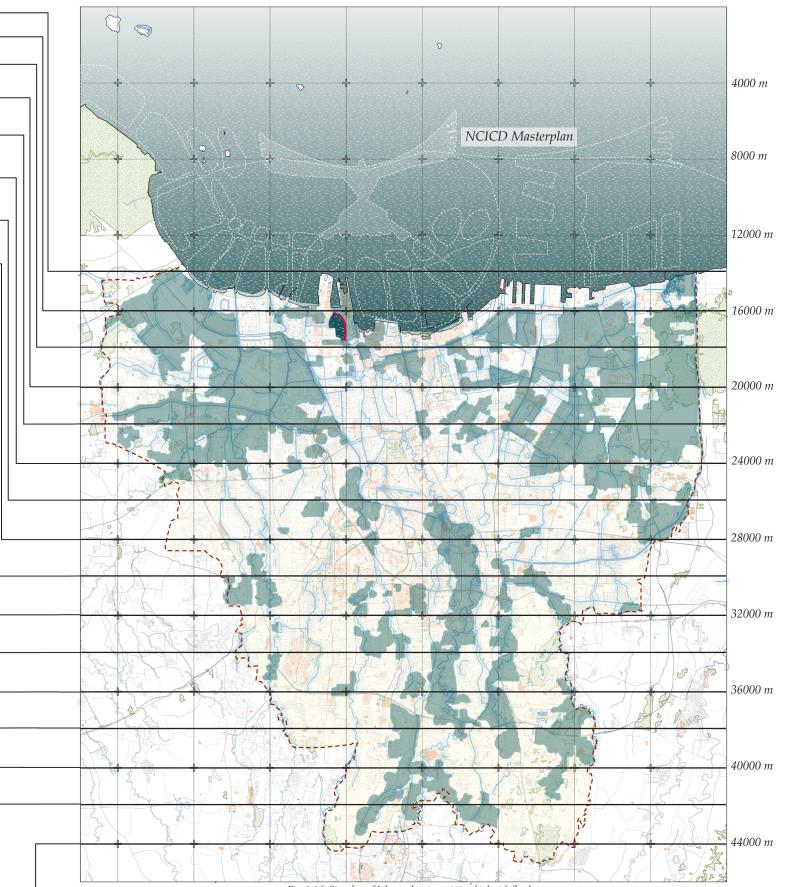


Fig. 1.16 Site plan of Jakarta showing existing high-risk flood with elevation change through a series of section cuts (NTS)
Image by author





Fig. 1.17 River normalization outside the old town of Batavia- width ranges from 25m to 30m Image by author

Water Policy

Jakarta's contemporary water distribution policy resembles grey infrastructural use, in that it is also a lingering colonial artifact that is hierarchical and unfairly discriminates against Jakarta's native population. The prejudiced water policy stems from the Dutch aggregate control of potable water in Batavia that historically cemented a racial and class division that persists today. After the gradual displacement of the local Javanese people from the walled town of Batavia by the Dutch, concerns of health and welfare became a prominent topic as native residences, namely *kampungs*, were perceived as unsanitary and unhygienic.⁷ This characterization of the *kampung* also impacted the stigma of water being polluted in these communities as well. The gradual increase in knowledge about the relationship between water and health gave the Dutch even more control of the *kampung* communities. This superiority translated into Jakarta's hierarchical water policy, wherein the native Javanese were made to source their daily water through untreated surface water, while the colonial administration, European settlers, and other wealthy immigrants consumed fresh water through a piped water network (Fig 1.18).9 This discriminatory approach continued well into the 20th century with the transfer of control of moderately polluted groundwater artesian aquifers to the native population.¹⁰ During Jakarta's industrial boom in the late 20th century, over 3500 wells were drilled in the greater Jakarta region due to its average water quality, but low cost of groundwater, which suited many marginalized residents since they could not afford clean piped water or bottled water for daily consumption.¹¹ Over time, this became an inaccessible source of water for many as most groundwater pumps were secured by private sectors or the government, which eventually led to a further divide between Jakarta's economic classes. Today, Jakarta's main source of potable water comes from the Citarum River and the Jatiluhur Reservoir. 12 While groundwater is still largely used, most wells

⁷ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

⁸ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

⁹ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA.

¹⁰ Kooy, Michelle, and Karen Bakker. (2008). "Splintered networks: The colonial and contemporary waters of Jakarta." Geoforum. 39. 1843-1858. 10.1016/j.geoforum.2008.07.012.

¹¹ Shatkin, G. (2019). "Futures of Crisis, Futures of Urban Political Theory: Flooding in Asian Coastal Megacities." International Journal of Urban and Regional Research, 43(2), 207-226.

¹² Luo, P., S. Kang, M. Z. Apip, J. Lyu, S. Aisyah, M. Binaya, and D. Nover. (2019). "Water quality trend assessment in Jakarta: A rapidly growing Asian megacity." PloS one, 14(7). Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6623954/.

are controlled by private parties and are polluted by waste deposits seeping in from "[...] agriculture, fish farming, mining, industry, and domestic wastewater" sources. 13 Water sourced from the Citarum River only reaches approximately 60% of residents and is only available at certain times of the day. 14 Statistics show that Jakarta's population consumes around 413 million m³ a year, but the supplied water from the District Water Utility reservoirs is limited to 200 million m³, showing a major and unsustainable dependency on groundwater extraction.¹⁵ Due to this class-based water insecurity, many kampung residents are forced to purchase gallons of potable water every day, costing them between 200,00-300,00 IDR (equivalent to \$25 CAD) per month. While this price may seem relatively inexpensive to an average middle-class resident, kampung residents view this expense as a significant portion of their savings. According to public data, Indonesia has more water resources available than its demand requires, however, a history of poor state leadership, lack of adequate infrastructure, and discriminatory policy changes have exacerbated problems relating to Jakarta's water distribution over time. 16

¹³ Uhlin, Anders. (2016). "Civil Society and Regional Governance the Asian Development Bank and the Association of Southeast Asian Nations." Lanham Maryland: Lexington Books.

Luo, P., S. Kang, M. Z. Apip, J. Lyu, S. Aisyah, M. Binaya, and D. Nover. (2019). "Water quality trend assessment in Jakarta: A rapidly growing Asian megacity." PloS one, 14(7). Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6623954/.

¹⁵ Kumar, Pankaj, Yoshifumi Masago, Binaya Kumar Mishra, Shokhrukh Jalilov, Ammar Rafiei Emam, Mohamed Kefi, and Kensuke Fukushi. (2017). "Current Assessment and Future Outlook for Water Resources Considering Climate Change and a Population Burst: A Case Study of Ciliwung River, Jakarta City, Indonesia" Water 9, no. 6: 410. Available at: https://doi.org/10.3390/w9060410.

¹⁶ Uhlin, Anders. (2016). "Civil Society and Regional Governance the Asian Development Bank and the Association of Southeast Asian Nations." Lanham Maryland: Lexington Books.

- Sungai Ciliwung, Kelapa Dua (Srengseng Sawah)
- Sungai Ciliwung, Intake PAM Condet (kampung Gedong)
- 3. Sungai Ciliwung, Sblm Pintu Air Manggarai
- 3A. Sungai Ciliwung, Jl. Halimun
- Sungai Ciliwung, Jl. KH. Mas Mansyur 4.
- Sungai Ciliwung, Gudang PLN (Kebon Melati) 5.
- Sungai Ciliwung, , Jemb Pantai Indah Kapuk 6.
- 7. Sungai Kalibaru, Komp. Srengseng Sawah
- Sungai Cipinang, Jl. Auri (Taman Bunga Cibubur)
- Sungai Cipinang, Jl. Pondok Gede Tol TMII (Kramatjati) 8A.
- Sungai Cipinang, Jl. Halim P Kusuma
- Kali Sunter (Pondok Rangon) 10.
- Sungai Sunter, Jl. Jatinegara Kaum 12.
- Kali Sunter, Bogasari (Koja Selatan)
- Sungai Krukut, Pondok Labu 14.
- Sungai Krukut, Jl. Pejompongan (Karet Tengsin)
- Tarum Barat, Bekasi
- Sungai Angke, Cileduk
- 20A. Sungai Angke, Pesing Kali Angke
- Cengkareng Drain, Rel Kereta Api (Kembangan)
- Cengkareng Drain, Kapuk (Muara Cengkareng Drain)
- Sungai Pesanggerahan(Jl. Ciputat, Ps. Jumat, Lebak Bulus
- Kali Mookervart, Jl. Daan Mogot, Bir Bintang (Kali Deres)
- 24A. Kali Mookervart, Jl. Daan Mogot Pemancar (Rawa Buaya)
- Sungai Grogol, Jl. Lebak Bulus
- 25A. Sungai Grogol, Il. Radio Dalam
- Sungai Grogol, PLTU Pluit
- Sungai Ciliwung, Jl. Kwitang
- Sungai Ciliwung Gajah Mada, Ancol Marina
- Sungai Ciliwung Gajah Mada, Pompa Pluit
- Sungai Kali Baru Timur, Jl. Raya Bogor (YKK)

- Sungai Kaali Baru Timur, Ancol/Jembatan si manis
- Sungai Cakung, Jl. Pulogebang
- 36A. Sungai Buaran, Jl. Kalimalang (Pondok Kelapa)
 - Cakung Drain, Jl. Raya Bekasi (Cakung Barat)
 - Cakung Drain, Cilincing (Pos Polisi) 38.
 - Sungai Petukangan, Kawasan PT. JIEP 39.
 - Sungai Petukangan, Jl. Swadaya
 - 41. Sungai Kama, Jl. Raya Benda
 - Sungai Kamal, Muara Kamal 42.
 - 43. Sungai Sepak,r Jl. Pasar Bintaro. Ulujami
 - Kali Sunter, Komp. AL, Jl. Yos Sudarso (Kelapa Gading) 45.
 - Kali Blencong, Muara Baru (Rorotan)
 - 48. Sungai

Legend



Bay of Jakarta / Java Sea



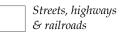
Parks, Marshes & Plantations

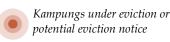


Existing Kampungs



Rivers & Waterways





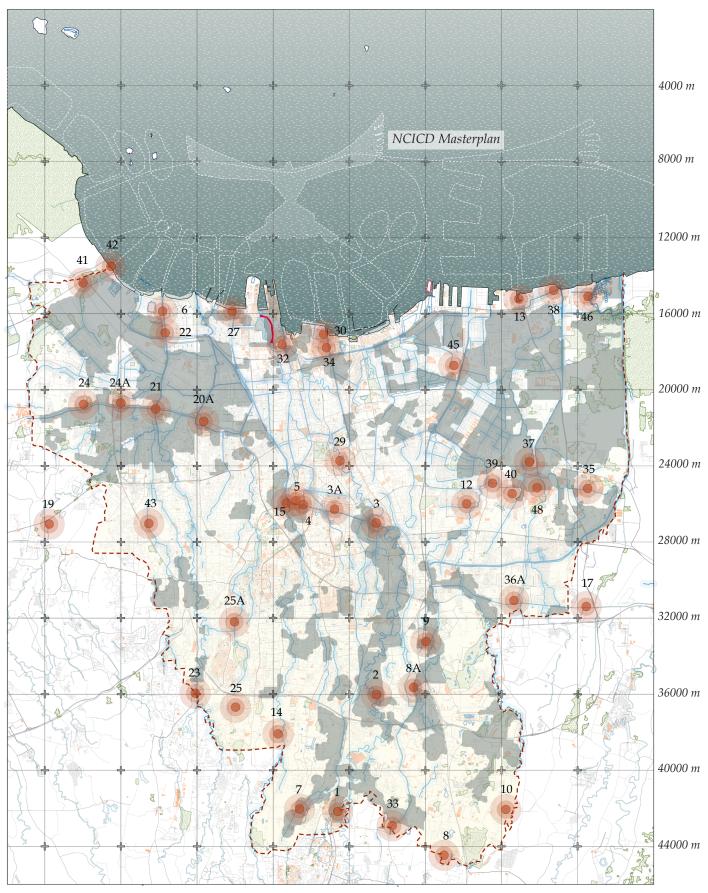


Fig. 1.18 Site Plan of Jakarta showing river water quality monitoring conducted by the Government of DKI Jakarta Province
Diagram re adapted by author.

Source: Luo, P., S. Kang, M. Z. Apip, J. Lyu, S. Aisyah, M. Binaya, and D. Nover. (2019). "Water quality trend assessment in Jakarta: A rapidly growing Asian megacity." PloS one, 14(7). Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6623954/.

Rapid Urbanization

Jakarta first experienced rapid urbanization as the city of Batavia was transformed into a massive trading port for the Dutch, followed by the construction of a Dutch and settler commons, and finally the subsequent development of Weltevreden into a luxurious green city as the colonial capital. More recent cycles of rapid urbanization began in the early 1900s, when large numbers of migrant workers from neighboring areas within Indonesia came into Jakarta seeking work.¹⁷ These migrants often settled with residents who owned established kampungs with legal land titles and large plots of land for agriculture. However, over time, these migrants settled on adjacent illegal land areas and developed extensive settlements. New waves of migrant workers filled in the city's socioeconomic gaps with labor and service jobs and would find accommodations in rented spaces within these illegal housing settlements.¹⁸ This pattern would continue in the years following the end of the second world war and Indonesian independence. An influx of immigrants combined with local population growth saw a construction boom in Jakarta and increased the city's population by 250%. 19 . It was during this time that the Governor of Jakarta, Ali Sadikin, attempted to limit the influx of migrant workers by convincing many to return to their respective cities or villages.²⁰ Between 1980-2002, nearly a quarter of agricultural land was converted to urban landforms to accommodate office, retail, and residential city blocks (Fig 1.19 and 1.20).21 Following 2002, these problems compounded. The influx of people led to the need for rapid city-wide development, and consequently caused rapid concretization and deforestation of most available green space in modern Jakarta. This space was originally used as rainwater infiltration; however, the concretization caused a lot of surface run-off water, thus aggravating issues such as flooding. Despite a target of 20% green area, Jakarta has only managed to retain 4.65% of its green area in 2013.²² The city government has done little to adjust to its growing population as the city infrastructure lacks basic facilities including proper garbage disposal, adequate sewage treatment, and decent piped water networks. Today Jakarta must tackle an unreliable governance of its existing infrastructure and a lack of adequate monetary allowance to address these concerns (Fig 1.21 and 1.22).

¹⁷ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

¹⁸ Silver, Christopher. (2008). "Chapter 1: Understanding Urbanization and the Megacity in Southeast Asia." In Planning the Megacity: Jakarta in the Twentieth Century. New York: Routledge, 18-35.

¹⁹ Darrundono. (2011). "Proyek MHT: Berhasil Meningkatkan Kualitas Habitat Orang Miskin di Jakarta." Jakarta: Artha Lintas Graphia.

²⁰ Irawaty, D. (2018). "Jakarta's Kampungs: Their History and Contested Future." UCLA. ProQuest ID: Irawaty_ucla_0031N_17088. Merritt ID: ark:/13030/m50w397b. Available at: https://escholarship.org/uc/item/55w9b9gg.

²¹ BPS Jakarta. (2007). "Jakarta Dalam Angka 2007", Katalog BPS: 1403.31, Badan Pusat Statistik Propinsi DKI Jakarta, 520 pp.

²² Setiowati, R., H. Hasibuan, and R. Koestoer. (2018). "Green open space Masterplan at Jakarta capital city, Indonesia for climate change mitigation." IOP Publishing: Earth and Environmental Science, 200, 1–8. doi:10.1088/1755-1315/200/1/01204.

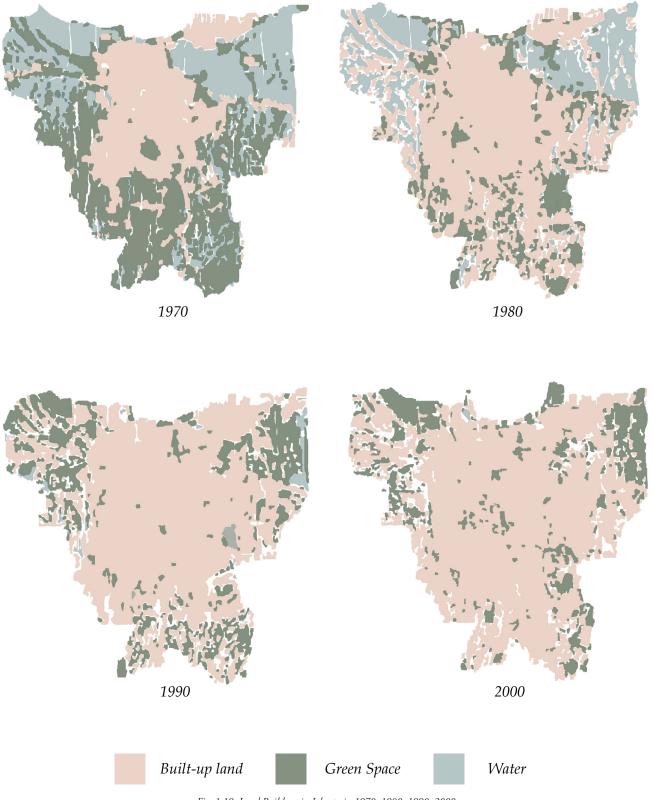


Fig. 1.19 Land Build-up in Jakarta in 1970, 1980, 1990, 2000. Drawing re-adapted by author Source: Google Earth









1995 2000





2005 2010





2015 2020

Fig. 1.20 Land Build-up in Jakarta in 1985, 1990, 1995, 2000, 2005, 2010, 2015, & 2020 Drawing re-adapted by author Source: Google Earth



Fig. 1.21 NCICD Seawall Image by author



Fig. 1.22 NCICD Seawall Image by author

Land Subsidence

Land subsidence has plagued Jakarta for over a century. While there are a few different factors contributing to the ongoing land subsidence in Jakarta, the two main causes are excessive and unregulated groundwater extraction, and rapid urbanization—specifically the construction of high-rise towers and dense urban blocks. Groundwater extraction causes a loss of hydraulic pressure in the Earth's water table, leading to the gradual sinking of landmass.²³ Since the 1980s, it is estimated that Jakarta has sunk four meters, and continues to sink an estimated 4-6 cm per year, with 50 per cent of its landmass currently below sea level (Fig. 1.23). ²⁴ Jakarta's exponential urban growth has led to the mass concretization of the city, thus reducing permeable surfaces for water retention. This is a significant issue as the water table is depleted faster than it can be replenished, causing a shortage of available ground water. Additionally, since ground water extraction is typically the only source of water for many marginalized communities due to its economic viability, the reliance on ground water and simultaneous population increases poses a problem for the city. These issues exist alongside Jakarta's inadequate piped water supply and the mass privatization of water. Jakarta's potable water has been privatized for over two decades. ²⁵ This privatization of water is steeped in corruption because private operators in charge of water distribution fail to fulfill their duties in supplying sufficient water to the city while also overcharging water users, forcing them into debt.²⁶ Jakarta's impoverished urban communities will continue to draw heavily from the depleted groundwater supply so long as Jakarta's piped water supply is more expensive than any other Indonesian city, and most other coastal cities. In addition to problems caused by unregulated groundwater extraction, issues of land subsidence are compounded by an increase in urbanization, particularly the construction of high-rise towers. ²⁷ Jakarta's building loads on the land are not likely to decrease in the future since a UN Development Programme reported that Indonesia's urban

²³ Brinkman, JanJaap, and Hartman. (2009). "Jakarta: Urban Challenges in a Changing Climate." Flood Hazard Mapping Framework. The World Bank Office, Jakarta.

²⁴ Brinkman, JanJaap, and Hartman. (2009). "Jakarta: Urban Challenges in a Changing Climate." Flood Hazard Mapping Framework.

²⁵ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation." SOMO, Both ENDS and TNI. April 2017. Available at: https://issuu.com/both_ends/docs/lr_social_justice_at_bay_a4.

²⁶ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."

²⁷ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."

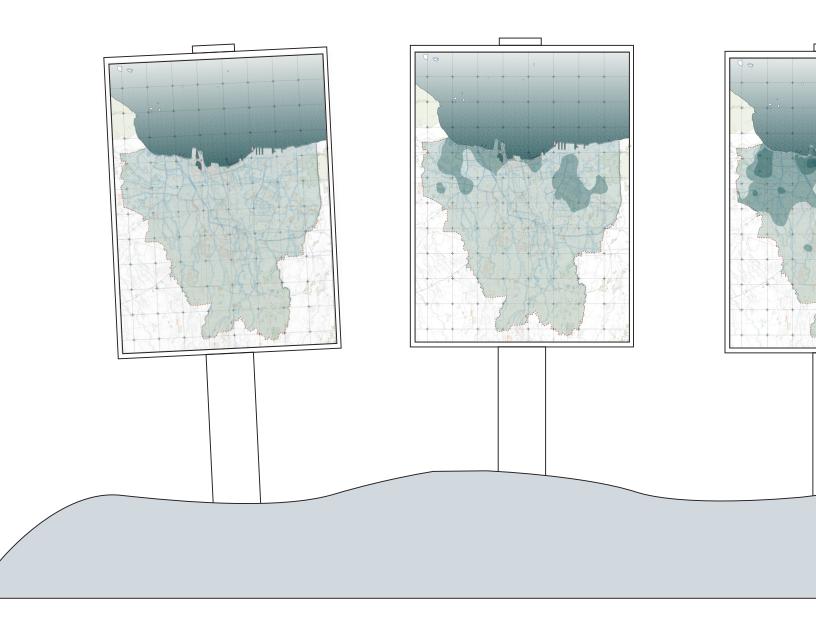
population concentration has doubled between the years 1980 and 2015 and continues to grow at this rate despite many decentralization attempts. ²⁸ Land subsidence also magnifies flooding concerns, which in turn trigger heavy-handed grey infrastructure projects, displacing growing marginalized communities who suffer under discriminatory water policies (Fig 1.24). As a result, these communities turn to groundwater as their only economic source of water supply, which further exacerbates land subsidence.

²⁸ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."





Fig. 1.23 Waladuna mosque below sea level beyond the new NCICD seawall Image by author



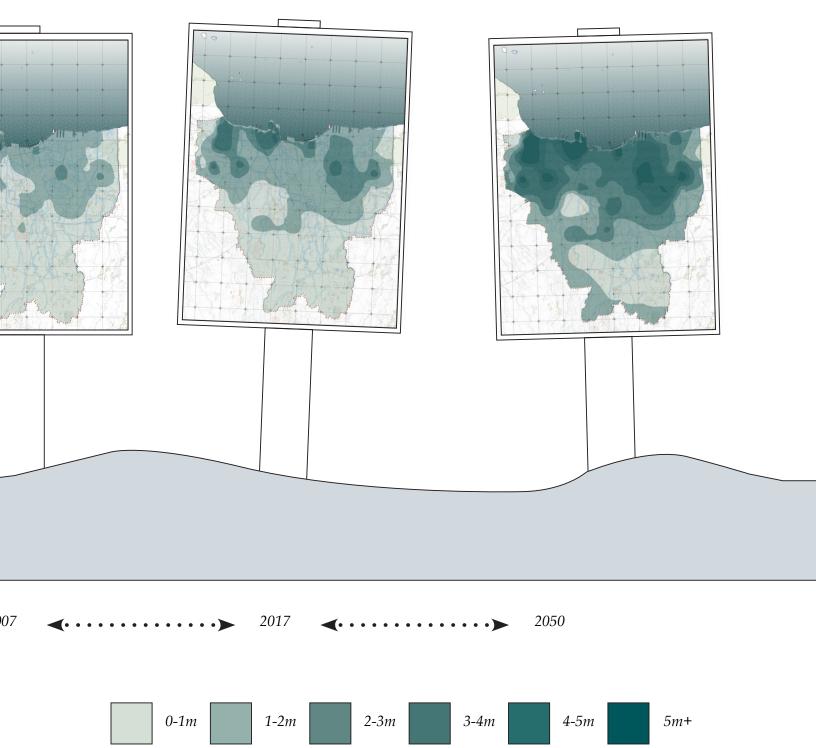


Fig. 1.24 Maps of Jakarta's land subsidence progressively from 1977 to 2050 Diagram re adapted by author.

Source: Abidin, Hasanuddin Z., Heri Andreas, Irwan Gumilar, and Mohammad Gamal. (2009). "Land Subsidence and Urban Development in Jakarta (Indonesia)." Bandung Institute of Technology.

PART_02 2.0 The NCICD master plan

The National Capital Integrated Coastal Development

The NCICD Masterplan: An Overview

An exponential rise in anthropogenic activity over the last 100 years, coupled with an even longer history of colonial exploitation, has left Jakarta's urban landscape vulnerable to threats of severe flooding and land subsidence. After a series of catastrophic floods in 2007 and 2013, the Indonesian government collaborated with a Dutch engineering firm, Witteveen+Bos, and the Dutch government to explore a new urban masterplan titled, the National Capital Integrated Coastal Development (NCICD) (Fig 2.1). The masterplan was proposed as a response to the issues of flooding and land subsidence in Jakarta, and would be partially funded by Jakarta, with the remaining majority funded through Dutch private equity and other foreign investment. This alliance between a former colony and its colonizer has brought into question whether the NCICD masterplan is truly designed to best serve its current Indonesian populations, or whether it is another neocolonial intervention. This master plan emerged in 2014 with the development of a giant sea wall and 17 artificial islands along the existing Bay of Jakarta. This urban development has been estimated to cost the Jakartan government more than of \$40 billion USD (approximately 262 trillion Indonesian rupees).2 This multi-billiondollar project is said to include a 32km offshore sea wall, a 1250-ha land reclamation, and a 7500-ha water retention basin.³ The early construction of the offshore sea wall was considered an integral component to the plan, as its completion would secure a considerably large investment from private equity. As a result of this decision, only 20 to 30 per cent of this construction cost is said to come from Indonesian taxpayers and the government. The remaining 70 to 80 per cent is a collection of loans and investments by foreign nations, corporations, and individual developers including the Dutch Government.⁴ While the original set of plans, created in 1995 by President Suharto, spoke of a giant sea wall and 17 islands, the Dutch firm Witteveen+Bos went on to propose a grander vision: one with a large-scale land reclamation component

¹ Wulp, Simon A. van der, Larissa Dsikowitzky, Karl Jürgen Hesse, and Jan Schwarzbauer. (2016). "Master Plan Jakarta, Indonesia: The Giant Seawall and the Need for Structural Treatment of Municipal Waste Water." Marine Pollution Bulletin 110 (2): 686–93. September 30, 2016. Available at: https://www.sciencedirect.com/science/article/abs/pii/S0025326X16303496.

² Jufri, Kemal. (2016). "\$40bn to save Jakarta: the story of the Great Garuda." The Guradian. 22 November, 2016. Available at: https://www.theguardian.com/cities/2016/nov/22/jakarta-great-garuda-seawall-sinking.

³ Permanasari, Eka. (2019). "Reading Political Insinuation in Urban Forms: Saving the Sinking Jakarta Through Giant Sea Wall Project." Geographia Technica.

⁴ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle." Department of City and Regional Planning, University of California, California, Berkeley, USA. May 22, 2018.

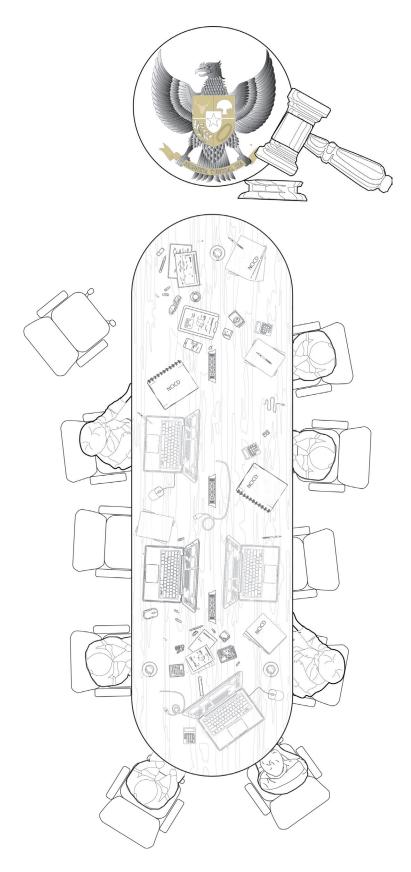


Fig. 2.1 Illustrative meeting of the NCICD plan in development Drawing by author

"The National symbol, beloved by everyone, comes to the rescue of the national capital, guarding it's people from drowning and providing a grand perspective of the future of Indonesia."

Source: NCICD Consortium. (2015). National Capital Intergrated Coastal Development Master Plan. Jakarta.

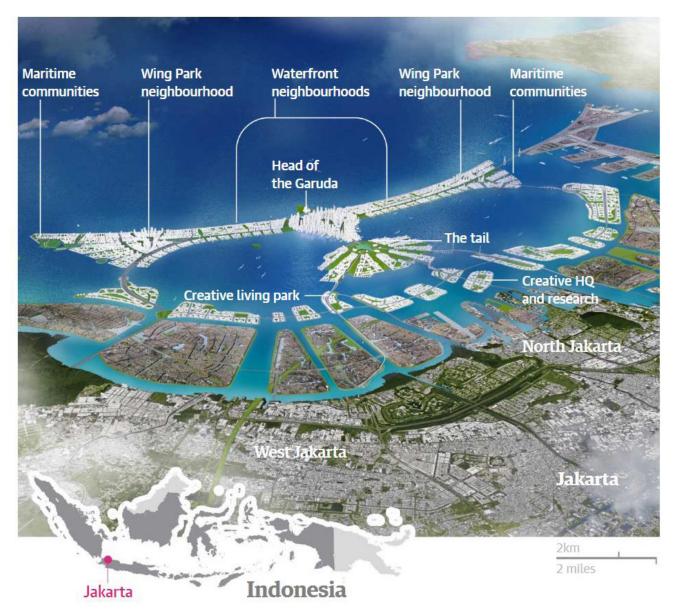


Fig. 2.2 Overarching rendered view of the new NCICD plan by Witteveen+Bos Source: NCICD Consortium. (2015). National Capital Intergrated Coastal Development Master Plan. Jakarta.

that would take the form of the great Garuda bird—the national symbol of Indonesia (Fig 2.2).⁵ As the potential for private investment emerged, the master plan was expanded to be larger than its original scheme. Around 45 per cent of the new Garuda-shaped urban island is now designated as a new luxury waterfront city. This includes the construction of prime real estate to attract additional private entities to invest. Packaging the NCICD master plan as a real estate investment reinforces the Dutch's colonial method of veiling grey infrastructure as lucrative economic investments. This enormous project is set to develop in three main stages (Fig 2.3). The first stage focuses on developing and strengthening the existing dikes along the waterfront of Jakarta. The second stage proposes the construction of an offshore seawall, to act as a giant toll road, the development of the islets, and the construction of the main Garuda masterplan. And finally, stage three involves developing the seawall towards the eastern part of Jakarta,⁶

Since the project was launched, it has faced major criticism by the general public and many fishing communities. In 2016, the project received scrutiny after a corruption scandal surrounded the development of the 17 artificial islands.7 This negative response arose as residents viewed the 17 proposed islands as a generic urban development that exploited the genuine need for the development of disaster relief responses. Criticism of the project also centered on the experience of the many vulnerable kampung and fishing communities on the northern shoreline that have already been evicted because of this construction. 8 The aftermath of this scandal led to a temporary suspension of the project, pending review from the highest government official in the republic, Indonesia's president Joko Widodo. This suspension was to evaluate the resident concerns and larger social and ecological impacts raised by the development of the 17 islands in the NCICD plan.9 Local citizens drew comparisons between the new master plan and other man-made islands like the Palm Jumeirah in Dubai, or Sentosa Island in Singapore: large luxury developments with commerce and upscale residences that cater to

 $^{5\,}$ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

⁶ Octavianti, Thanti, and Katrina Charles. (2018). "Disaster capitalism? Examining the politicisation of land subsidence crisis in pushing Jakarta's seawall megaproject." Water Alternatives 11(2): 394-420.

⁷ Mahtani, Nashin. (2020). "Torrential Urbanism and the Future Subjunctive." E-flux Architecture. September 07, 2020. Available at: https://www.e-flux.com/architecture/accumulation/345108/torrential-urbanism-and-the-future-subjunctive/

⁸ Jufri, Kemal. (2016). "\$40bn to save Jakarta: the story of the Great Garuda."

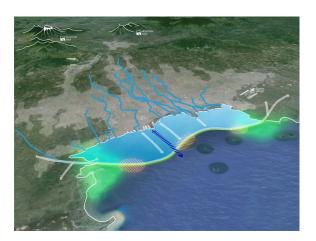
⁹ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."



a.



b.



С.





Fig. 2.3 Illustrations from Kuiper Compagnons of the Jakarta Bay transformation through the development of the NCICD Masterplan Source: Witteveen+Bos, Grontmij, ECORYS, Deltares, and KuiperCompagnons. (2015). "The Great Garuda to save Jakarta." Kuiper Compagnons.

a select demographic.¹⁰ Concerned residents and activists also worry about the environmental impact of the master plan on the Bay of Jakarta and its surrounding ecology (Fig 2.4).¹¹

The first stage of the master plan—Phase A—had the most consensus from the public and project stakeholders. "This is the 'no regrets' stage, as everyone agrees that we need to do this now," stated Tuty Kusumawati, head of the Jakarta planning department. This stage involves reinforcing existing embankments that were designed to protect Jakarta from high tides and flooding until the year 2030. Unpredicted floods are aggravated by the city's current poor maintenance of its infrastructure, which reduces the maximum carrying capacity of its drainage systems. This issue, combined with land subsidence due to unregulated ground water extraction, causes a chain reaction of irreversible damage to the city. Given this reality, Kusumawati, alongside other local residents and fishing communities, agreed that the implementation of Phase A is vital in developing viable safety mechanisms to protect the city.

Phase B outlines the construction of an outer sea wall spanning Jakarta's west end as it is subsiding at a faster rate than further east. This phase also outlines the development of the new waterfront city, the Great Garuda. This phase is to be realized by 2040. ¹⁴ Phase C involves the development of the sea wall along the eastern shore of Jakarta's Bay. This phase is still under negotiation as it received heavy criticism regarding its environmental impacts which will be elaborated on later in this chapter. If approved, this phase is slated to be realized by 2050. ¹⁵ In contrast to Phase A, Phases B and C faced lengthy deliberations, especially as the public largely opposed the offshore seawall due to its potential detrimental impacts on the environment and riverfront *kampung* communities. However, as the six-month suspension ended, these phases could proceed along their original construction timelines. While the temporary suspension of the project provided hope for Jakarta's residents, its

¹⁰ Jufri, Kemal. (2016). "\$40bn to save Jakarta: the story of the Great Garuda."

¹¹ Jufri, Kemal. (2016). "\$40bn to save Jakarta: the story of the Great Garuda."

¹² Jufri, Kemal. (2016). "\$40bn to save Jakarta: the story of the Great Garuda."

¹³ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation." SOMO, Both ENDS and TNI. April 2017. Available at: https://issuu.com/both_ends/docs/lr_social_justice_at_bay_a4.

¹⁴ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."

¹⁵ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."

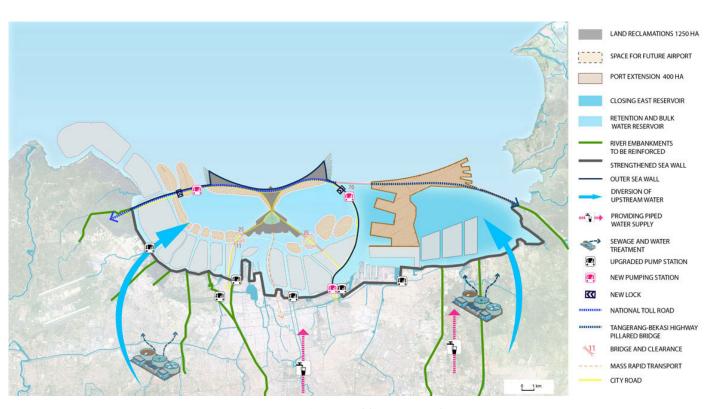


Fig. 2.4 Diagram of the new NCICD plan Source: NCICD Consortium. (2015). National Capital Intergrated Coastal Development Master Plan. Jakarta.

subsequent approval by the Indonesian and Dutch governments, once again illustrated the lack of agency of the general public during these decisionmaking procedures.¹⁶

False Representation

The NCICD plan was originally developed as an urgent coastal defense solution against disastrous flooding and land subsidence, based on the assumption that the issue of Jakarta sinking could not be addressed by any other means in time to mitigate future flooding.¹⁷ While this masterplan aims to address issues of land subsidence as a result of groundwater extraction as the main cause of Jakarta sinking, the current implementation of the plan fails to include effective strategies to lessen the burden on groundwater dependency. The master plan development currently does not exhibit any evidence geared towards the construction of new water pipes for potable water within the city, or to the new Garuda Island. The current design of the new waterfront city uses Great Garuda iconography as a disingenuous symbol to market the city within the context of global infrastructure. The project is widely considered among leaders of the Jakarta government and urban planners alike as constituting a token of "iconographic power". 18 While the Great Garuda symbolizes hope in a Javanese vernacular and posits the masterplan as a locally rooted initiative, its use in the NCICD master plan represents a curated marketing strategy and commodification of hope to secure large foreign capital investment (Fig 2.5).

Legend



Octavianti, Thanti, and Katrina Charles. (2018). "Disaster capitalism? Examining the politicisation of land subsidence crisis in pushing Jakarta's seawall megaproject."

Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."

Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

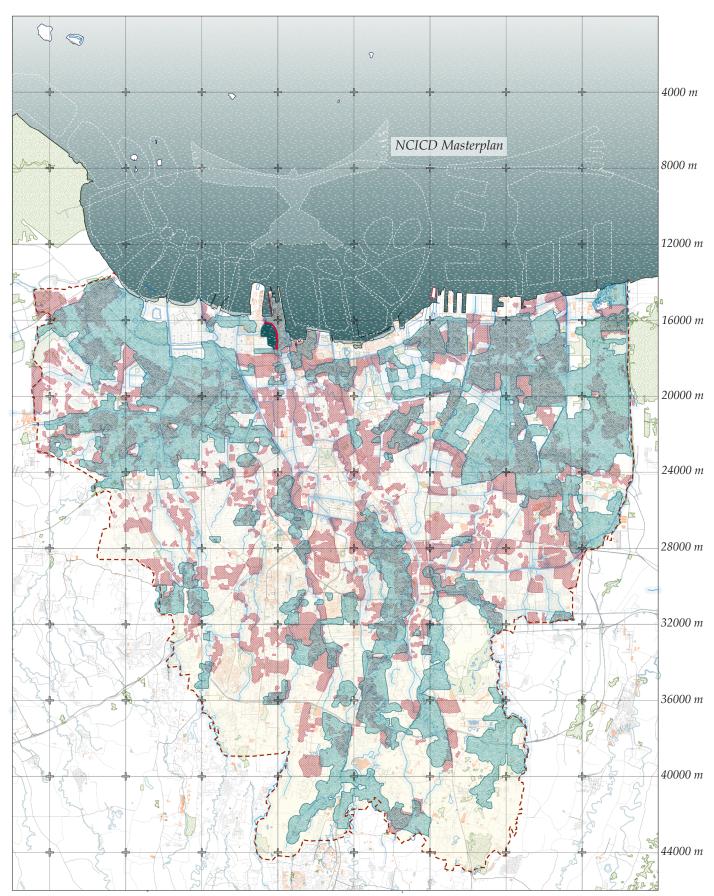


Fig. 2.5 Site Plan of Jakarta showing existing kampung neighborhoods & high-risk flood areas with NCICD Masterplan Drawing by author

"The Master Plan for the Great Garuda portrayed a modernized city center, complete with a central business district, and elite residential and commercial areas. It utilized a cosmopolitan design vocabulary of green and public spaces, all bound to the aesthetic of the elite waterfront." 19

"It was touted as a means to solve flooding, crowding, traffic, and even corruption and political disorder, the gamut of problems that frustrate everyday life of Jakarta's citizens." ²⁰

Most publications boast that the new masterplan will have numerous cafes, urban parks, beach fronts, galleries, bars, shopping malls, restaurants, and other amenities. The Garuda was set to become the leading beacon of light to guide Indonesians into the future, as it was designed to become a civic centre both available to local residents and welcoming of international travelers. However, the master plan scheme erases all traces of a Javanese "home." In actuality, the project threatens to displace additional waterfront *kampung* communities through further forced evictions on top of the many who have already been displaced to pave the way for the master plan's early construction phase. The masterplan appropriates the vernacular of local cultures and transforms it into an empty shell of "magic and music" for tourists and the elite to enjoy. "They won't like the smell or the sight of us," says Haji Hernoto, a local fisherman, [...] "Asked who "they" are, his wife Sitiwardah adds: "Oh you know, the rich, the politicians, the developers ... The Chinese who are going to buy these apartments."²¹

The construction of the island in the shape of the Garuda illustrates an aesthetic fetishization of Javanese culture. The development of the master plan as it currently stands represents an investment opportunity for foreign investors as a commodified vernacular in order to gain local Javanese acceptance. Beyond issues of aestheticization and cultural appropriation of Javanese culture, and predatory neoliberal and neocolonial practices, the master plan also poses a huge environmental threat to the bay and neighboring landscapes. Proposed modifications, including closing off the bay with the construction of the eastern seawall and the development of a large retention lake within the bay,

¹⁹ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

 $^{20\,}$ $\,$ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

²¹ Octavianti, Thanti, and Katrina Charles. (2018). "Disaster capitalism? Examining the politicisation of land subsidence crisis in pushing Jakarta's seawall megaproject."

as part of Phase C, would severely impact the existing ecology, eliminating most—if not all—existing marine life due to the change from sea water to fresh water.²² Researchers expect that without adequate protective measures, the 13 rivers that now flow through Jakarta, into its bay, and eventually out into sea, will be forced to flow into the new retention lake, causing severe harm to the marine ecology of the bay.

This issue becomes increasingly critical as most of Jakarta's rivers are heavily polluted due to a lack of wastewater management and unregulated garbage disposal. The transformation of the bay into a retention lake which will contain the polluted river water would stagnate the water in the retention lake and counterbalance efforts to maintain a clean, new waterfront city. The project construction also requires copious amounts of materials to be brought to the site, including aggregates, sand, concrete, etc. (see Fig. 2.6 and 2.7).²³ All of these impermeable materials act as physical barriers, clogging the bay as the seawall and large areas of reclaimed land will not be able to filter debris, garbage, sewage and other pollutants.²⁴ This would create an enormous, stagnated body of water at the edge of the city, nicknamed "the largest toilet in the word" by the head of the Indonesian Association of Urban Planners. ²⁵

 $^{22\,}$ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

²³ $\,$ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

²⁴ Bakker, Maarten, Satoko Kishimoto, and Christa Nooy. (2020). "Social justice at bay-The Dutch role I Jakarta's coastal defence and land reclamation."

²⁵ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."



Fig. 2.6 Aerial view of NCICD land reclamation phase Image by author

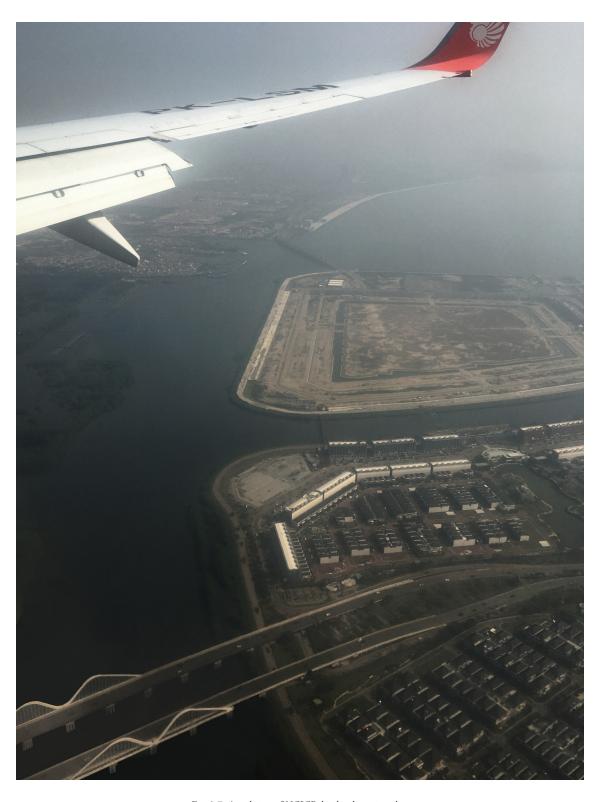


Fig. 2.7 Aerial view of NCICD land reclamation phase Image by author

The Fishing Community

Jakarta's northern coastline is home to many fishing ports, fish markets, fish farms, and fishing communities that depend on the bay as a source of employment and way of life (Fig 2.8 and Fig. 2.9). Local kampung communities and other marginalized groups have lived there for decades. These communities are now at high risk of losing their livelihoods due to the proposals included in the NCICD masterplan. One of the major concerns of the fishing community is the transformation of the saltwater body on the northern bay into a freshwater retention lake that will see the disappearance of marine life from the bay.²⁶ Between "saving the city" and conducting 150 meetings, the Jakarta government claims to have sufficiently included the local municipalities to allow all involved parties a voice in the development of the sea-wall and land reclamation process.²⁷ Regardless of these claims to have included fishermen agencies, the government and other stakeholders have not included these fishing agencies in official meetings involving active decision-making initiatives. In failing to be heard, the fishing communities rose in protest hoping to force the government to provide them with adequate compensation for the destruction of their livelihoods.²⁸ However, since the government will not address or legitimize the claims of these communities, city officials are at liberty to order the relocation and demolition of these kampung communities without notice or compensation. Fishing communities are faced with threats arising from all fronts: on land, they are threatened with the development of the masterplan as they fear displacement through forced eviction; on water, they are forced to travel still further into the Bay of Jakarta to catch fish suitable for commercial sale (Fig. 2.10 and 2.11).²⁹ Traveling such great distances into the bay, and eventually out to sea, poses a massive risk to the fishermen's safety, without any guarantee of success as the new development will gradually displace sea ecologies miles out into the sea (Fig. 2.12).

Koch, Wendy. (2015). "Could a Titanic Seawall Save This Quickly Sinking City?". National Geographic. December 10, 2015. Available at: https://www.nationalgeographic.com/news/energy/2015/12/151210-could-titanic-seawall-save-this-quickly-sinking-city/#close.

²⁷ Atika, Sausan. (2019). "New face of Jakarta's giant seawall includes toll road, 2,000-ha reclamation plan." The Jakarta Post. July 22, 2019. Available at: https://www.thejakartapost.com/news/2019/07/21/new-face-of-jakartas-giant-sea-wall-includes-toll-road-2000-ha-reclamation-plan. html#_=_.

²⁸ Atika, Sausan. (2019). "New face of Jakarta's giant seawall includes toll road, 2,000-ha reclamation plan."

²⁹ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

The research gathered by the Indonesian Ministry of Maritime Affairs and Fishery estimated that fishermen affected by the master plan development have already lost over three quarters of their monthly income.³⁰ While the masterplan "acknowledges" the importance of the fishing communities by introducing a new designated passage from the existing coast to new fishing grounds, the new grounds are impractical in numerous ways. First, the proposed fishing grounds would be a fresh-water body as the master plan artificially creates a retention lake. This fresh-water body replaces the naturally existing salt-water body that the local fishermen are used to harvesting from. Further, this fresh-water body cannot sustain the local marine ecology that existed naturally. Secondly, the proposed fishing grounds are located on the northern most part of the master plan that is a significant distance away from Jakarta's coastline. This puts the fishermen at risk since they now have to wade further into dangerous waters.³¹ Instead, they suggest dedicating resources to developing more long-term efforts in catering to the fishing communities, provided the water quality in the freshwater bay is satisfactory. ³² The question remains, if the water quality proves sub-standard, how are the displaced fishing communities expected to afford a sustainable lifestyle?

While these fishermen struggle with their daily reality, residents of middle and upper classes also suffer as they face a major seafood shortage. Most of the seafood that is fished by local communities is hard won by the fishermen who travel for months at sea, yet their catch is retained and exported to other cities/ countries because it is considered too expensive for local use and fetches a higher price when exported. In an attempt to relocate the fishing community in the new scheme, the implementation of aquaculture, and other fisheries have been offered as a compensation. Unfortunately, these practices do not provide equal fish populations, thus leaving fishing communities with uncertain livelihoods. These farms are also strategically placed along the waterfronts of the new bay, posing as a tourist attraction for the entire city. This further degrades the cultural and socio-economic importance of the fishing communities through a commodification of culture and extraction—hallmarks of neocolonialism.

³⁰ Kementerian Kelautan dan Perikanan (Indonesian Ministry of Maritime Affairs and Fishery). (2016). "Dampak Sosial Ekonomi dan Rekomendasi Bijaksan, Reklamasi Teluk Jakarta (Socio-economic consequences and policy recommendations, Reclamation Jakarta Bay)."

 $^{31\,}$ $\,$ Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

³² Wade, Matt. (2018). "Hyper-planning Jakarta: The Great Garuda and planning the global spectacle."

³³ Padawangi, Rita, and Mike Douglass. (2015). "Water, Water Everywhere: Toward Participatory Solutions to Chronic Urban Flooding in Jakarta." Pacific Affairs 88, no. 3: 517–50. Available at: http://www.jstor.org/stable/43591179.

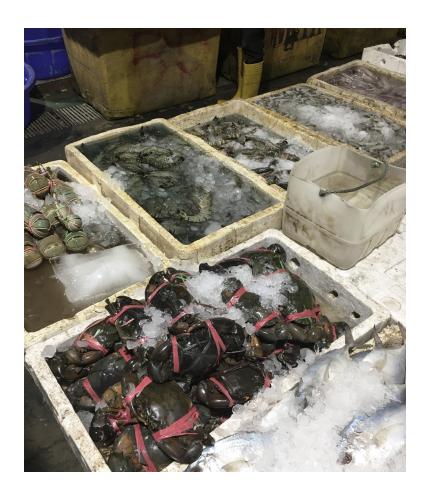




Fig. 2.8 Muara Angke Fish Market Image by author



Fig. 2.9 Muara Angke Fish Market Image by author





Fig. 2.10 NCICD seawall looking out into the bay of Jakarta Image by author





Fig. 2.11 NCICD seawall looking out into the bay of Jakarta Image by author

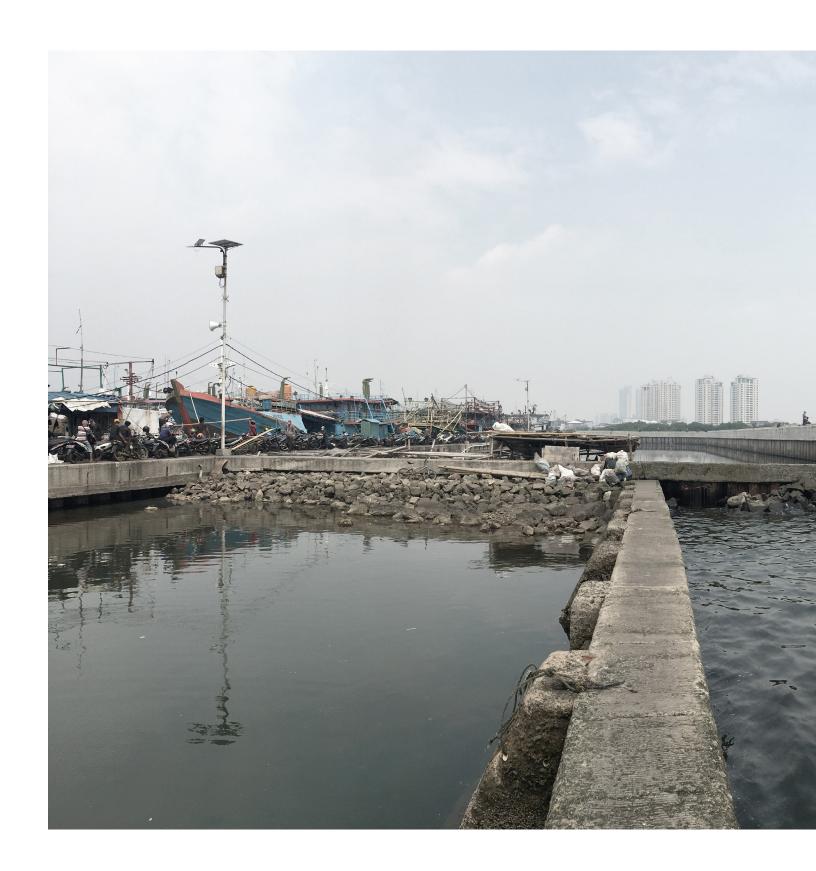




Fig. 2.12 NCICD seawall looking out into the bay of Jakarta Image by author

A Failing Infrastructure

The preliminary stages of the masterplan have already had a massive impact on the people living in *kampungs*. The NCICD has forced migration, caused loss of occupations, and eliminated shelter and belonging. Shortly after the completion of the seawall, this infrastructure collapsed on December 3, 2019 (Fig 2.13).³⁴ The seawall, promised to stand strong for the next 100 years, failed under the stress of sea currents and forces. This failure was blamed on inaccurate calculations and poor construction of the engineering team on site,³⁵ however, this event forces the wider public to reconsider the stability and security that this project proposes.

³⁴ Andapita, Vela, and Sausan Atika. (2020). "'It was scary': Wall collapse raises concerns about coastal safety in Jakarta." The Jakarta Post, December 07, 2019. Available at: https://www.thejakartapost.com/news/2019/12/07/it-was-scary-wall-collapse-raises-concerns-about-coastal-safety-in-jakarta.html#_=_.

³⁵ Andapita, Vela, and Sausan Atika. (2020). "'It was scary': Wall collapse raises concerns about coastal safety in Jakarta."



Fig. 2.13 The sea wall collapsing into the Java Sea.

Source: Mahtani, Nashin. (2020). "Torrential Urbanism and the Future Subjunctive." E-flux Architecture. September 07, 2020. Available at: https://www.e-flux.com/architecture/accumulation/345108/torrential-urbanism-and-the-future-subjunctive/.

The Dutch

The Dutch have a long history of "aiding the city" of Jakarta through their flooding crises since the early 1600s. However, one questions the motive behind these efforts as many of the "infrastructural measures" have a pattern of failing. Their colonialist "supremacy" is displayed more clearly when given the chance to help restructure the city in the name of flood mitigation techniques. Happy to showcase the new masterplan as a collaborative triumph through numerous publications and articles, the firm of Witteveen Bos has done little to address the reality of the marginalized residents along the city's bay.³⁴

While they clearly acknowledge the real issue of land subsidence in the sinking and failing Jakarta, they do little to remediate the situation in the proposal of their new masterplan (Fig 2.14, 2.15 and 2.16). The lack of understanding of—and compassion for—the nuances of this situation are highlighted in an interview conducted with a project manager of the firm. Victor Coenen, the project manager for Witteveen+Bos, the engineering consultancy that heads the Giant Sea Wall consortium, shrugs off the criticism (of the public being skeptical of the new plan). "Fine, if they don't want our help, then we can go elsewhere," he says. "But it is the Indonesian government that has asked for Dutch assistance to deal with the flooding, and it is Dutch government money that is helping" (Fig 2.17).³⁶

³⁵ Andapita, Vela and Sausan Atika. "'It was scary': Wall collapse raises concerns about coastal safety in Jakarta." The Jakarta Post, December 07, 2019. Accessed: November 05, 2020. Available at: https://www.thejakartapost.com/news/2019/12/07/it-was-scary-wall-collapse-raises-concerns-about-coastal-safety-in-jakarta.html#_=_

³⁶ Andapita, Vela and Sausan Atika. "'It was scary': Wall collapse raises concerns about coastal safety in Jakarta."



Fig. 2.14 Construction sites in the Bay of Jakarta Image by author

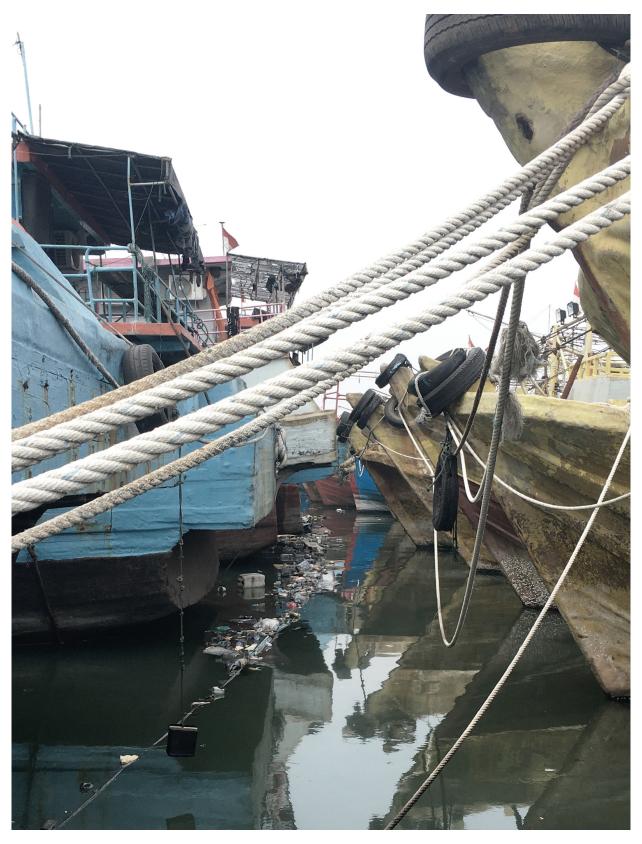
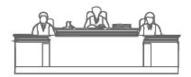


Fig. 2.15 Muara Baru fishermen boats in polluted water Image by author



Fig. 2.16 NCICD sea wall construction from the inner bay Image by author

Hierarchy of Stakeholders



Government / Politicians



Police / Military



Kampung residents

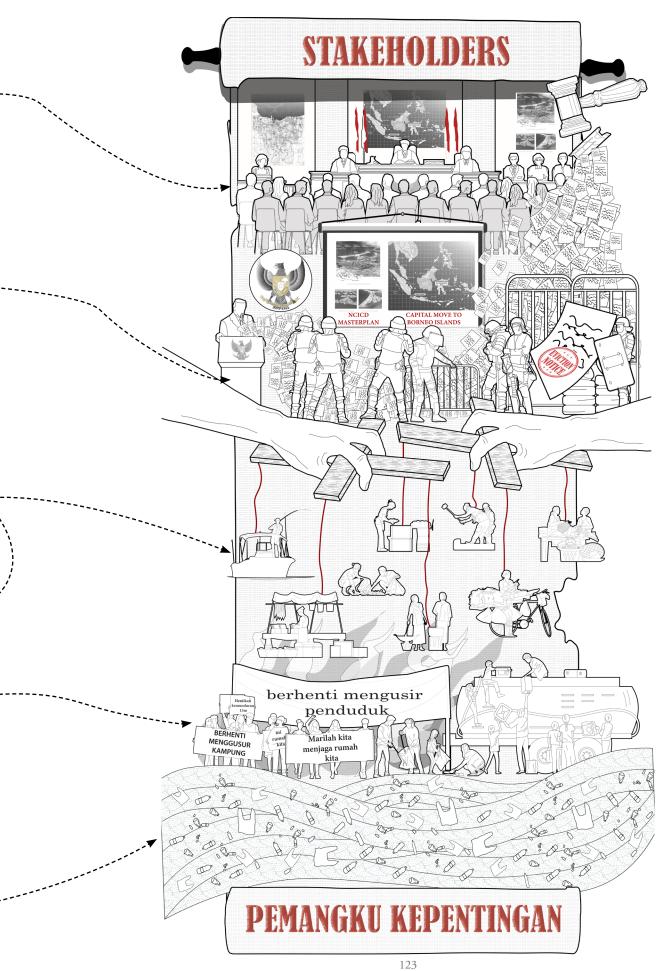


N.G.O. groups, protesters, volunteers, etc.



Polluted waterways

Fig. 2.17 Diagram of hierarchical stake holders in the evictions/relocation process Drawing by author



Capital move to Borneo

In 2019, Indonesia's current president, Joko Widodo, announced that the capital city of Indonesia would move away from the crowded island of Java to a new city called Nusantara, situated in East Kalimantan, Borneo (Fig 2.18). This capital re-location measure is a familiar approach in Jakarta. Historically, under colonial rule, the Dutch have practiced a cycle of relocation when a site has exhausted its resources and deteriorated beyond the Dutch living standard, as witnessed when the wealthier classes abandoned Batavia due to its stagnated water, polluted riverfronts, chronic flooding, and disease; all results of Dutch settlement practices (Fig 2.19). Similarly, the Indonesian government plans to relocate the capital due to issues of land subsidence, overpopulation, pollution and flooding. While the first phase of the NCICD master plan construction presents a temporary solution to alleviate the issues of urbanization in Jakarta, the national government intends for Borneo to act as a "'global city for all,' a smart, green city that acts as a hub for industry, businesses, and education."2 The construction of the new capital is set to begin in 2022, and aims to be completed by 2045.³ The move is estimated to cost approximately \$35 billion USD, and is primarily funded by the nation's budget, state agencies, and private stakeholders. 4 This move has been very controversial in the last few years because, while many argue that the capital move will alleviate some of the urban challenges faced by Jakarta, the indigenous communities in Borneo fear the large-scale relocation of people and industry will cause wide-spread disruption to their native lands. While Jakarta's government views the 'underdeveloped' lands in Kalimantan as a *carte-blanche* opportunity to rebuild a new future for Jakarta free from the mess of its past mistakes, the indigenous populations fear this move will cause irreversible damage to their livelihoods, cultures, and traditions, while destroying the Island's forests, wildlife ecologies, and reservoirs.⁵ The move also raises concerns about the residents who are left

¹ Renaldi, A. (2022). "Indonesia's giant capital city is sinking. Can the government's plan save it?" National Geographic. July 29, 2022. Available at: https://www.nationalgeographic.com/environment/article/indonesias-giant-capital-city-is-sinking-can-the-governments-plan-save-it

³ Renaldi, A. (2022). "Indonesia's giant capital city is sinking. Can the government's plan save it?"

⁴ Renaldi, A. (2022). "Indonesia's giant capital city is sinking. Can the government's plan save it?"

⁵ Mayrina, A. (2020). "A Guidebook to an Empty Land: Kalimantan and the Shadows of the Capital" [Master's Thesis, Harvard University, Graduate School of Design]. Available at: https://www.gsd.harvard.edu/project/2020-design-studies-thesis-prize-angela-mayrinas-a-guidebook-to-an-empty-land-kalimantan-and-the-shadows-of-the-capital/

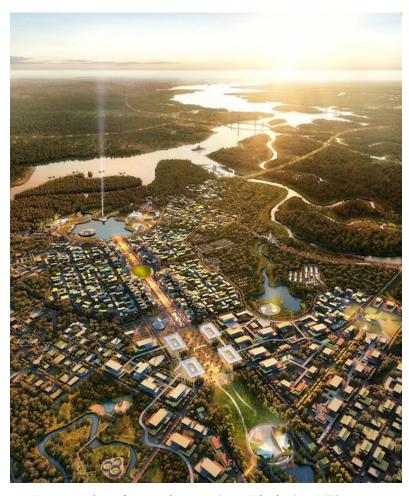
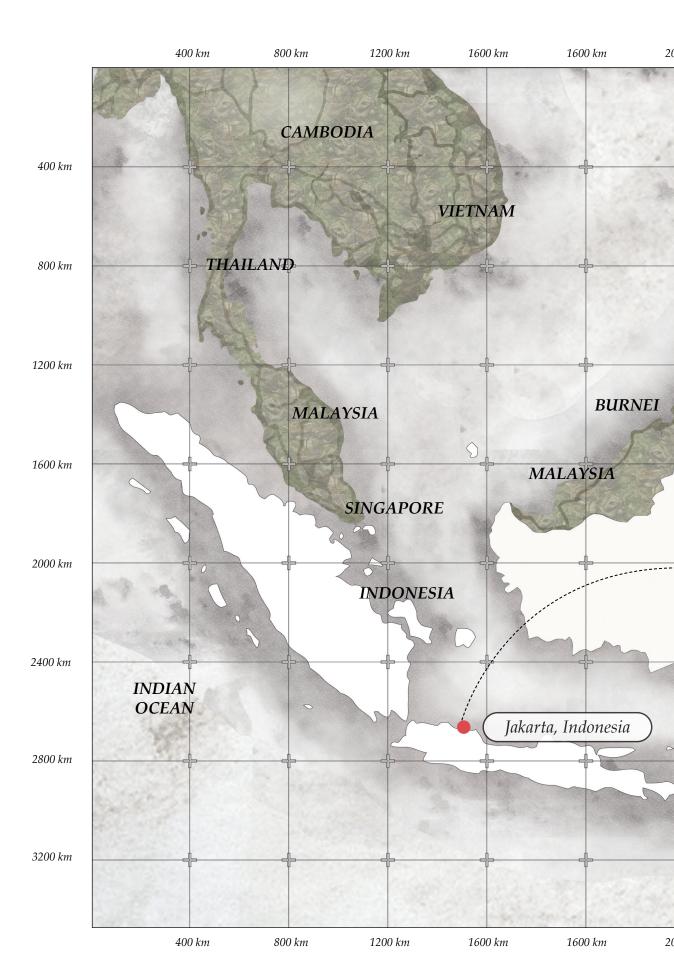


Fig. 2.18 Rendering of new capital in Borneo. Source: Kaltimber. (2022). "The new capital of Indonemsia, Nusantara, raises ecological concerns from environmentalists." Available at: https://www.kaltimber.com/blog/the-new-capital-of-indonesia-nusantara-raises-ecological-concerns-from-environmentalists

behind in Jakarta. Scholars and researchers have differing opinions on the outcome of this. Henny Warsilah, an Indonesian scholar, predicts that in this move, "Jakarta will only lose its status as a capital, but this will be a good chance to revitalize the city. The city already has some infrastructure to rise as a center for businesses or recreation.". In contrast Ridwanuddin, another researcher, believes that the capital relocation is only "moving the ecological crises to another location." Residents living in Jakarta's *kampungs* along the northern bay are also burdened with the middle and upper classes moving away, leaving behind a plethora of compounded problems that *kampung* residents will be forced to face in solitude.

 $^{\,\,}$ Renaldi, A. (2022). "Indonesia's giant capital city is sinking. Can the government's plan save it?"



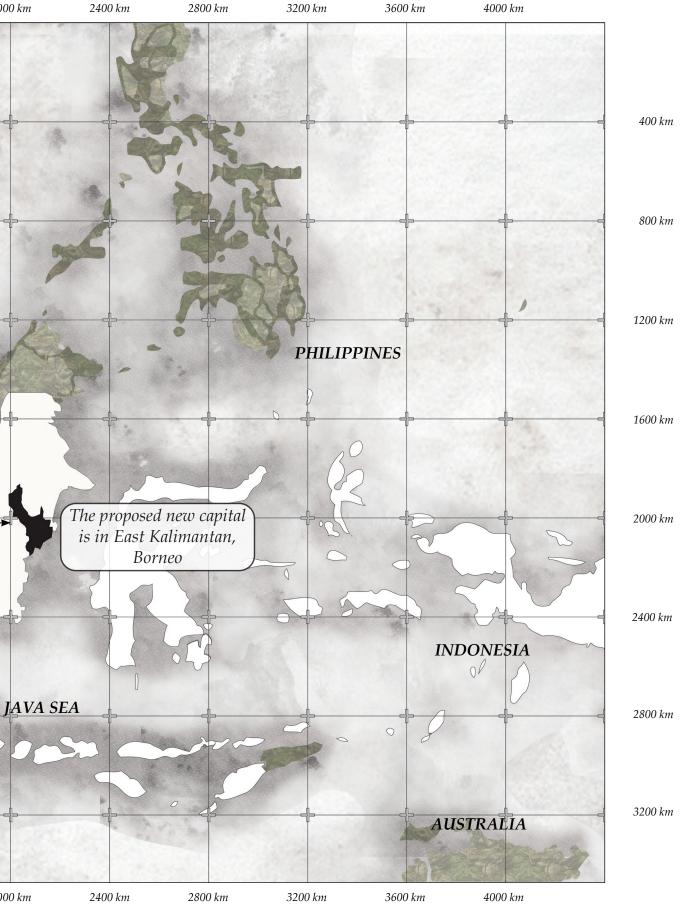


Fig. 2.19 Map showing the 'capital' move from Jakarta to East Kalimantan of the Borneo Islands

Drawing by author

PART_03

3.1 Learning from Past Evictions and other Precedents

Analyzing local eviction failures and successes, and documenting other sustainable design strategies

As established in earlier chapters, today's *kampung* residents are at risk of being evicted due to ongoing infrastructural developments, such as the NCICD masterplan and the capital re-location of Jakarta to the Borneo Islands. The growing threat of eviction due to the NCICD master plan in the northern district of Kampung Muara Baru further endangers the lives of many kampung residents, as they fear losing their livelihoods, homes, and communities. This thesis research first looks to local precedents of kampung evictions to understand varying circumstances for resident resettlement or relocation. It looks at an eviction that went "right vs wrong", and recounts these valuable lessons for setting a new precedent to fight future forced evictions through community-driven revitalization processes. The research will build upon the precedent set by the residents of Kampung Tongkol by learning from their collaborative action and innovative solutions to inform small-scale design interventions for the Muara Baru community. These design solutions also include in situ retrofitting for some kampungs as a design strategy alternative to long-distance resettlement, proposed by professor Brent Doberstein.¹ Professor Doberstein analyzes in situ upgrading as a way of "re-imagining" a community to promote risk-reduction in the face of climate change, and potential natural disasters. 2 However, this strategy can also be used to upgrade the living conditions of a kampung to reduce the risk of eviction and consequent displacement.

¹ Doberstein, Brent. (2019). "Alternatives to Long Distance Resettlement for Urban Informal Settlements Affected By Disaster and Climate Change." KnE Social Sciences. 10.18502/kss.v3i21.4964. Professor Doberstein is an associate professor of geography and environmental management at the University of Waterloo, Kitchener, Ontario, Canada.

² Doberstein, Brent. (2019). "Alternatives to Long Distance Resettlement for Urban Informal Settlements Affected By Disaster and Climate Change."

What went Wrong: The Kampung Pulo Eviction and Aftermath

Professor Frank Vanclay from the University of Groningen in the Netherlands refers to the term "resettlement" as "the process of planning that includes relocation of people, households, and communities from one place to another place, along with associated activities."^{3,4} He states that the term "resettlement" is used synonymously with "forced resettlement" or "forced eviction", especially when referring to marginalized populations. Resettlement carries a negative connotation as it is often carried out without involving the evictee in the relocation planning process, therefore resulting in extreme financial, social, and psychological harm to the evicted residents.⁵ As stated in chapter 1.2, resettlements and evictions are carried out under the guise of many reasons including, but not limited to, urban renewal, flood mitigation, and beautification projects.

The eviction of Kampung Pulo in August 2015 was an unprecedented case of brutal forced evictions of a marginalized community that had existed for almost 60 years. Located east of Jakarta's main river, the Ciliwung, the residents of Kampung Pulo are primarily fishermen, local tradespeople, and small-scale vendors. Due to the *kampungs* close proximity to the river and pre-existing issues of flooding, the government implemented a river normalization program in early 2015 that required the demolition and eviction of approximately 900 *kampung* houses (Fig. 3.1, 3.2 and 3.3). River normalization is the method of adjusting the width of river banks, in order to increase channel capacity.

³ Jijelava, David & Frank Vanclay. (2016). "Legitimacy, credibility and trust as the key components of a social licence to operate: An analysis of BP's projects in Georgia." Journal of Cleaner Production. 140. 10.1016/j.jclepro.2016.10.070.

⁴ Mar'iyah, C. (2019). "Redevelopment of Slum Area in Jakarta: Case Study The Impact of Gender Inequality on The Sustainable Livelihood Assets Post Resettlement from Kampung to Modern Apartment Style." Political Science Department, University of Indonesia.

⁵ Jijelava, David & Frank Vanclay. (2016). "Legitimacy, credibility and trust as the key components of a social licence to operate: An analysis of BP's projects in Georgia."

⁶ Mar'iyah, C. (2019). "Redevelopment of Slum Area in Jakarta: Case Study The Impact of Gender Inequality on The Sustainable Livelihood Assets Post Resettlement from Kampung to Modern Apartment Style."

⁷ Tunas, I Gede & Herman, Rudi. (2019). The Effectiveness of River Bank Normalization on Flood Risk Reduction. MATEC Web of Conferences. 280. 01009. 10.1051/matecconf/201928001009.

As part of the eviction policy, government officials required some form of documentation to confirm ownership and land tenure. If successful, residents were provided compensation and/or alternate form of housing. Almost one third of Kampung Pulo's residents were evicted with no recourse as they were unable to produce the required documents due to bureaucratic obstacles, and ambiguities surrounding land tenure. ⁸ The residents who could prove ownership were relocated to either a nearby *rusunawa* around one kilometer or to *rusunawas* 40 kilometers away from Kampung Pulo and the River Ciliwung (see Figure 3.4, 3.5, and 3.6). ⁹

The relocation to the *rusunawa* proved a significant financial burden for many families because they were faced with a high cost of accommodation, not including auxiliary housing fees. ¹⁰ This financial obligation was difficult for many residents as their livelihoods were based in informal sectors where compensation fluctuates and is not stable. 11 Once relocated, kampung residents collectively protested to waive rent at the *rusunawa* as their housing in the kampung was typically rent-free, since most residents owned their homes. Additionally, many residents were accustomed to using the front of their houses in the *kampung* as economic spaces to trade or sell goods. This avenue for commerce was lost when residents were relocated to highdensity apartment housing. Residents from the Pulo eviction often travel to community markets such as Pasar Jatinegara located a few kilometers away from their rusunawa in order to sell their goods (Fig. 3.7, 3.8). Beyond employment loss, other aspects of day-to-day living are altered due to the relocation; residents travel many kilometers each day to drop their children to school in other areas since they cannot afford schooling costs at their present locations. For many residents, the frequent travel outside of the rusunawa, with its heavy financial cost, has been a turning point for residents who have resorted to abandoning their rusunawa units and establishing new kampungs in more affordable parts of the city (see drawing narrative in Fig. 3.9). This thesis research employs design strategies that draw on the lessons learnt from the devastating failures of the situation in Kampung Pulo.

⁸ Vera, W.S., F. Handika, and F. Kristian. (2017). "Legal politics of rusunawa in forced eviction of Bukit Duri residents case study of Rawabebek rusunawa." Jakarta: Yayasan Ciliwung Merdeka.

⁹ Voorst, Roanne van, and Jörgen Hellamn. (2015). "One Risk Replaces Another: Floods, Evictions and Policies on Jakarta's Riverbank" Asian Journal of Social Science, Vol. 43, No. 6, special focus: disasters, vulnerability and local governance in southeast asia, pp. 786-810.

¹⁰ Vera, W.S., F. Handika, and F. Kristian. (2017). "Legal politics of rusunawa in forced eviction of Bukit Duri residents case study of Rawabebek rusunawa."

¹¹ Vera, W.S., F. Handika, and F. Kristian. (2017). "Legal politics of rusunawa in forced eviction of Bukit Duri residents case study of Rawabebek rusunawa."

The proposed interventions aim to retain the *kampung* as a place of home and work by upgrading the physical appearance of existing *kampungs* and implementing green infrastructural methods to eliminate their association as a slum, and consequently avoid eviction.



Fig. 3.1 Evicted residents live under blue tarpaulin next to the burned remains of their home (c) 2006 Bede Sheppard/Human Rights Watch. Source: Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.



Fig. 3.2 Eviction at Cakung Cilincing, September 15, 2005 (c) 2005 LBH-Jakarta. Source: Human Rights Watch. (2006). Condemned Communities – Forced Evictions in Jakarta. Human Rights Watch. Volume 18, No. 10.





Fig. 3.3 Kampung Pulo in 2014 (top) and 2017 (bottom)

Source: Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image." Faculty of Architecture, Building & Planning, University of Melbourne; School of Geography, University of Melbourne. Available at: https://www.researchgate.net/publication/336315597_Contested_river-scapes_in_Jakarta_flooding_forced_eviction_and_urban_image.





Fig. 3.4 Pulo Rusunawa (apartments/social housing) overlooking the river normalization (from 5m to 30m)

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Fig. 3.5 Pulo Rusunawa (apartments/social housing)
Image by author



Fig. 3.6 Pulo Rusunawa (apartments/social housing) overlooking the river normalization (from 5m to 30m)

Image by author





Fig. 3.7 Pulo Market where evicted residents travel back to in order to sell and trade goods
Image by author

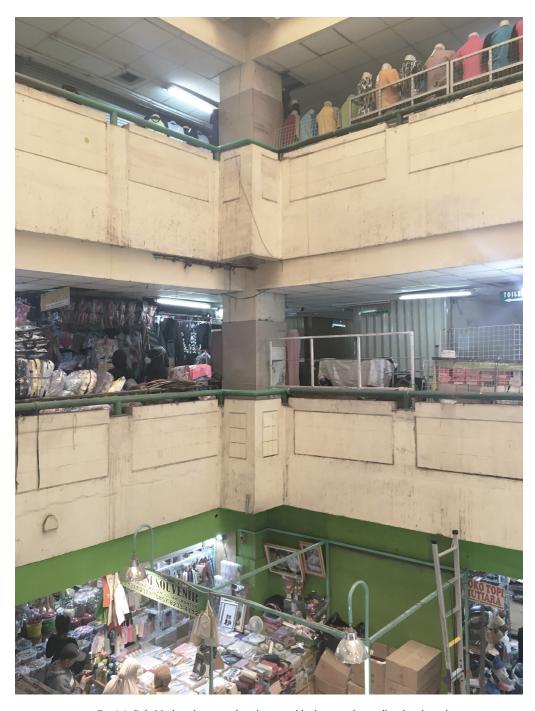


Fig. 3.8 Pulo Market where evicted residents travel back to in order to sell and trade goods

Image by author

The following are a few excerpts that illustrate the self-sustaining lifestyle of the *kampung* that greatly differs from that of apartment dwelling. These excerpts were created as a result of workshops conducted by a social activist group, Islam Bergerak, a nonprofit architecture magazine *Ruang Arsitektur*, and the *Jakarta Post* newspaper.

"The governor had stated that everything would be compensated with money. After that promise, none of the residents were concerned about the displacement, even when the surveyor came to measure our buildings. The residents were initially enthusiastic to help. Afterwards, however, meetings between the officials and the residents became increasingly intense. A committee was formed by the residents, but to no avail. The provincial government announced they would not pay anything to the citizens unless they have certificates. I still clearly remember what happened. A crowd of people facing the Jakarta Public Order Agency, police and military, both sides ready to attack. The majority of young people were eager to defend their homes. They did not want to leave the place where they'd lived for decades without any compensation. The atmosphere was tense. The fight between the groups kept going even when officers fired tear gas. In the end, even the innocent ones became the victims."

- Yusuf Supriyadi

"I used to have a coffee stall in Jatinegara street. I earned a profit of Rp150,000 (£8) a day. I used it to pay school fees, electricity and water, and other household needs. I saved some money, and in 2000 I bought a house. Little by little, I started to repair it. On 28 August 2014, they evicted my coffee stall along with the shops in the same street. I lost my livelihood. My wife tried to open small shop at home, and I worked odd jobs: sometimes as a porter, and also a construction worker. But a year after that, before I was able to find a steady job, our house was demolished. With resentment and sadness, we were forced to move to flats. Living in the flat is much harder. I no longer have a job, especially as now I am 60 years old. Most days, I just rely on the help of my children."

- Mr Uming

Michael, Chris, and M. Yusni Aziz. (2016). "My House was turned to debris': Jakarta's evicted write their story." The Guardian. November 23, 2016. Available at: https://www.theguardian.com/cities/2016/nov/23/house-turned-debris-voices-evicted-kampung-pulo-jakarta.

"In our previous life, we did not have to think about rent, water or electricity—which, of course, is now more expensive. We had a simple house, but we owned it—rather than a tall and luxurious building which we rent. Now we are given a warning letter and are banned from trading in front of the house we live in. The majority of Pulo's citizens are traders!"

- Koko Wahyu

"I am a private employee and I am grateful that I am still able to work and gain some money. But whereas my salary used to be enough for daily expenses and I still had some for savings, since my family and I moved to this housing my salary is used up in rent, electricity and water. If you do not pay, you get a warning; after a third warning letter, you will be evicted. If that happens, where would we stay? Would we have to live on the street? How long will we all have to stay in this housing and pay rent? Our whole lifetime? The contract contains a clause stating that the use of this building is only for up to 20 years, and every two years we have to sign an extension. After 20 years, would we be moved again? Our lives are like a soccer ball, constantly kicked and passed around."

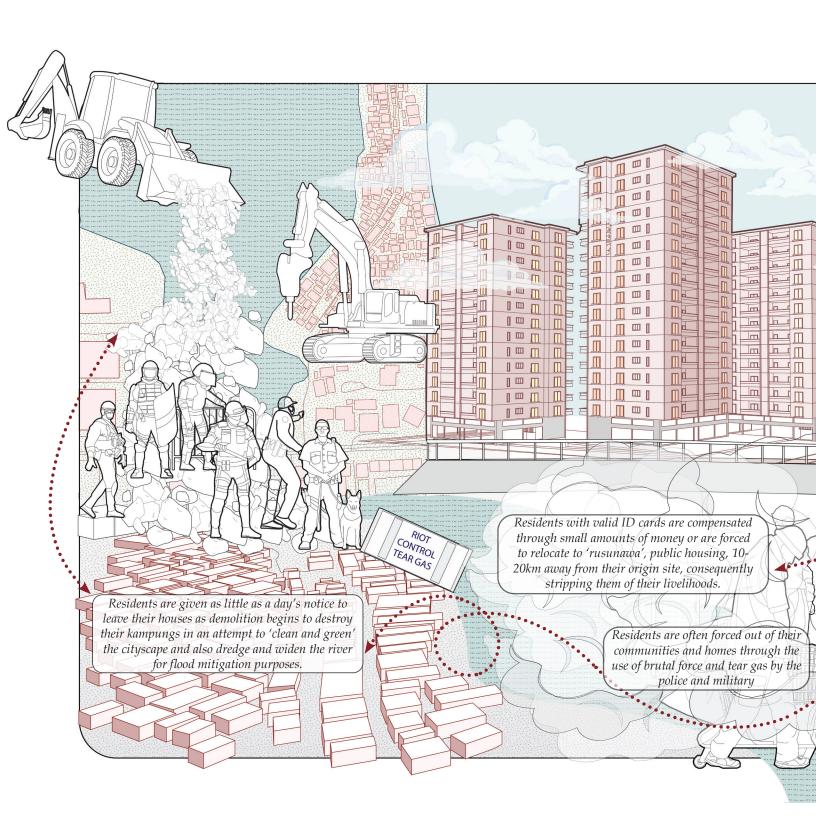
- Ade

"I am a mother without any income, and being supported by two sons-in-law. But sometimes I also help out the neighbours. Normally everything is covered just like that, but now it is not enough. Everything feels a bit formal. Children do not feel at home. Due to the lack of proper facilities for children to play in Rusunawa, many children go away to play. My 12-year-old son still likes to play in Kampung Pulo, the place where he lived before. After mingling with children around the towers, it seemed like my son can no longer be disciplined. He likes to skip school."

- Ms Eppi

"I think of life in the new towers compared to our previous life in Kampung Pulo as like taxis compared to bajaj (rickshaw). As soon as you open the taxi door, the meter starts running – but with bajaj you can always bargain. My income has fallen sharply. In the kampung, we could trade freely. There were no rules. There are so many rules here."

- Iwan Setiawan



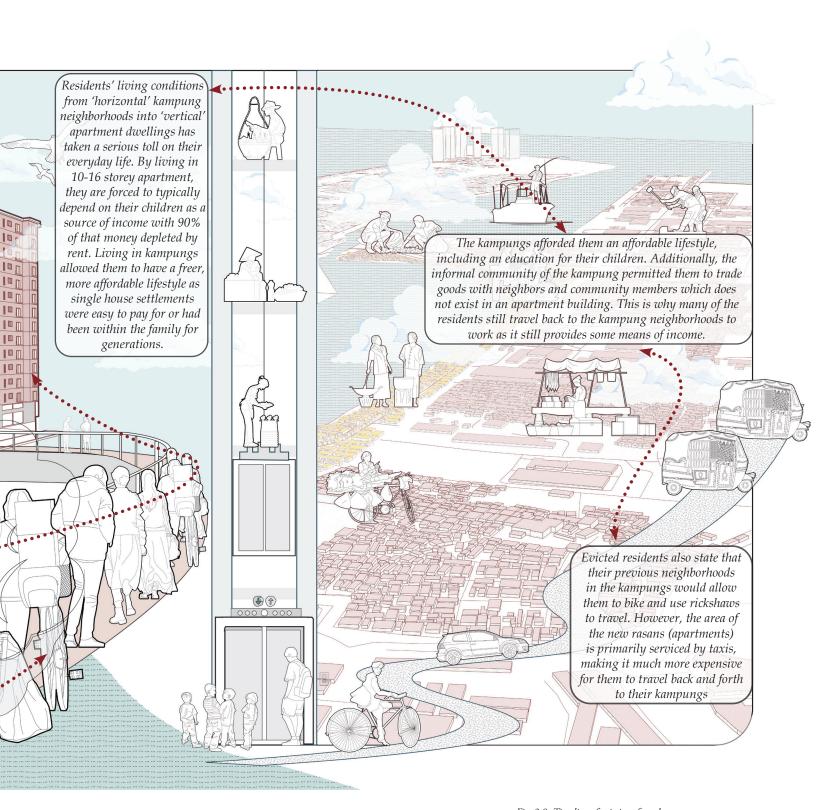


Fig. 3.9 Timeline of evictions from kampungs to apartments

Drawing by author

What went Right: Kampung Tongkol Re-Imagined: A Break in the Cyclical Nature of Evictions

The residents of Kampung Tongkol displayed brewing resistance to evictions in 2015. The residents did not view eviction as an option, braving their way through public meetings, conversations with city and government officials, and self-demolishing parts of their homes. ¹² While many other *kampung* communities have tried and failed to resist evictions despite their continual efforts, Kampung Tongkol is one of very few *kampungs* that have successfully managed to remain in place (Fig. 3.10).

Kampung Tongkol is a collection of small *kampungs*, known individually as Tongkol, Kerapu and Lodan, and its residents have lived on the land since the mid 1960's after purchasing the land from its previous owner. This kampung is located in the tourist district of North Jakarta, minutes away from the Jakarta Maritime Museum and just north of Fatahillah Square—the center of the ancient Dutch colony, Batavia—that acts as a primary tourist attraction. 13 These communities were self-built, houses lined the river, with walkable routes to port areas, local fish markets, a neighborhood mosque, and neighboring kampungs. 14 Governor Ahok's "normalization" plans in 2014 set to evict Tongkol's residents in order to dredge and widen the river to alleviate flooding issues, while establishing a 15m setback for resident safety. 15 Residents without ID cards were not offered any form of monetary compensation, while residents who held ID cards were offered rental units on the outskirts of the city, miles away from their existing homes and social networks.¹⁶ In response to this threat, 1000 kampung households along the roadways and waterways of Kampung Tongkol came together to form the Ciliwung River Community. They proposed having a 5m setback from the river instead of 15m, thereby saving more kampung houses from demolition. ¹⁷ They also proposed a "self-demolition" campaign, where the residents

¹² Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image." Faculty of Architecture, Building & Planning, University of Melbourne; School of Geography, University of Melbourne. Available at: https://www.researchgate.net/publication/336315597_Contested_riverscapes_in_Jakarta_flooding_forced_eviction_and_urban_image.

¹³ Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image."

¹⁴ Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image."

¹⁵ Sutherland, Megan. (2017). "Jakarta's Kampung Tongkol goes green to Fight Eviction." Brilio. Available at: https://en.brilio.net/news/community-in-chaotic-jakarta-goes-green-to-fight-eviction-

¹⁶ Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image."

¹⁷ Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image."



Fig. 3.10 Kampung Tongkol Image by author

would take on the greening and cleaning jobs themselves. 18 After months of residents protesting and strategizing, they were finally able to achieve their goal. Residents of Kampung Tongkol started working on "re-imagining" the kampung by taking on the renewal jobs themselves, starting with cleaning the community riverfront by deploying small boats and canoes onto the river to remove the debris, garbage, and pollutants (Fig. 3.11). Since Jakarta's garbage collection is privatized, leading to many neighborhoods staying polluted, they initiated a community-wide garbage collection system that they financially contributed towards. They also added signage and reminders to dispose of garbage into categorized bins and not into the river. 19 Residents also commenced the "self-demolition" process, removing all built structures within a 5m setback from the river to reduce flood risks and grant road access through the area (as was required by the city officials). 20 These measures met the needs of both local authorities as well as the kampung dwellers, and over time local authorities lifted the threat of eviction. The residents of Kampung Tongkol further rebuilt their homes and community by employing new materials that included aerated concrete blocks, bamboo structure, and colorful paint to rebrand their storefronts and houses, and building additional storeys on their houses for more internal space (Fig. 3.12 and 3.13). They also began cultivating abundant fruit and vegetable gardens grown in designated areas in front of their homes, and introduced new septic tanks to reduce the amount of sewage being thrown into the river (Fig. 3.14, 3.15). 21 Urban planners, architects, researchers, and students began to recognize the effort and diligence of this community, proposing the design and construction of 2-3 storey housing to formalize their informal settlements and apartment housing (Fig. 3.16, 3.17). 22 These additions were built out of bamboo and recycled building materials. The completed Kampung Tongkol project received mass media coverage due to its success and geographic location as it is situated in the old town of Batavia. Today, Kampung Tongkol is regularly maintained by locals and volunteer groups and is also visited by many tourists and researchers (see drawing narrative in Fig. 3.18). ²³

¹⁸ Sutherland, Megan. (2017). "Jakarta's Kampung Tongkol goes green to Fight Eviction." Brilio.

¹⁹ Sutherland, Megan. (2017). "Jakarta's Kampung Tongkol goes green to Fight Eviction." Brilio.

²⁰ Sutherland, Megan. (2017). "Jakarta's Kampung Tongkol goes green to Fight Eviction." Brilio.

²¹ Sutherland, Megan. (2017). "Jakarta's Kampung Tongkol goes green to Fight Eviction." Brilio.

²² Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image."

²³ Dovey, K., Brian Cook, and Amanda Achmadi. (2020). "Contested riverscapes in Jakarta: flooding, forced eviction and urban image."



Fig. 3.11 Kampung Tongkol overlooking the 5m wide river normalization Image by author



Fig. 3.12 Kampung Tongkol (Retrofitted 4 units) Image by author

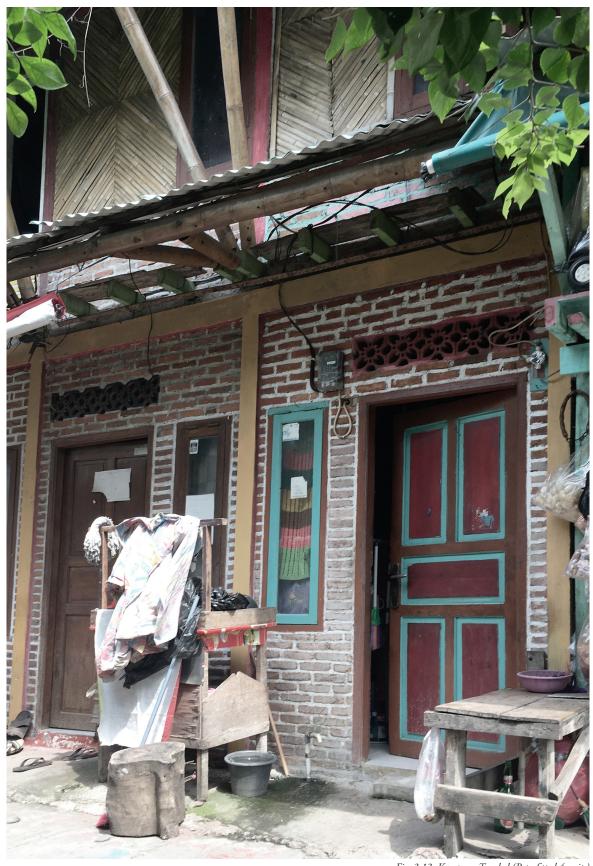


Fig. 3.13 Kampung Tongkol (Retrofitted 4 units)
Image by author



Fig. 3.14 Kampung Tongkol banana tree planted in front of residents' homes Image by author



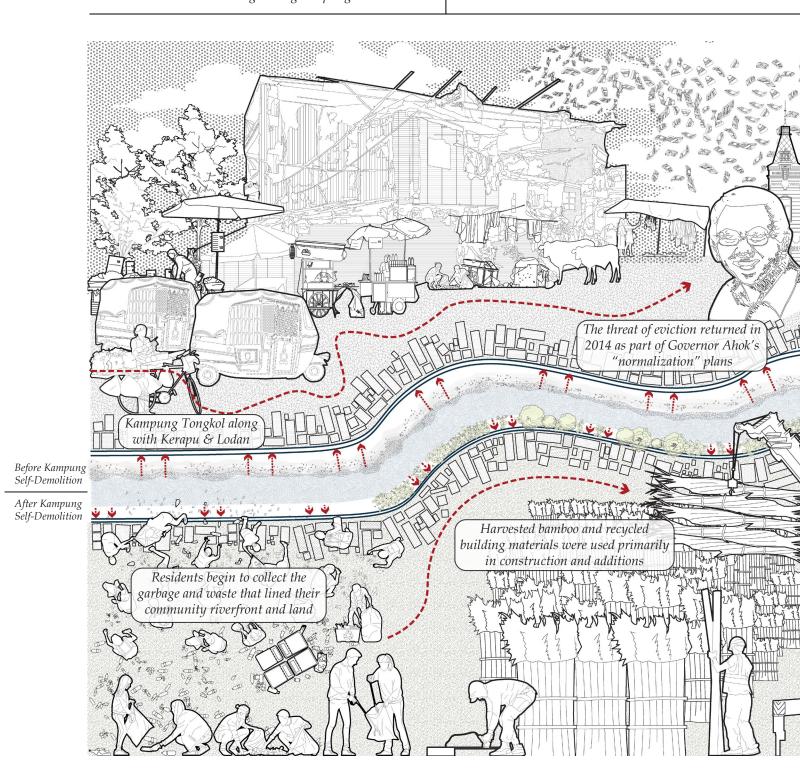
Fig. 3.15 Kampung Tongkol water hyacinth growing Image by author



Fig. 3.16 Kampung Tongkol unit storefront on ground floor Image by author

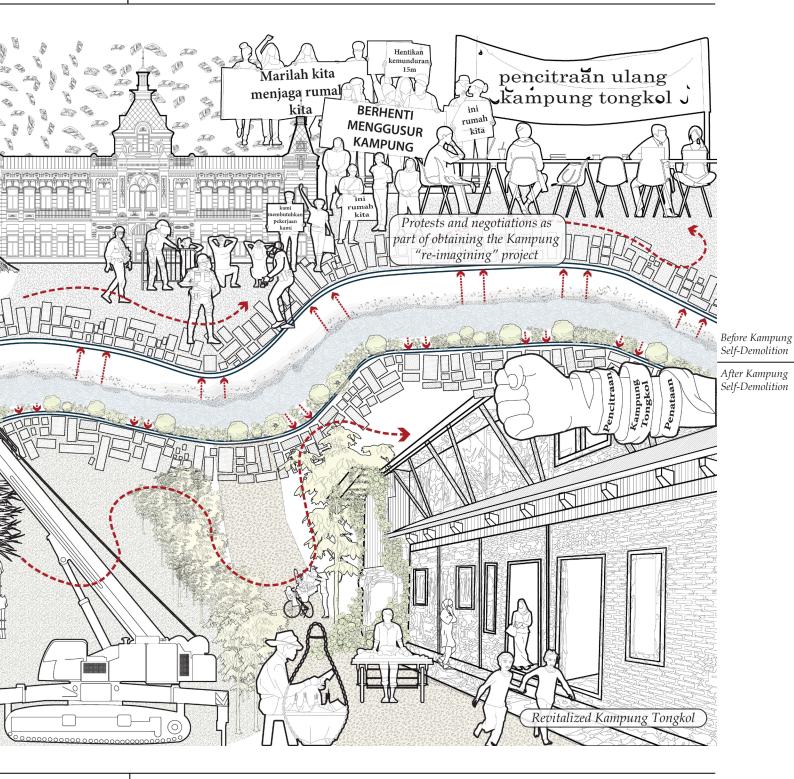


Fig. 3.17 Kampung Tongkol community garden wall in construction Image by author



Residents of Kampung Tongkol started working on "reimagining" the kampung and had begun with cleaning the community riverfront

Urban planners, architects, researchers and student had begun and diligence of this community, thereby getting them involv constructing 2-3 storey retrofitted and newly built housing. The out of bamboo, aerated concrete blocks and other recycled by nany residents from esation In response to this threat, 1000 kampung households along the river in Kampung Tongkol came together to form the Ciliwung River Community and argued for a smaller river setback. They proposed a "self-demolition" campaign and after months of protests and negotiations they were finally able to achieve their goal.



to recognize the effort ed in designing and ese houses were built uilding materials. The completed Kampung Tongkol project received mass media coverage due to its success. Part of this success was also because of the geographical location of the kampung as it is situated in the old town of Batavia. The kampung is regularly maintained by locals, residents, and volunteer groups.

Analysis is also conducted on other future sustainable design strategies such as rainwater harvesting, mangrove planting, and mussel growing. These proposed retrofits, in addition to other minor design strategies, will showcase the *kampung* as a complex settlement type that is self-sufficient and resilient. Ultimately this thesis counters urban displacement due to large-scale urban renewal projects by offering a more nuanced approach to design, one that respects the strong cultural foundations of a community facing the complex crises arising from climate change and rapid urbanization.

Rainwater harvesting

Once the site has been remediated and housing retrofitted, *kampungs* will finally be equipped with a rainwater harvesting systems. Rainwater harvesting can be defined as the process of "collecting, storing, and reusing rainwater." The rainwater harvesting systems are intended to lessen the financial burden of piped grey water as well as alleviate the lack of fresh water supply in Jakartaa particular concern in vulnerable *kampung* communities.

The design proposes rainwater to be collected during the monsoon season of late October and March where a new retrofitted roof on the *kampung* will direct water to a collection tank with a small-scale natural filtration system involving water hyacinth, sand, aggregate, pebbles, and a charcoal filter. ²⁵ This filtered water can then be used for dishwashing, toilet purposes, bathing, laundering, irrigation purposes, and other grey water uses.

This method of upcycling rainwater is a valuable strategy to create awareness on achieving water sensitivity as it improves Jakarta's urban poor's access to water. Through this design proposal, residents will learn how to incorporate filtered rainwater in their daily activities, thereby lessening the demand for expensive piped water and allowing individuals to allocate more of their financial resources towards savings and necessities (Fig. 3.19). To broaden this prospect, once rainwater harvesting is properly integrated at the scale of a few houses, the system can be multiplied over many houses at the scale of the community, to create a catchment area for water and to spread awareness about alternative water treatment processes and green infrastructure practices.

²⁴ Sari, Susy, and Suhendri Suhendri. (2018). "Potential of Rainwater System for Domestic Building in Jakarta." IOP Conference Series: Earth and Environmental Science. 152. 012002. 10.1088/1755-1315/152/1/012002.

²⁵ Sari, Susy, and Suhendri Suhendri. (2018). "Potential of Rainwater System for Domestic Building in Jakarta."



Fig. 3.19 Rain water collection barrels as a site upgrade design strategy Image by author

Mangrove planting

Since Jakarta is located along a deltaic plain, the city is prone is many natural hazards including flooding. While this issue was historically mitigated through the implementation of grey infrastructure such as seawalls, flood gates, and dikes, Jakarta's tropical/sub-tropical climate makes it possible for the use of green infrastructure such as mangrove plantation to combat this issue (Fig. 3.20). This process of using green infrastructure to mitigate climate change related hazards is known as Ecosystem-based Disaster Risk Reduction (Eco-DRR). 27 The use of green infrastructure to moderate Jakarta's natural hazards proves valuable as it can ease the financial and political burden that comes with the planning and construction of grey infrastructure. Additionally, unlike most forms of grey infrastructure, green infrastructural advantages include self-maintenance and self-repairing functions as mangroves are a very resilient vegetation. 28, 29 While some countermeasures to flooding already exist in northern Jakarta, which include the development of the NCICD seawall, the planting of mangroves is an additional benefit due to its uses as natural storage for excess rainwater, as well as its ability to store CO2 emissions. ³⁰ In order to appropriately harvest the benefits of mangrove plantation on the research site of this thesis, Kampung Muara Baru, mangroves will first be introduced along the perimeter of the site's adjacent reservoir. This process is implemented so that the mangroves' dense cluster of roots is able to prevent the overflow of water from the reservoir onto surrounding land. Since pollution and sedimentation build-up in a water body can hinder the growth and functionality of a mangrove plantation, the mangrove species used on the research site is chosen carefully, and only planted once the "cleaning and

²⁶ Kawata, Y. (2022). "Green Infrastructures in Megacity Jakarta: Current Status and Possibilities of Mangroves for Flood Damage Mitigation." In: Nakamura, F. (eds) Green Infrastructure and Climate Change Adaptation. Ecological Research Monographs. Springer, Singapore. Available at: https://doi.org/10.1007/978-981-16-6791-6_21.

²⁷ Kawata, Y. (2022). "Green Infrastructures in Megacity Jakarta: Current Status and Possibilities of Mangroves for Flood Damage Mitigation."

²⁸ Ferrario F, M.W. Beck, C.D. Storlazzi, F. Micheli, C. C. Shepard, and L. Airoldi. (2014). "The effectiveness of coral reefs for coastal hazard risk reduction and adaptation." Nat Commun 5:3794. Available at: https://doi.org/10.1038/ncomms4794.

²⁹ Gedan K. B., M. L. Kirwan, E. Wolanski, E. B. Barbier, and B. R. Silliman. (2011). "The present and future role of coastal wetland vegetation in protecting shorelines: answering recent challenges to the paradigm." Clim Chang 106:7–29. Available at: https://doi.org/10.1007/s10584-010-0003-7.

³⁰ Wiradji, S. (2021). "Restoring mangroves to raise people's welfare and mitigate climate change". The Jakarta Post. July 26, 2021. Available at: https://www.thejakartapost.com/news/2021/07/26/restoring-mangroves-to-raise-peoples-welfare-and-mitigate-climate-change.html.



Fig. 3.20 Analyzing mangroves as a site upgrade design strategy Image by author

greening" process of the adjacent reservoir is complete. 31,32 Mangrove species proven to be resilient in the face of floods and tsunamis include *Avicennia marina* and *Rhizophora* spp (Fig. 3.21). 33 In addition to helping protect the site against flooding, the mangrove plantation will also enhance the reservoir's ability to act as a safe and clean retention pond during the monsoon seasons, and also "act as a safe haven for shrimp, crabs, fish and other species, which can be a source of income for local villagers while safeguarding the conservation of the mangrove forest", says Hartono Prawiraatmadja, head of the national Peatland and Mangrove Restoration Agency. 34 The most famous and extensively examined mangroves in Jakarta are the mangroves at Muara Angke Mangrove conservation as seen in Figure 3.22.

³¹ Putri, L., F. Yulianda, and Y. Wardiatno. (2015) "Pola zonasi mangrove dan asosiasi makrozoobentos di wilayah Pantai Indah Kapuk, Jakarta." Bonorowo Wetlands 5(1):29–43. Available at: https://doi.org/10.13057/bonorowo/w050104.

³² Pambudi, A., B. Gusviga, and Z. Fahrezi. (2018). "Analysis of mangrove forest change in Muara Angke Jakarta by using geographical information system and remote sensing." Prosiding Seminar Nasional Penginderaan Jauh 2018:192–198.

³³ Alongi, Daniel. (2008). "Mangrove forests: resilience, protection from tsunamis, and responses to global climate change." Estuar Coast Shelf Sci 76:1–13. Available at: https://10.1016/j.ecss.2007.08.024.

³⁴ Pambudi, A., B. Gusviga, and Z. Fahrezi. (2018). "Analysis of mangrove forest change in Muara Angke Jakarta by using geographical information system and remote sensing."



Fig. 3.21 Analyzing mangroves as a site upgrade design strategy Image by author





Fig. 3.22 Analyzing mangroves as a site upgrade design strategy Image by author

A Lost Practice: Mussel Growing and Harvesting

Since the early 2000s, the Jakarta Bay has increasingly deteriorated due to industrialization and modernization endeavors. Polluted waste from factories, domestic run-off and even other polluted water bodies have been streaming into the Bay of Jakarta severely degrading the water quality and compromising marine life. Mussel growing and harvesting is a lost practice that has been impacted due to the polluted water body with marine biologists noting the green mussels grown in the bay had been tested for "heavy metal, such as mercury, cadmium, and lead." Jakarta's authorities had banned the sale of mussels when reports found many residents falling ill.

This thesis research reintroduces this lost practice of mussel cultivation in the proposed design strategies, as an effective economic and environmental venture for local communities to practice. Mussel culture does not require any specialized prior knowledge or training and is perfectly suitable to use in small-scale settings.³⁶ Critically, mussel harvesting provides environmental benefits to the site since mussels are biologically unable to discharge the pollution within each shell, therefore act as pollutant sinks and act as cleaning agents or filters for the polluted water on the site.³⁷ The proposal of green mussel harvesting and growing is only introduced once the water adjacent to the site is cleaned and dredged substantially so as to not hinder the healthy growth and development of the mussels. Since interventions are executed in succession over time, the mussels grown during the first five years will not be fit to consume as human food and will only be used as pollutant sinks. Once the water is deemed safe, mussels can be farmed for human consumption. Green mussels are an excellent source of carbohydrates, fat and protein, and are very easy to grow, making it a popular seafood in many South-east Asian countries, including Indonesia.³⁸

³⁵ Koesoemawiria, E. (2016). "House of Mussels: an artificial reef off the coast of Jakarta." Mongabay Series: Indonesian Fisheries, Oceans. October 5, 2016. Available at: https://news.mongabay.com/2016/10/house-of-mussels-an-artificial-reef-off-the-coast-of-jakarta/#.

³⁶ Bin Sallih, K. (2005). "Mussel farming in the state of Sarawak, Malaysia: A feasibility study." Fisheries Training Programme Report (p. 44 pp.). United Nations University.

³⁷ Koesoemawiria, E. (2016). "House of Mussels: an artificial reef off the coast of Jakarta."

³⁸ Chakraborty, K., S. J. Chakkalakal, D. Joseph, P. K. Asokan, and K. K. Vijayan. (2016). "Nutritional and antioxidative attributes of green mussel (Perna viridis L.) from the southwestern coast of India." Journal of Aquatic Food Product Technology, 25(7), 968–985. Available at: https://doi.org/10.1080/10498 850.2015.1004498.

To keep in line with more traditional Indonesian practices, mussel farming is introduced in sheltered marine and mangrove waters adjacent to the site using a raft method (Fig. 3.23 and Fig. 3.24).³⁹ This is done so that *kampung* residents may find it easy to construct and maintain the growing mussel culture. In reviving the lost art of mussel harvesting, *kampung* residents create an alternative form of employment while simultaneously cleaning compromised sites.

³⁹ Wilms, T., F. Van der Goot, and A. Debrot. (2017). "Building with Nature - an integrated approach for coastal zone solutions using natural, socio-economic and institutional processes. In: Australasian Coasts & Ports 2017: Working with Nature." Barton, ACT: Engineers Australia, PI-ANC Australia and Institute of Professional Engineers New Zealand, 2017: 1186–1192. Available at: https://search.informit.com.au/documentSummary;dn=936267983541969;res=IELENG.

Wilson, Ian. (2016). "Making Enemies out of friends." New Mandala. Available at: http://www.newmandala.org/making-enemies-friends/.



Fig. 3.23 Mussel Growing and Harvesting Raft Culture. Source: Walker, Tom. (2017). "Maine mussel farm puts sustainability at its core". Aquaculture. February 28, 2017. Available at: https://www.aquaculturenorthamerica.com/maine-mussel-farm-puts-sustainability-at-its-core-1347/



Fig. 3.24 Mussel Growing and Harvesting Raft Culture. Source: Noor N. M., H. Nursyam, M. S. Widodo, and Y. Risjani. (2019). Biological aspects of green mussels Perna viridis cultivated on raft culture in Pasaran coastal waters, Indonesia. AACL Bioflux 12(2):448-456.

PART_03

3.2 Kampung Muara Baru

Documenting and understanding the research site

Kampung Muara Baru

Kampung households in Muara Baru are typically built up from nonpermanent structures constructed from found or cheap material, and over time some more permanent structures emerge. In Muara Baru most houses are sited adjacent to the main road that runs along the site. The land on which the houses sit is typically a metre below the level of the road. Kampung Muara Baru has an estimated population of around 21,865 inhabitants living in 12,800 houses clustered tightly together with little access to good sanitation, sewage infrastructure and potable water. The residents from this kampung find employment across a range of informal economy jobs, working as fishermen, vendors, drivers, stall owners, etc. (Fig 3.25). Kampungs like Muara Baru are typically organized by their alleyway matrix to segregate households and smaller communities within the kampung. Muara Baru is bordered by a polluted lake reservoir, Waduk Pluit, to the west, and to the east the kampung is immediately met with a high-traffic road serving industrial and commercial buildings (Fig. 3.26 and 3.27). Here, like in the majority of Javanese kampung residents, the inhabitants do not have proof of ownership or land titles since the land is largely owned by the state and was appropriated by residents after the 1997 economic crisis (Fig. 3.28 and 3.29).

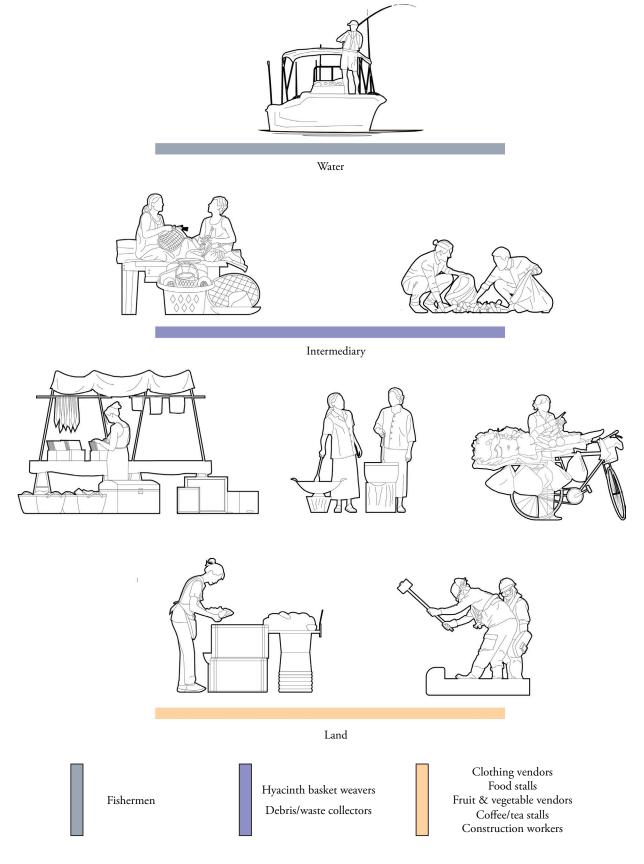


Fig. 3.25 Kampung Muara Baru Jobs Drawing by author

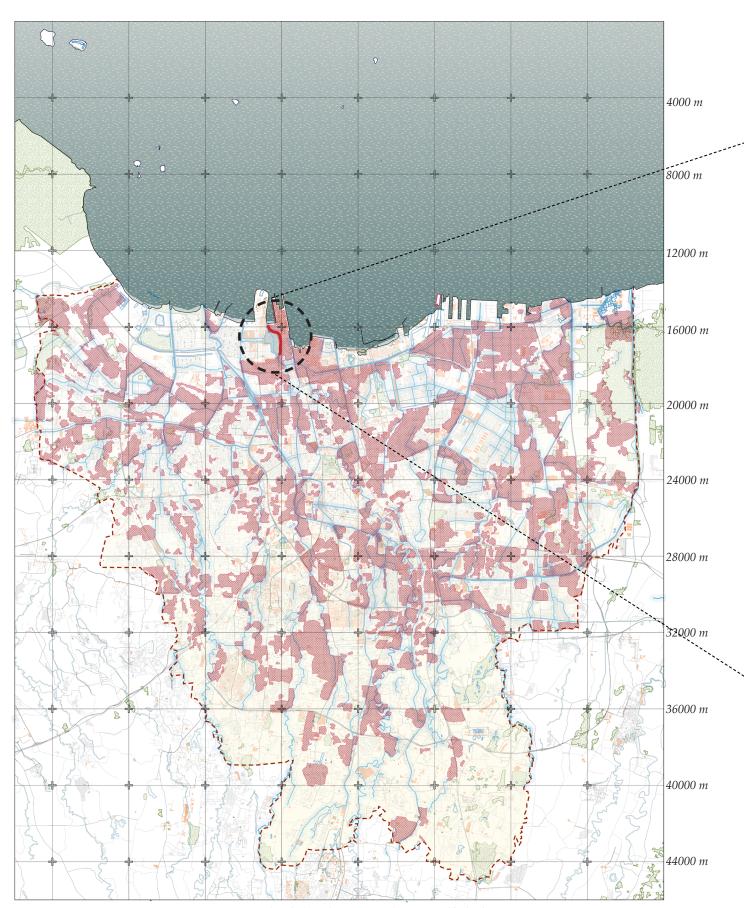
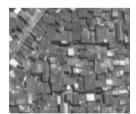


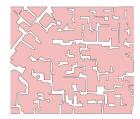
Fig. 3.26 Site Plan of Jakarta showing existing kampung neighborhoods
Drawing re-adapted by author



Fig. 3.27 Site Plan of Kampung Muara Baru Drawing by author



Kampung Muara Baru



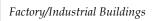
Semi-square block typology

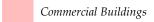


Built blocks 85%

Source: Dovey, K., Brian and Amanda (2019), Contested riverscapes in Jakarta: flooding, forced exiction and urban image. Faculty of Architecture, Building & Planning, University of Melbourne: School of Geography, University of Melbourne: Accessed: November 25, 2020. Available at: https://www.researchgate.net/publication/336315597. Contested_riverscapes_in_fakarta_flooding_forced_exiction_and_urban_image







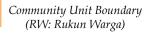
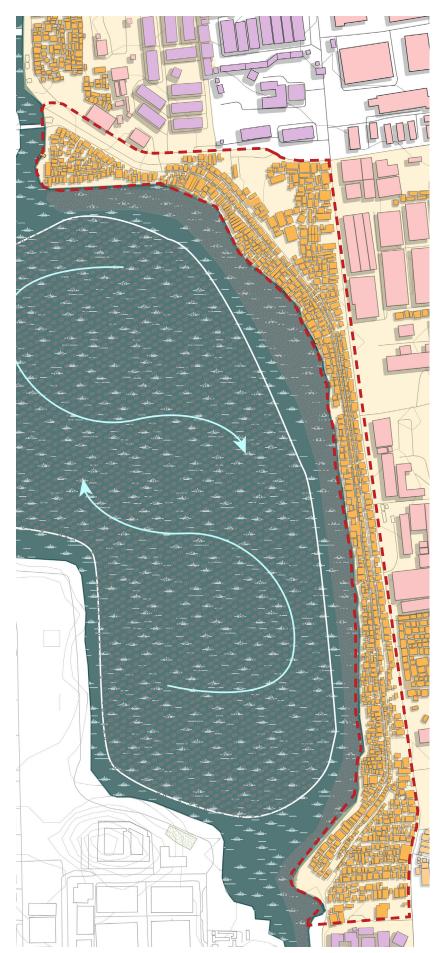


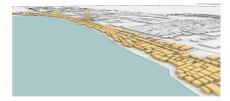
Fig. 3.28 Site Plan of Kampung Muara Baru showing existing kampungs, commercial and factory buildings and site conditions Drawing by author





Kampung Muara Baru

Population: ± 22,000 ± 1,955 people per ha.





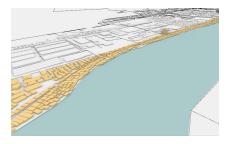


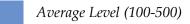
Fig. 3.29 Analyzing site location Drawing by author

Today, thousands of these homes have occupied this land for years, and their inhabitants have since worked to bring in power lines and water supply pipes. Some properties have even obtained formal status, occupying the land with legal land titles with rentable spaces for other inhabitants and shop keepers (Fig. 3.30). Kampung Muara Baru saw an influx of residents when the adjacent fishing port was developed and established in the late 1980s. Largely considered a swampland prior to this time, many incoming people saw an opportunity to be the first modern settlers here as they were able to acquire land area and develop housing for a fraction of the cost. Most of the housing in these *kampungs* are self-help housing, and do not employ any particular design method or spatial strategy. Building material upgrades and space expansion have been conducted incrementally over time as a household family grows, or as rooms within a house are rented (Fig. 3.31 and 3.32). Housing upgrades have also occurred over time since many residents could not initially afford to build with stable materials, opting to build with "cheap local materials such as bamboo for the house's pillars, and plastic or inorganic garbage [piled up] up on their reclaimed land. They [did] not build a disposal site, drinking pipes, or safety electrical ports. They [built or extended] houses haphazardly...[informing] only the head of the RT (neighbourhood association), and [without obtaining] government permits. Although the heads of the RTs manage social affairs in the community, they do not have the educational or technical background to enforce zoning or building codes or to provide advice on housing permits and/or construction." ¹ Building materials in the *kampung* also include reinforced concrete at times, red brick infill, wood beams, corrugated metal roofs, ceramic tiles, etc. Since these *kampungs* have expanded in size over time, the haphazard construction method consists of making low roofs, and a lack of windows or openings, making cross-ventilation difficult.

¹ Simarmata, H. A. (2017). "Phenomenology in adaptation planning: An empirical study of flood-affected people in Kampung Muara Baru Jakarta." Springer, Singapore. Available at: https://doi.org/10.1007/978-981-10-5496-9



Low Level (1-100)



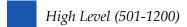
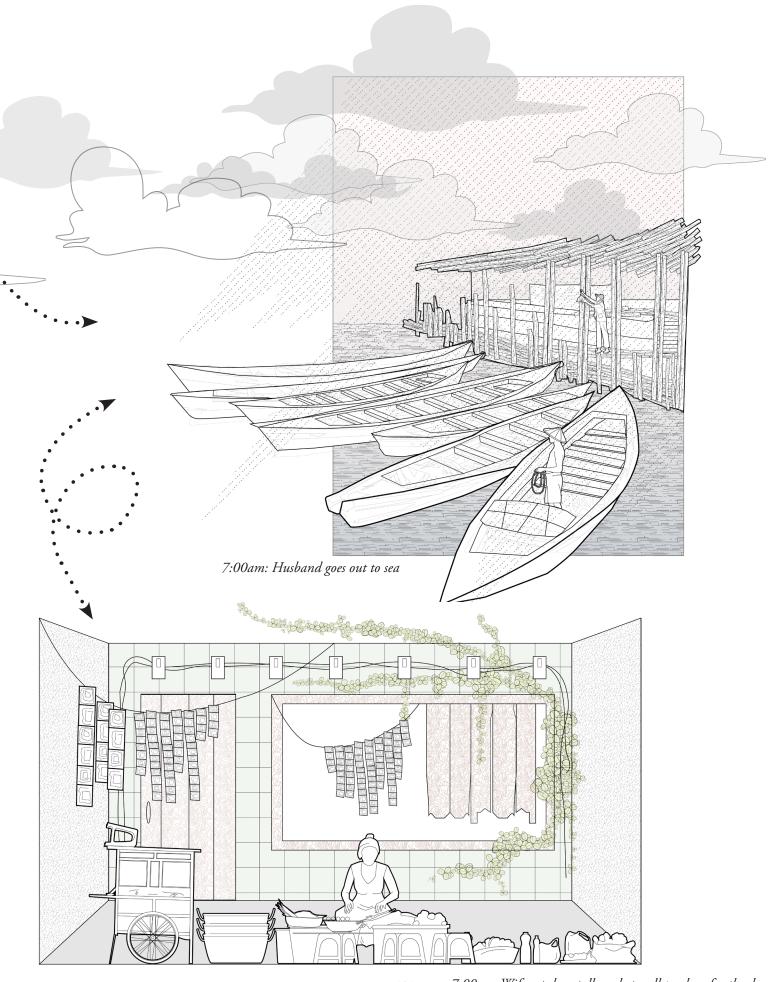


Fig. 3.30 Analyzing Site Plan of Kampung Muara Baru showing the poverty levels
Drawing re-adapted by author
Source: Simarmata, H. A. (2017). "Phenomenology in adaptation planning: An empirical study of flood-affected people in Kampung Muara Baru Jakarta." Springer, Singapore. Available at: https://doi.org/10.1007/978-981-10-5496-9

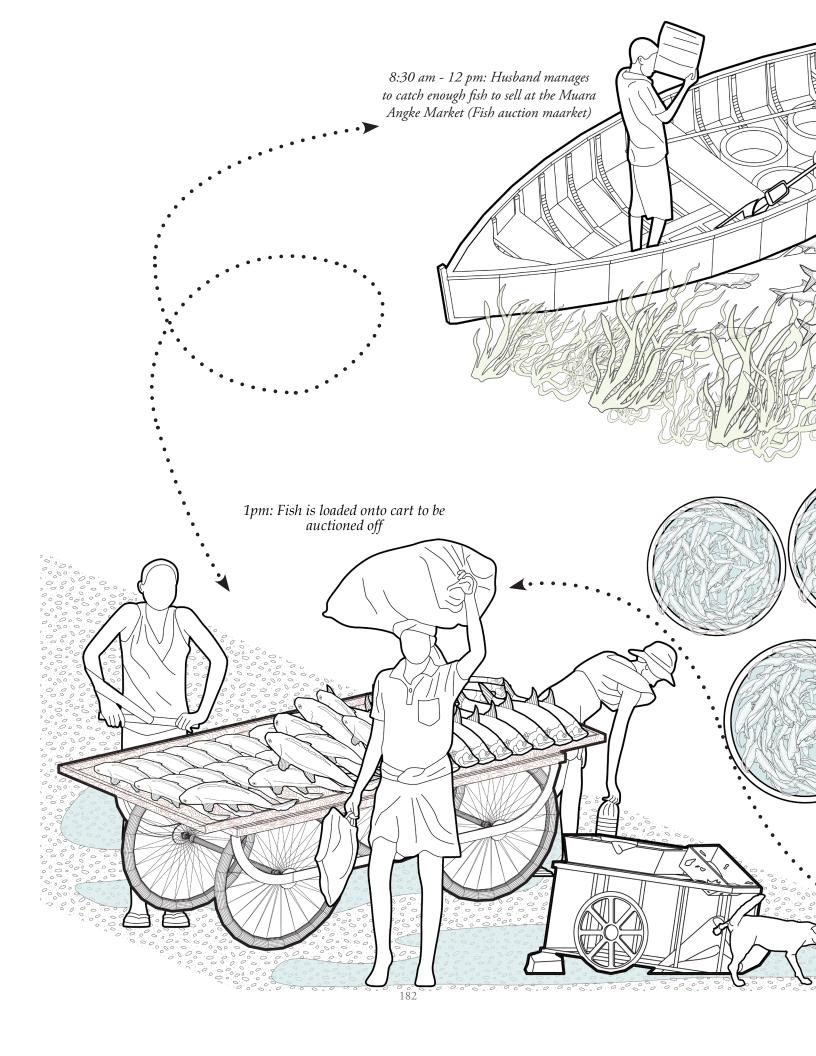


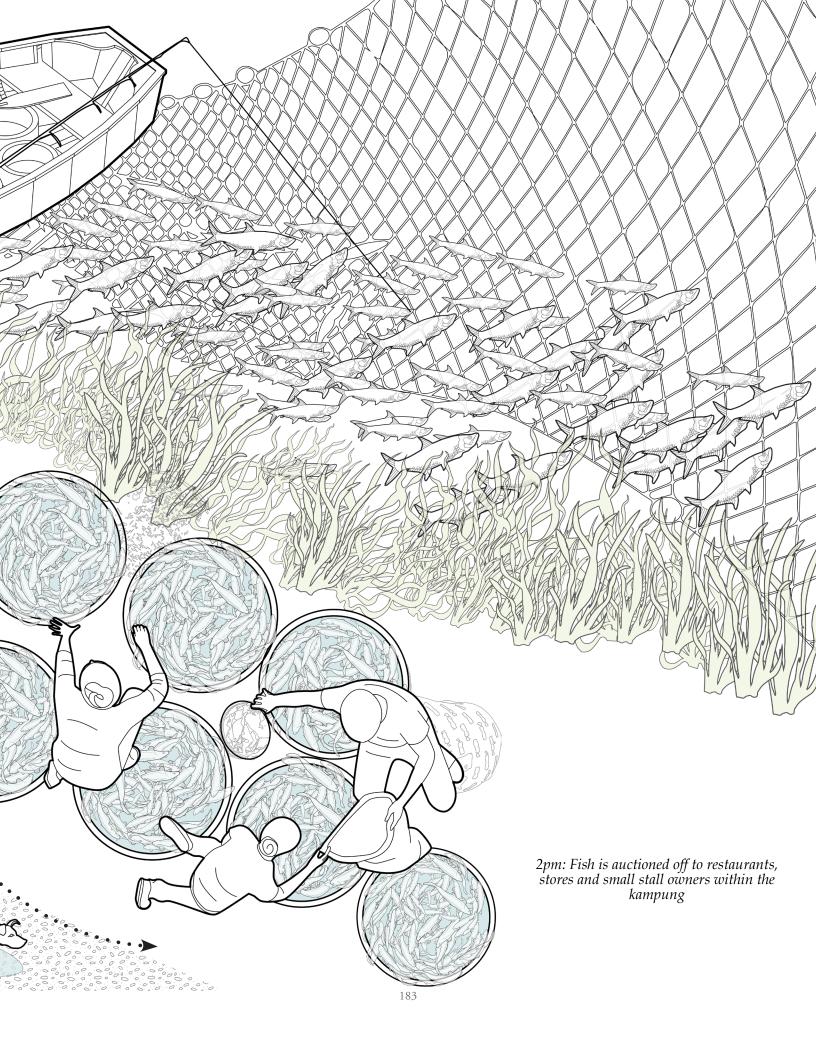
This drawing analyzes a day in the life of a family in Kampung Muara Baru. This narrative is drawn from the perspective of a husband and wife with their children between the hours of 6:00am to 9:00pm

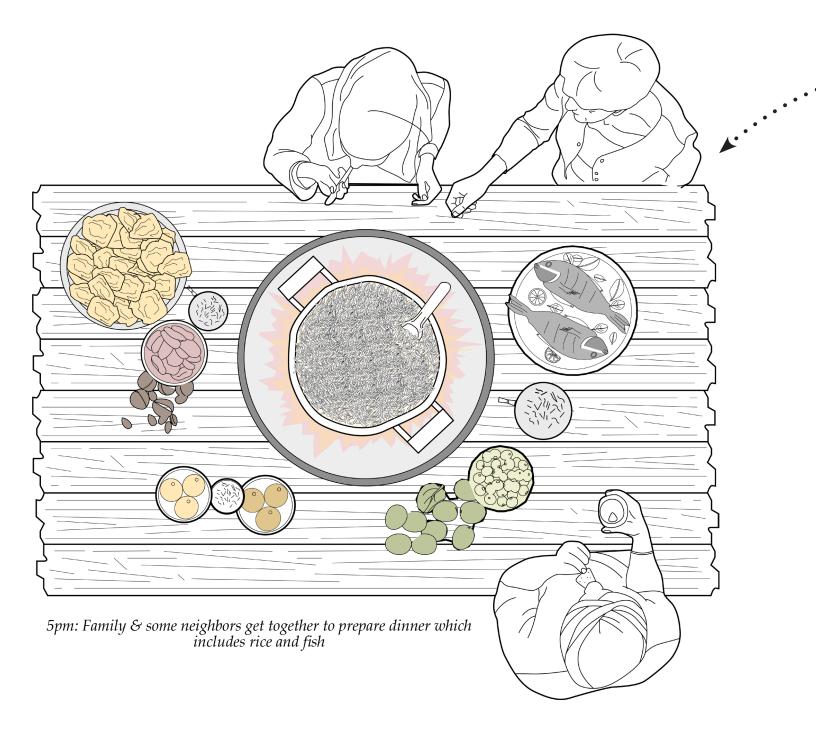
Fig. 3.31 A day in the life narrative Drawing by author

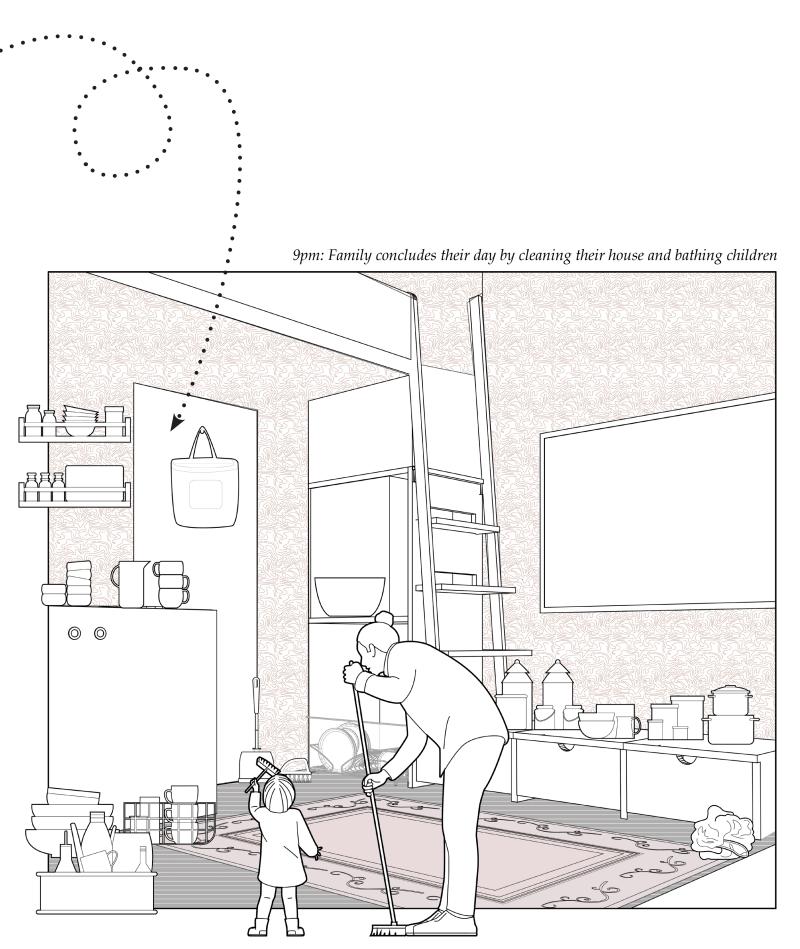


7:00am: Wife gets her stall ready to sell produce for the day

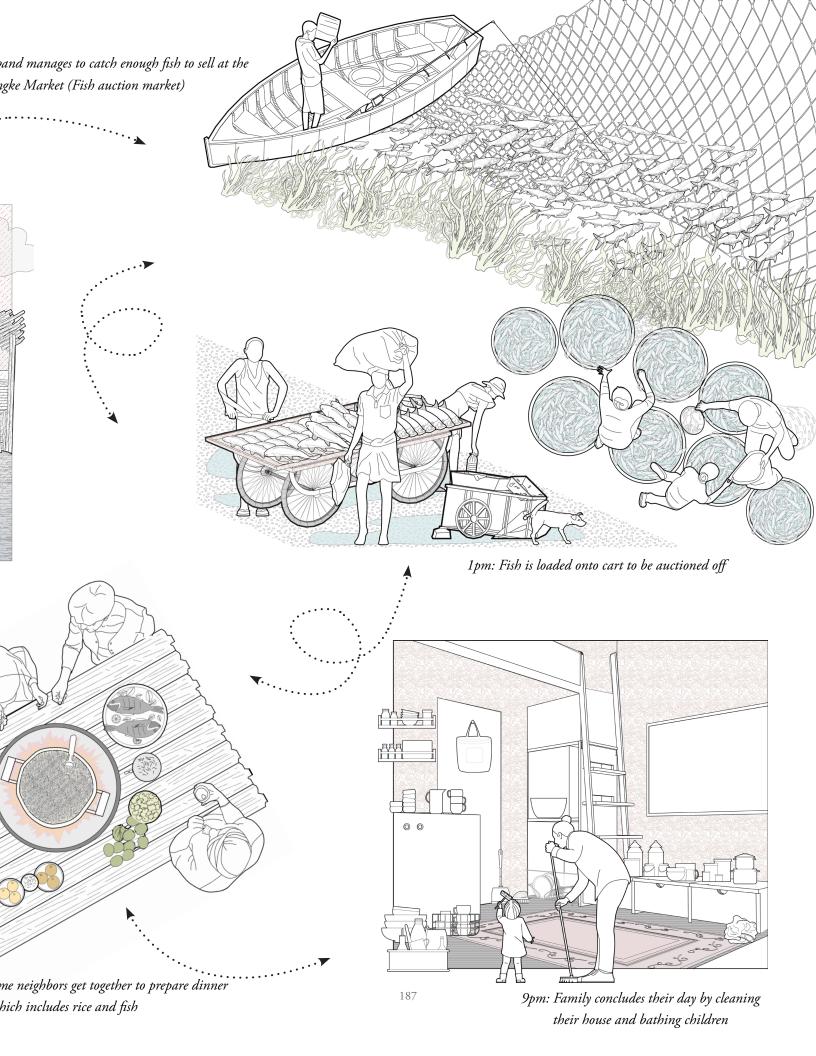


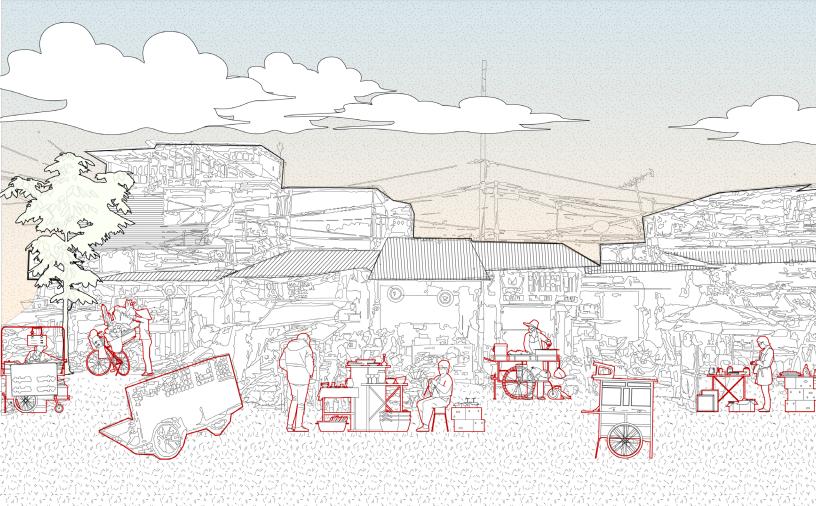


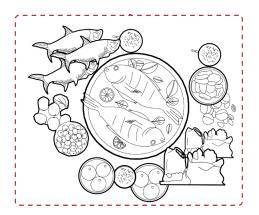




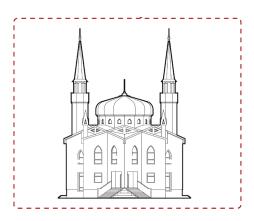








Food



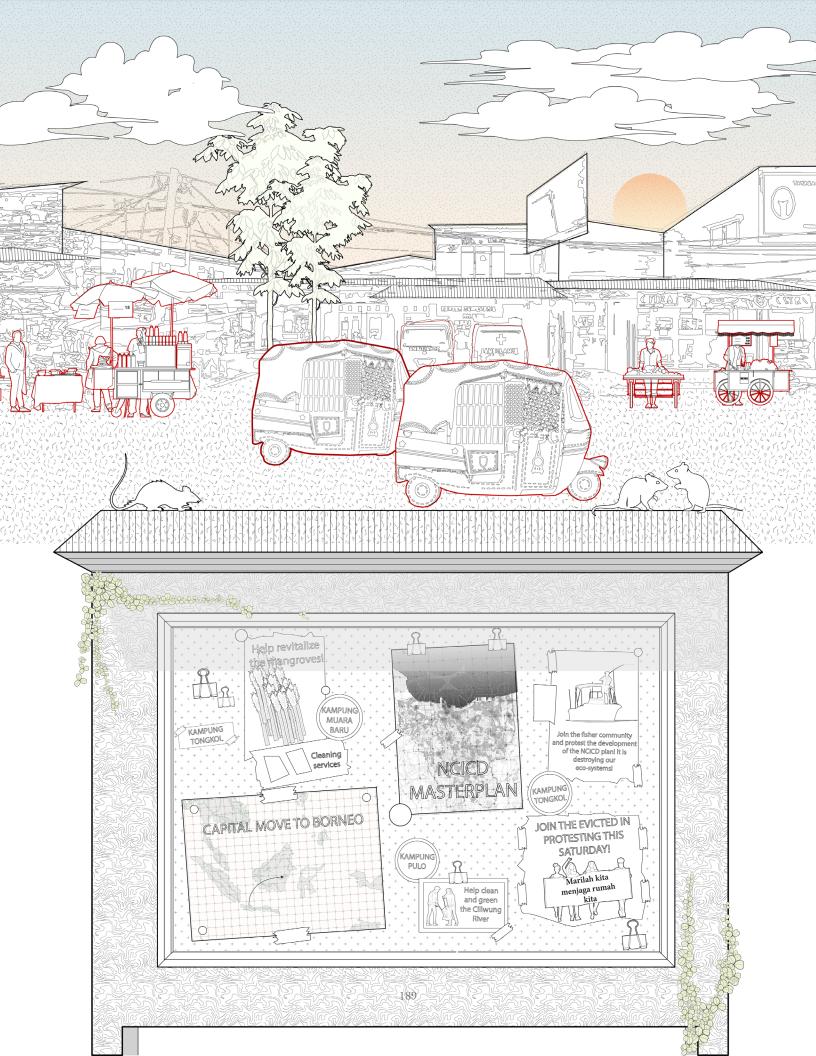


Religious Services

Kampung ownership/ low rental property & emergency medical services

This drawing analyzes some of the services and amenities available to residents in Kampung Muara Baru such as religious centres, emergency clinics, various food stalls, schools, and community gathering spaces.

Fig. 3.32 Elevation activity study of Muara Baru Drawing by author



Waduk Pluit

In early 2013, after Jakarta was hit with a devastating flood, the reservoir adjacent to Kampung Muara Baru, Waduk Pluit, was filled with garbage, sewage and a teeming growth of water hyacinth (Fig 3.33). All these elements compounded together, posed an extreme problem as they were clogging the reservoir's waterways, because of the physical obstruction of the garbage and the inability for water to flow freely due to a brimmed surface of water hyacinth. While water hyacinth has many advantageous qualities, such as filtering polluted water, it is also an invasive species, and if left unchecked, can grow uncontrollably. This uncontrolled growth of the water hyacinth can cause issues like clogged waterways and aggravated flooding. Since these elements together in the reservoir stagnated the water to extreme levels, harming human and wildlife around it, the government sought to implement a dredging, cleaning, and conservation program for the reservoir (Fig 3.34).² In implementing this program, city officials were forced to evict and relocate kampung residents closest to the edge of the reservoir to a nearby rusunawa named, Rusunawa Muara Baru.³ While residents agreed to the relocation during the cleaning process, the government did not allocate enough resources to maintain the cleanliness of the reservoir, thereby causing it to become polluted once again over the last few years. The reservoir currently poses a huge threat to the residents of Muara Baru as most people from within and around the site dispose of their waste and garbage directly into the water, intensifying the issue of water pollution (Fig 3.35).

² Jakarta Post. (2018). "Jakarta plants water hyacinth in river to remove pollution" Available at: https://www.thejakartapost.com/news/2018/12/03/jakarta-plants-water-hyacinth-in-river-to-remove-pollution.html.

³ Teresa, Ananda, Nadia Rice, and Muhammad Iqbal. (2017). "Ahok's legacy in Pluit Reservoir: Slum Village Becomes Residents' Favorite Touris". CompareNEWS. 15 October, 2017. Available at: https://kumparan.com/kumparannews/warisan-ahok-di-waduk-pluit-kampung-kumuh-jadi-wisata-favorit-warga/full.



Fig. 3.33 Waduk Pluit Signage across the bay from Kampung Muara Baru Image by author



Fig. 3.34 Accumulated water hyacinth and garbage in the reservoir Image by author



Fig. 3.35 Dredging activity in the Pluit Image by author

Relocation of Muara Baru residents by NCICD master plan design

This image, found in the NCICD masterplan handbook, shows the NCICD plans to relocate the existing community of Kampung Muara Baru over the course of the project's development (Fig. 3.36). According to this document, the community relocation will only be a few meters away from the original site (indicated on the map in orange); however, the proposed new site footprint (shown in purple) will be smaller than the original site. This significantly smaller footprint is also likely describing a site chosen for a form of vertical housing that, as analyzed in past chapters, does not align with *kampung* residents' lifestyles. While this new form of housing may be subsidized, in practice residents are still typically unable to afford it as the cost of relocation often proves too expensive for evicted *kampung* residents. Residents lack the financial means to make new accommodations and lifestyles work, and usually return to their original *kampung* sites or construct new *kampungs* in other parts of the city.







PS Pump Station

Pump + Dike combined

Construction of dike
 Construction of road

- 3. Construction of new land and housing behind dike and relocation of residents adjacent to Pluit Reservoir
- 5. New shipyard
- 6. Piers connecting the urban area to the water
- 7. New market related to fishing industry
- 8. Re-vegetated area adjacent to reservoir
- 9. New urban parkland
- 10. Upgrading of existing urban areas

Fig. 3.36 Early phase of the NCICD construction in Kampung Muara Baru Source: NCICD Consortium. (2015). National Capital Intergrated Coastal Development Master Plan. Jakarta.

Due to their informal origins, households in Muara Baru lack adequate sanitation, drainage, and disposal standards and fall well short of city standards (Fig. 3.37, 3.38, and 3.39). Over time, these issues compound and create varying living standards across the site and overcrowding in some areas (Fig. 3.40 and 3.41). However, regardless of these limited living conditions, residents of Muara Baru choose not to relocate because the location of and community in Muara Baru provide them with a sense of sanctuary and stability (Fig. 3.42 and 3.43). Residents view this *kampung*, like many others, as an interlaced social, economic, and communal network among themselves and their neighbours.

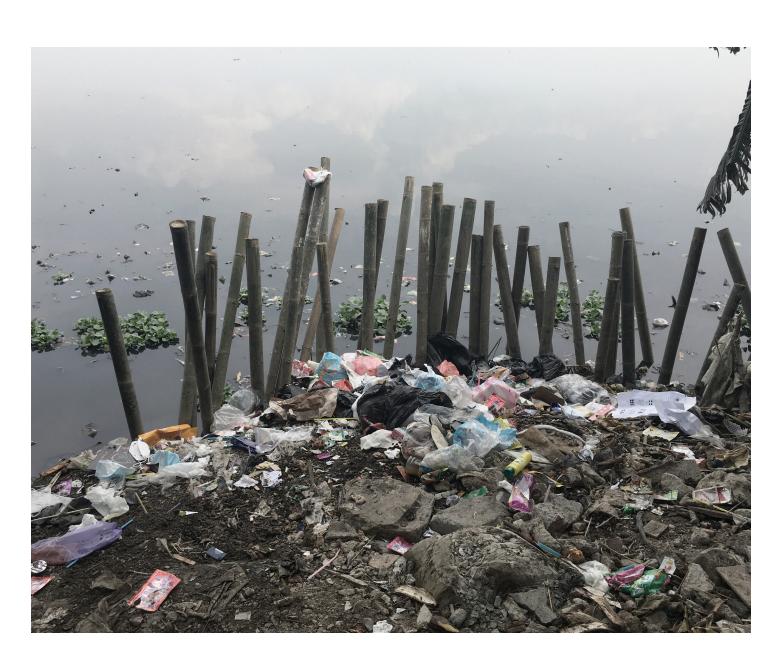


Fig. 3.37 Analyzing site conditons and materiality- Kampung Muara Baru Image by author



Fig. 3.38 Analyzing site conditons and materiality- Kampung Muara Baru Image by author



Fig. 3.39 Resident dumping garbage into the Pluit water Image by author



Fig. 3.40 Analyzing site conditons and materiality- Kampung Muara Baru Image by author



Fig. 3.41 Analyzing site conditons and materiality- Kampung Muara Baru Image by author



Fig. 3.42 Analyzing fishermen's schedules and fish quantities over different timelines- Kampung Muara Baru Image by author



Fig. 3.43 Analyzing fishermen's schedules and fish quantities over different timelines- Kampung Muara Baru Image by author

This drawing highlights the available amenities and services on site for Muara Baru residents. The legend highlights the availability of each service. This is analyzed so that the design strategies in Part 3.3 can take these resident needs into consideration when implementing site upgrades (Fig. 3.44).

Legend Low demand Average demand High demand

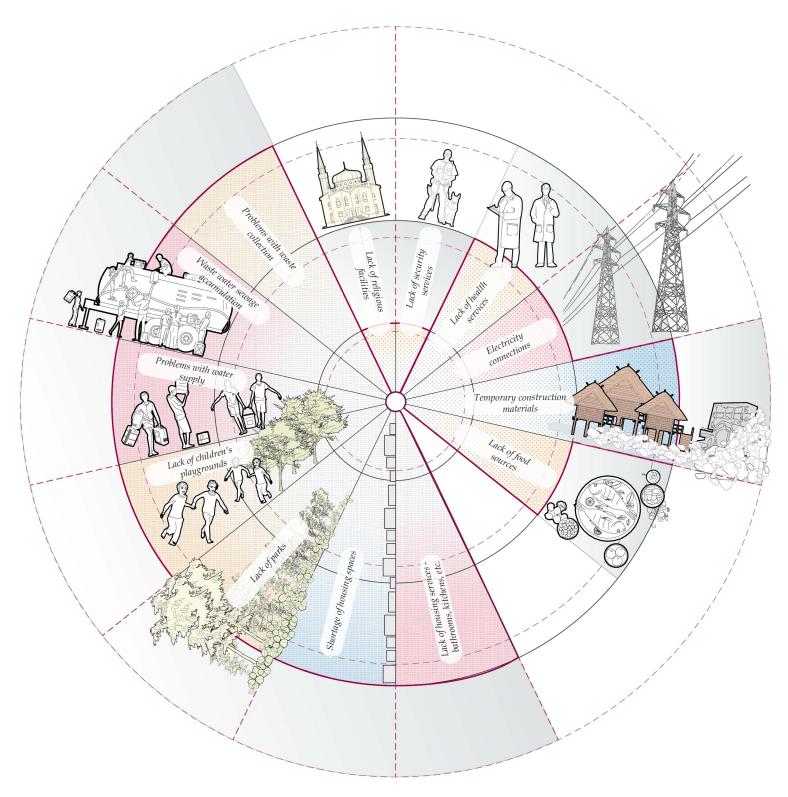


Fig. 3.44 Documentation and illustration based on survey conducted in Kampung Muara Baru Drawing by author.

Alzamil, Waleed S. (2018). "Evaluating Urban Status of Informal Settlements in Indonesia: A Comparative Analysis of Three Case Studies in North Jakarta". Department of Urban Planning, College of Architecture and Planning, King Saud University, Saudi Arabia. July 29, 2018

PART_03

3.3 Kampung Muara Baru: Design Intervention

Design Intention and Scales

As an alternative to the relocation of Kampung Muara Baru proposed by the NCICD in its masterplan handbook, this thesis will use Kampung Muara Baru as a study site to propose a set of carefully considered architectural interventions to act as a catalyst for socio-economic growth within its community (Fig. 3.45 and 3.46). This section of the thesis will explore smallscale kampung retrofits, including those proposed in Kampung Tongkol, alongside other in situ enhancements incorporating rainwater harvesting, mussel farming, mangrove plantations, and community designated market spaces. These retrofits are proposed as a more considered solution to the kampung's problems as they reflect on local narratives, resident interactions, and community experiences. This proposal poses an argument for an improvement plan that, in stark contrast to the goals of the NCICD, creates better communities for the people who currently inhabit them. Allowing residents to remain in place while also cleaning, greening, and upgrading neighborhood fronts accomplishes the political goals and requirements of city planning policies without adding to a cycle of population displacement and underserving communities.

At the scale of the individual home, retrofits such as material upgrades and the addition of new storeys, rainwater harvesting systems, and small garden lots are introduced. At the scale of a cluster of homes or a community, a collective rainwater harvesting system is used, a community-led garbage collection is implemented, and community green walls and markets are organized. At the scale of the larger *kampung* site, cleaning and greening of the water reservoir is first conducted. The planting of mangroves and growing of mussels is later introduced. These interventions collectively address the clean waterfront standard of Jakarta and transform the reservoir into an effective water retention basin. Ultimately the research objective is to leverage design interventions across different scales—from the single home to the cluster of homes (a community), and to the site—to empower the vulnerable Muaru Baru *kampung* to resist the threat of displacement from the NCICD masterplan.

Design Phasing

The proposed timeline for the various retrofits of the house, community, and site is based on the time it takes for each intervention to be constructed and adapted to its new environment in Kampung Muara Baru. The phasing also allocates time for *kampung* residents to become familiar with and gain proficiency in operating and maintaining the intervention. This phasing process will be rolled out over the course of a multi-year and multi-phase timeline. This allows each design strategy to be introduced and even modified to suit the site-specific context of the *kampung*.

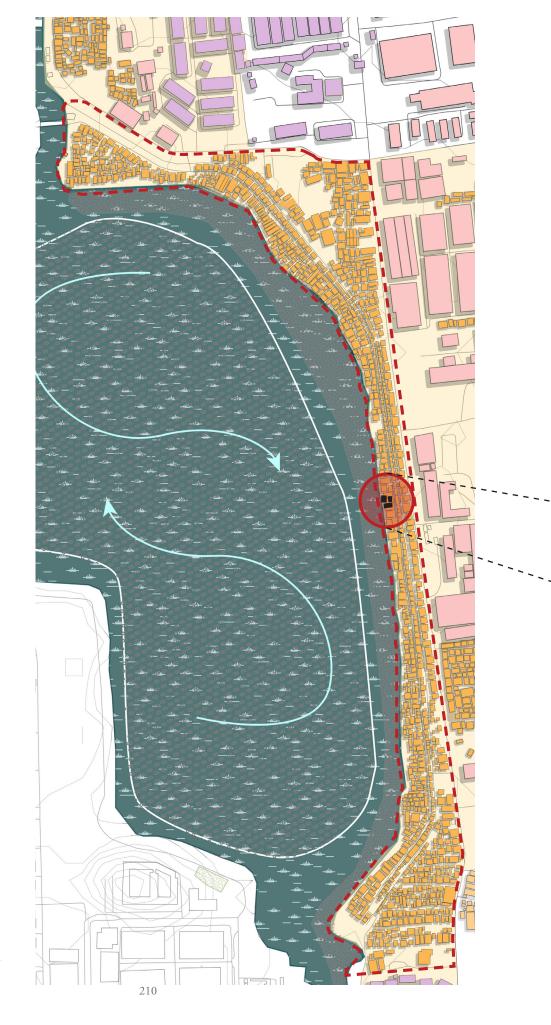
Phase Description

<u>Phase 1 (1-3 years)</u>: At the scale of the site, the cleaning and greening of the site reservoir, Waduk Pluit, is first proposed. Recycle and garbage bins are then introduced at specific areas of the site to ensure ease of disposal and collection. At the housing scale, existing units within the *kampung* are retrofitted to include the addition of a second or third storey, new sinks, toilets, showers (for bigger houses), balconies, and new materials where required. After this, houses with a weak foundation or structural supports are renovated to strengthen the existing structure. Lastly, at the scale of the house and the community, rainwater harvesting systems are proposed to alleviate pressure off *kampung* residents to purchase piped water for daily greywater usage (Fig. 3.47).

<u>Phase 2 (3-5 years):</u> Residents have the opportunity to implement individual, private green lots to grow trees and plants suitable to Jakarta's climatic conditions such as banana, mango, lime, pineapple, cucumber, beans, herbs, etc. (Fig. 3.48).

<u>Phase 3 (5-10 years)</u>: Once the *kampung* households are successfully established up to this stage, a series of floating platforms are constructed and mangrove planting is introduced first in shallow areas of the adjacent reservoir in portable floating planters. These are later moved to the deeper areas of the reservoir as they mature, and to introduce larger quantities of mangroves (Fig. 3.49).

<u>Phase 4 (10-12 years)</u>: After the mangroves have matured enough, mussel growing and harvesting is introduced to the site using a raft system. This makes it easy for residents to maintain and cultivate the mussels as they grow and mature (Fig. 3.50).



Factory/Industrial Buildings

Commercial Buildings

Community Unit Boundary
(RW: Rukun Warga)

Kampungs

Fig. 3.45 Site Plan of Kampung Muara Baru showing existing kampungs, commercial and factory buildings and site conditions Drawing by author

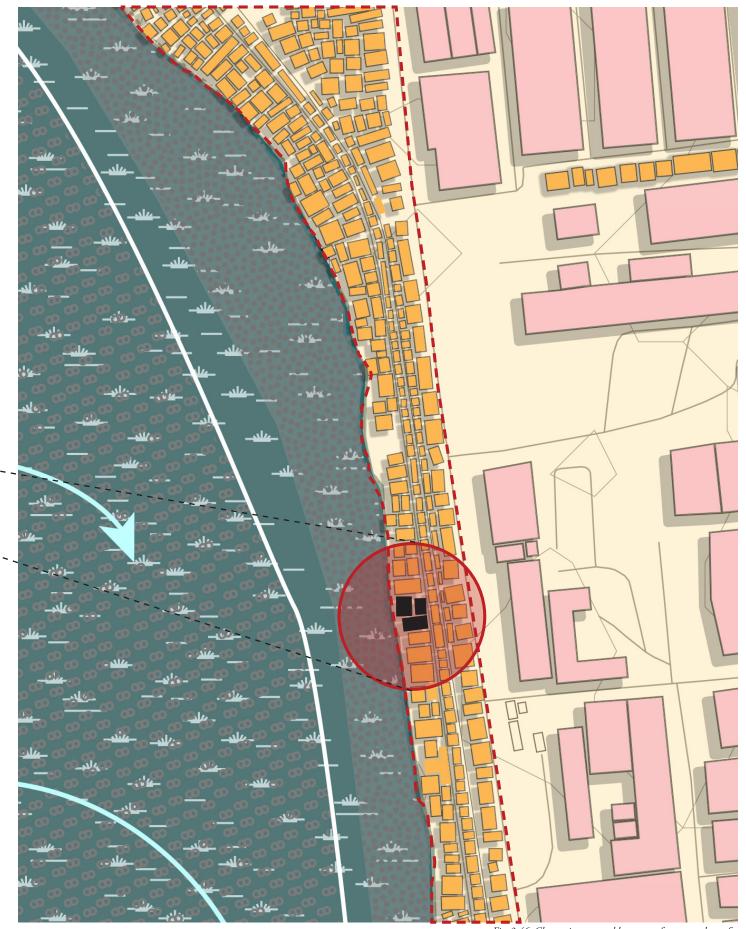
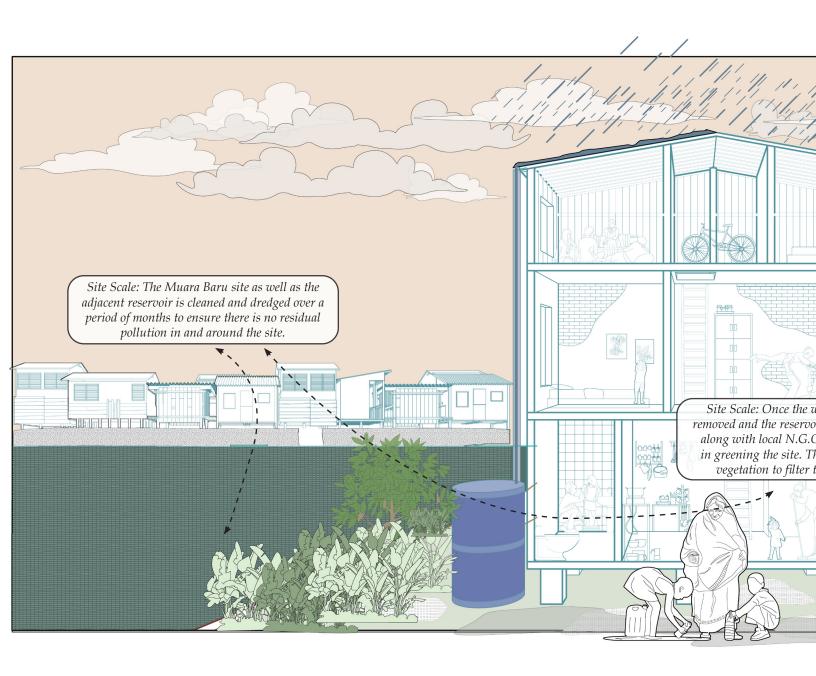


Fig. 3.46 Chosen site area and kampungs for proposed retrofits Drawing by author

PHASE ONE



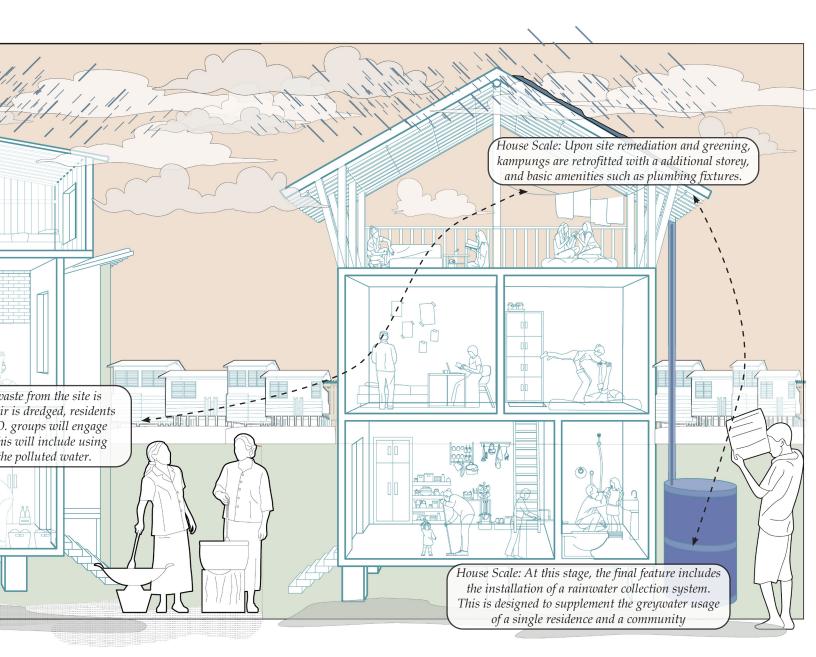


Fig. 3.47 Phase One- Incremental Design Strategies, Year One Drawing by author

PHASE TWO



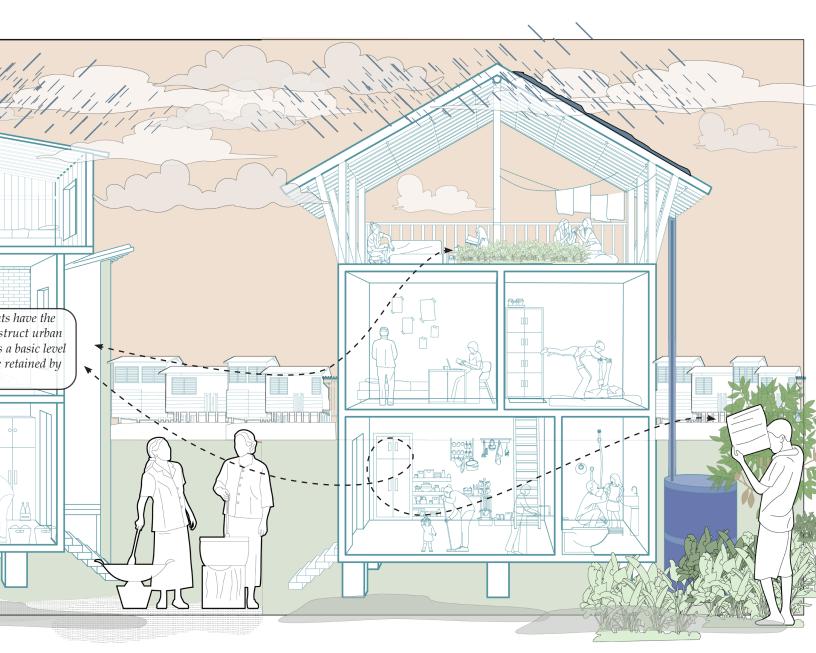


Fig. 3.48 Phase Two- Incremental Design Strategies, Year Three Drawing by author

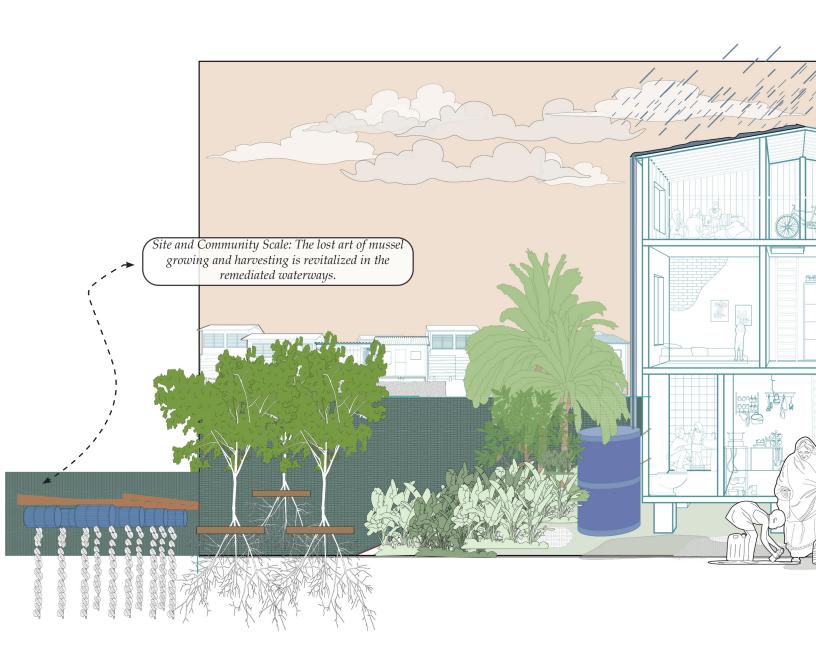
PHASE THREE





Fig. 3.49 Phase Three-Incremental Design Strategies, Year Five Drawing by author

PHASE FOUR



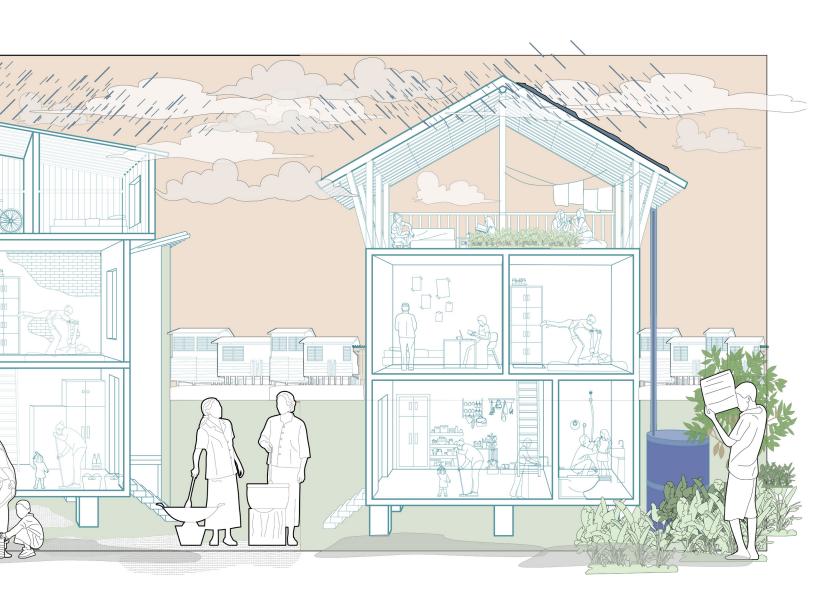


Fig. 3.50 Phase Four-Incremental Design Strategies, Year Ten Drawing by author

Cleaning, Greening, and Retrofitting

One of many methods this thesis research uses to destigmatize the *kampung* as a "slum" is by implementing a cleaning and greening program of the adjacent reservoir and surrounding site of Muara Baru. Similar to the precedent of Kampung Tongkol, the design proposals for Muara Baru include a participatory approach to collect garbage and dredge the existing reservoir, and upgrade the buildings on site. In order to successfully "green" the site, water filtration plants such as Water mint, Cattail, Soft Rush, Water Hyacinth, etc. are used (Fig. 3.51).1 These plants absorb the carbon dioxide in the water while simultaneously expelling oxygen.² This is helpful in regenerating the fish population in the reservoir as well as improving the water quality. Residents, among other local builders, volunteer designers, non-profit organization groups, and construction workers, will be included in material workshops to maintain a consistent building standard through the entire process of production and assembly. The builders and construction workers will be sourced from local neighborhoods to maintain local cultures and construction practices. In this manner, the proposed retrofits will integrate seamlessly within their current social, cultural, and environmental contexts, resulting in a building process that uses and benefits from local materials and construction techniques. The addition of a second or third storey is also aligned with the current building method kampung residents use to upgrade their homes. This is because residents often build housing additions incrementally after they secure the financial means to execute the construction process (Fig. 3.52, 3.53, 3.54 and 3.55).

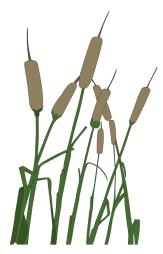
Similar to Tongkol, residents who take on the self-cleaning and self-greening process will also be compensated through capital that comes from donations and city officials. this research poses an argument to allow residents to remain in place while also redirecting some of the capital to *kampung* residents for their labor, which would have been otherwise used by workers employed by the government in the *kampung's* demolition process.

¹ Mackey, A. (2018). "Snapshot: These plants can quickly filter toxins from water." Discover. September 4^{th} , 2018. Available at: https://www.discovermagazine.com/technology/snapshot-these-plants-can-quickly-filter-toxins-from-water.

² Mackey, A. (2018). "Snapshot: These plants can quickly filter toxins from water." Discover.



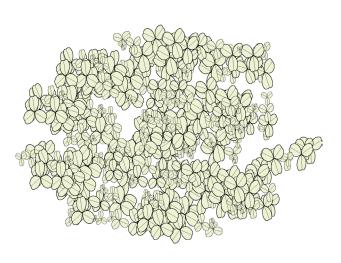
Water mint



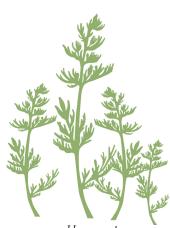
Cattail



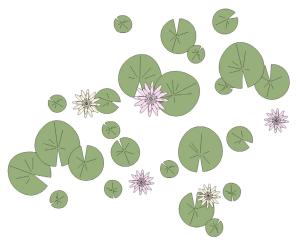
Soft Rush



Water hyacinth



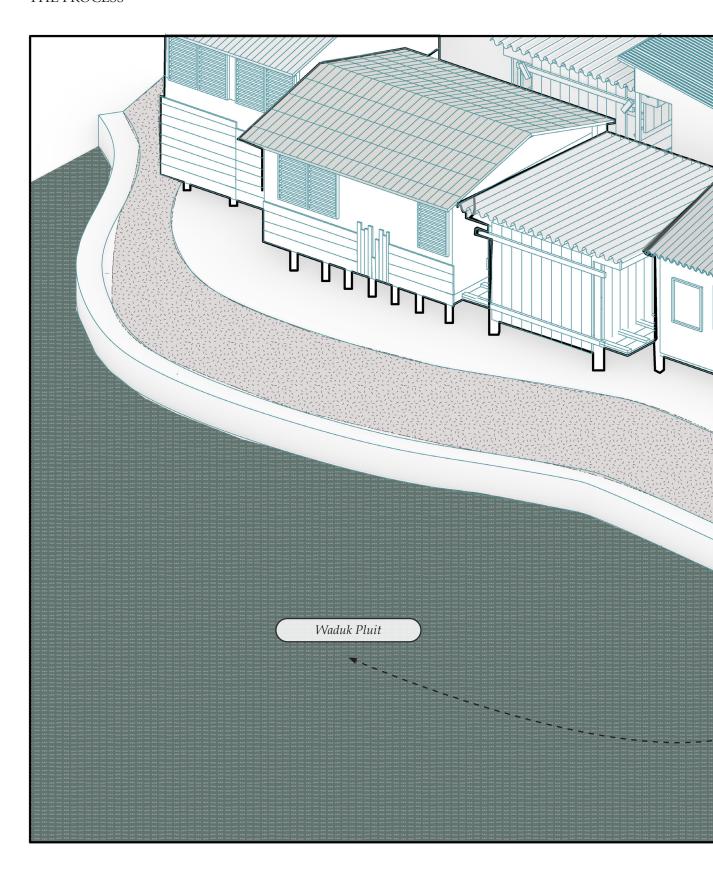
Hornwort



Water lilies

Fig. 3.51 Water filtering and purifying plant species
Drawing by author

THE PROCESS



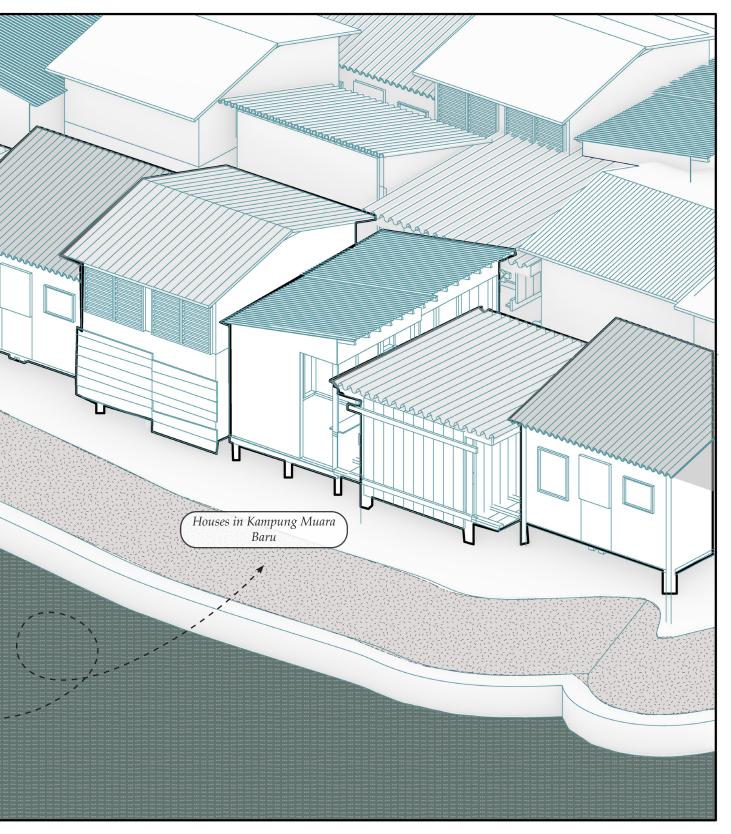


Fig. 3.52 Base Design site Drawing by author

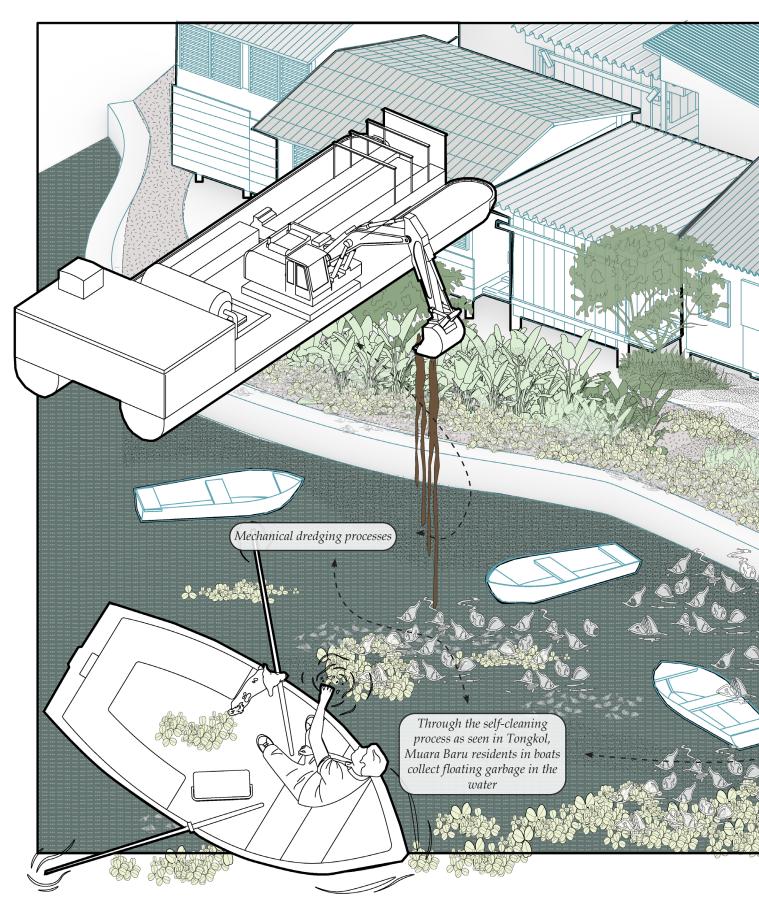




Fig. 3.53 The site banks and waterways are cleaned and dredged Drawing by author





Fig. 3.54 The greening process begins with planting moss, lilies,water mint, and cattail to help further clean the reservoir water Drawing by author





Fig. 3.55 The greening process demonstrated through section Drawing by author

Kampung Housing Types

Based on the research by Evawani Ellisa³, and my own site observations, this thesis analyzes three different kampung housing types that will be used to demonstrate material and architectural retrofits. The assigned terms to differentiate between each kampung type, i.e., "Basic/Common", "Income Generator", and "Ideal", and their spatial properties are derived from Ellisa's research (Fig. 3.56, 3.57, and 3.58). ⁴ These are selected so that effective strategies are used when catering to different size households. The first type is the "Basic/Common house". This house is typically very small and does not include a bathroom or toilet within the house, therefore residents have to use communal showers and toilets on site. This is because these houses are too densely packed and lack adequate space for the installation of a septic tank.⁵ This house is typically crowded and shelters between 4-5 family members with little to no personal space. It is also common for these houses to include extended family members as well, allowing up to eight people to live in the same house.⁶ Residents share kitchen amenities including the use of a stove top. Retrofits in these houses include constructing an additional storey, an individual toilet and sink, as well as strengthening the structure of the existing foundation. This will ensure more spacious rooms and communal areas while also upgrading the physical appearance of the house. Over time, these retrofits will also provide better sanitation for the residents of the house and the site since fewer people will be compelled to use public bathrooms (Fig. 3.59, 3.60, and 3.61).

The second type of house is the "Income Generator".⁷ The inability for some *kampung* residents to participate in the formal working market has encouraged some homeowners to use their domestic spaces as a form of income. They do this by renting specific rooms or levels within their houses.⁸ Owners of these homes often rent out spaces to new residents or to people staying on site on a temporary basis. Houses like these are usually congested as they act as a domestic live/work space typically housing 5-7 people. Retrofits for this home will also include an additional storey, an individual toilet and sink, strengthening the structure of the existing foundation, and constructing an outdoor space/balcony that can later be used for growing vegetation (Fig. 3.62).

³ Ellisa, Evawani. (2016). "Coping with crowding in high-density kampung housing of Jakarta." Archnet-IJAR. 10. 195-212. 10.26687/archnet-ijar.v10i1.790.

⁴ Ellisa, Evawani. (2016). "Coping with crowding in high-density kampung housing of Jakarta."

⁵ Ellisa, Evawani. (2016). "Coping with crowding in high-density kampung housing of Jakarta."

⁶ Ellisa, Evawani. (2016). "Coping with crowding in high-density kampung housing of Jakarta."

⁷ Ellisa, Evawani. (2016). "Coping with crowding in high-density kampung housing of Jakarta."

⁸ Ellisa, Evawani. (2016). "Coping with crowding in high-density kampung housing of Jakarta."

Finally, the third type of house is the "Ideal house". Residents living in these houses often have additional space for home and work-related activities. Some of these homes are built to include the most basic amenities with tons of additional storage space, while others also include a private sink and toilet. Residents living in the "Ideal house" often have more space regardless of being clustered in groups of 5-6 individuals. In this type of house, the retrofits include an expansive, partially open terrace for children to play, or for vegetation growth. Upgrades also include a full new bathroom, equipped with a shower (Fig. 3.63, 3.64, and 3.65).

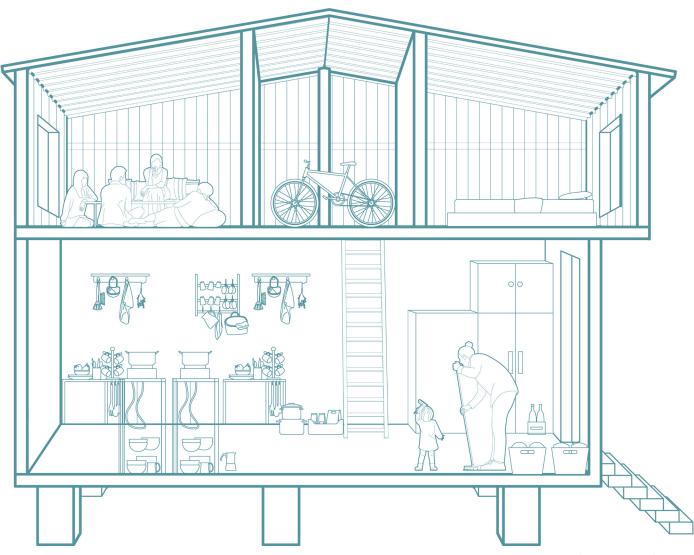


Fig. 3.56 The Basic/Common house type Drawing by author

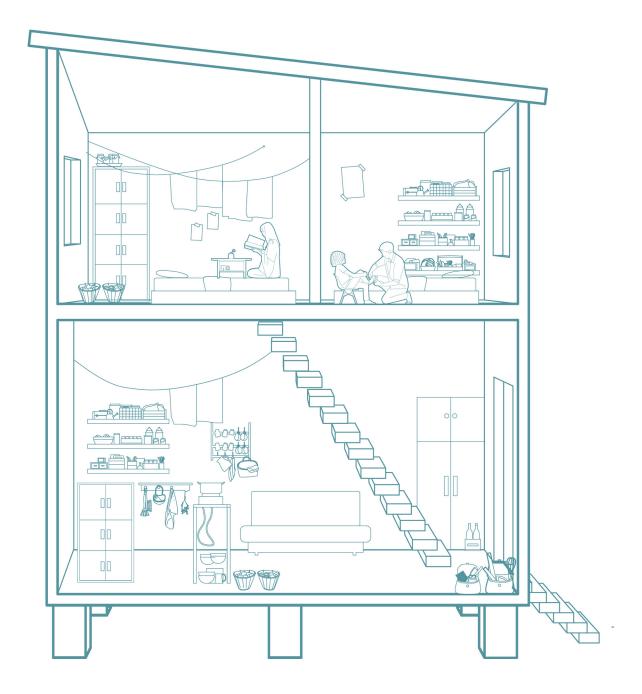


Fig. 3.57 The Income generator house type Drawing by author

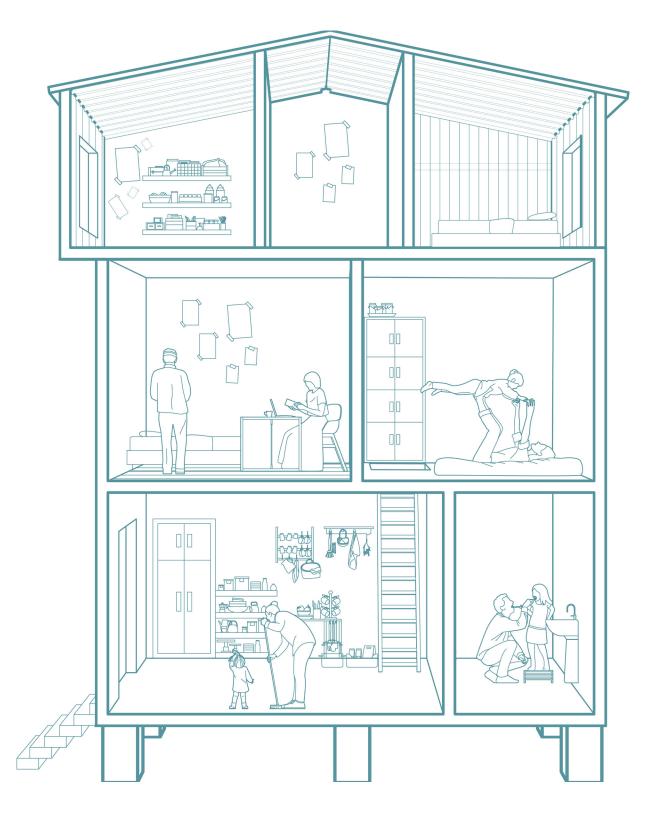
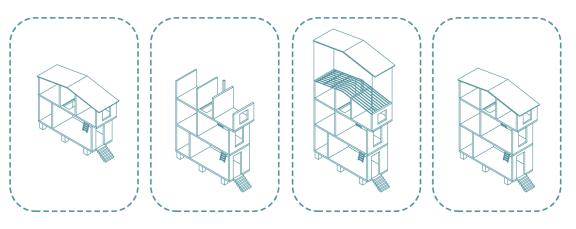


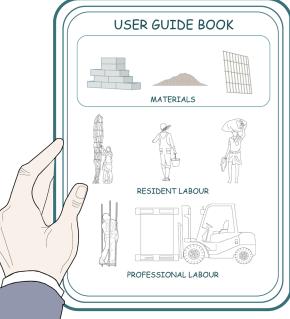
Fig. 3.58 The Ideal house type Drawing by author

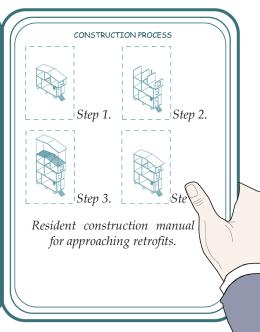


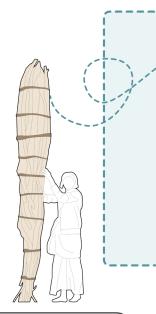
Housing type 01: The Basic/Common Type Number of storeys after retrofit: 3



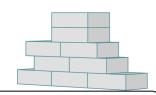
Number of people living in the home: 4 - 5 (temporary residents/visitors)



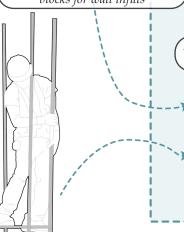




New materials: Structural bamboo for the roof



New materials: Aerated autoclave blocks for wall infills



New materials: Reinforced conce frames for the main structure

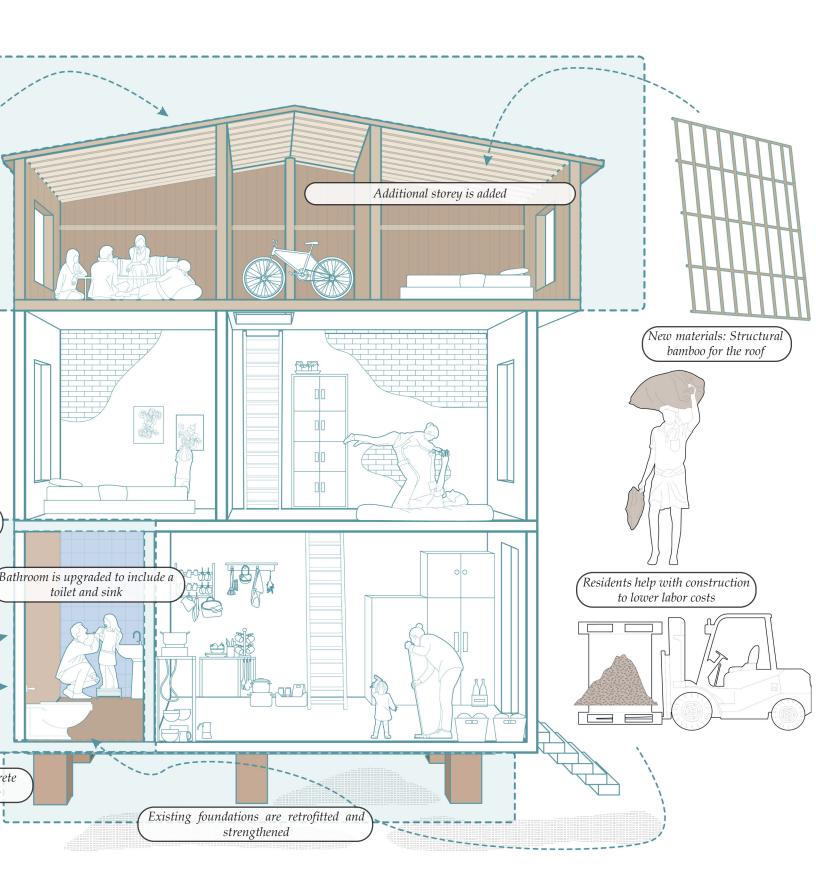
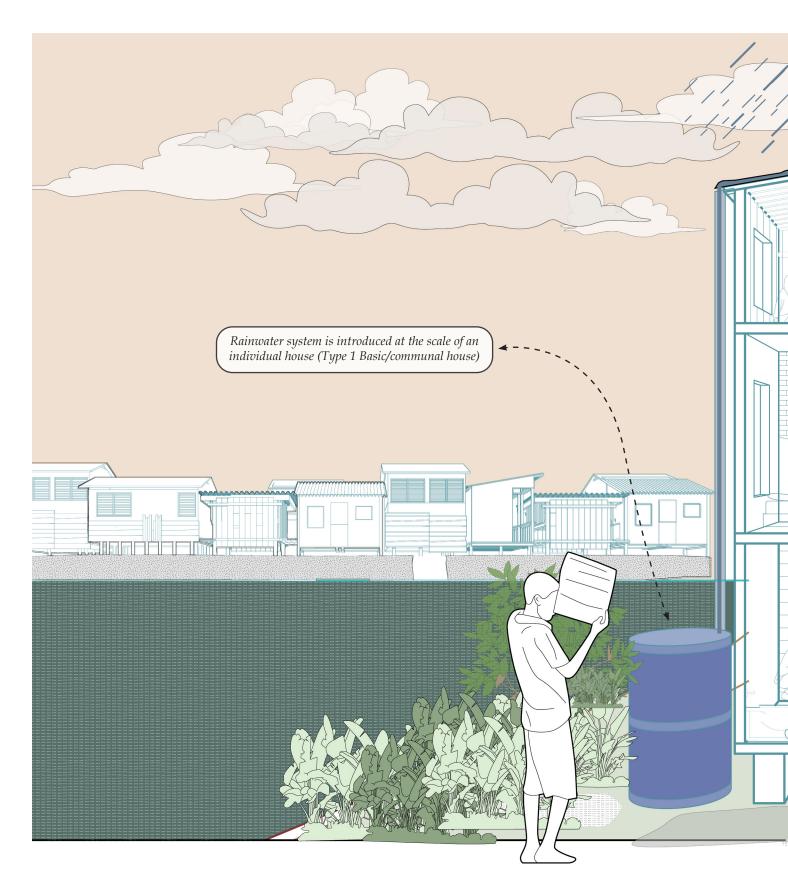


Fig. 3.59 Retrofitting the Basic/Common house type Drawing by author



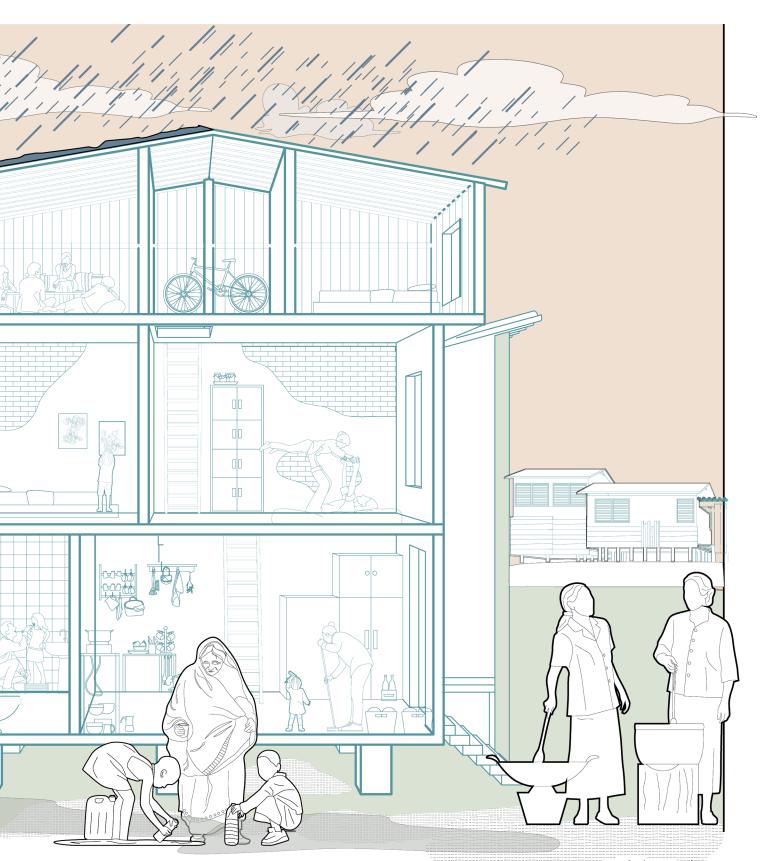
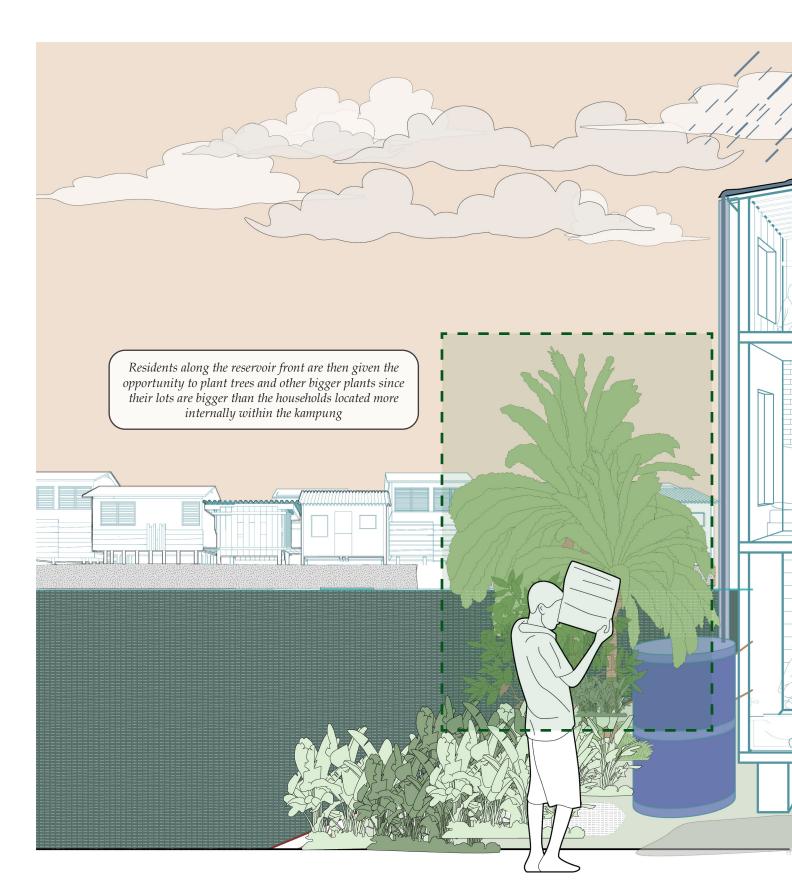


Fig. 3:60 Rainwater Harvesting system for the common house type Drawing by author



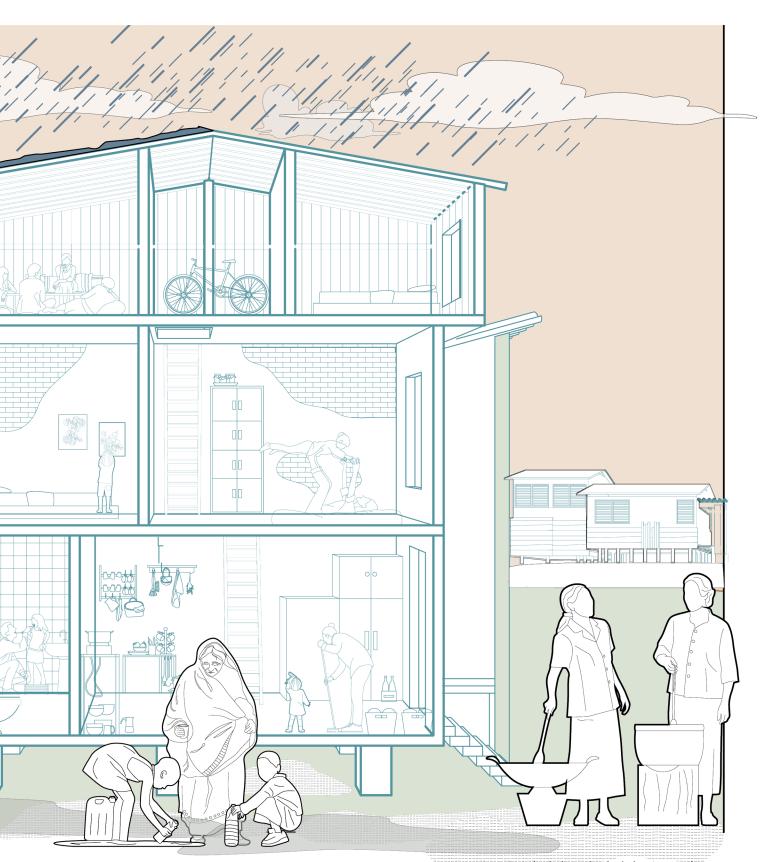
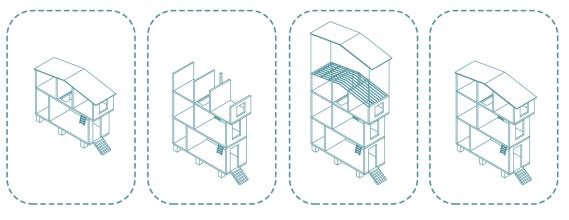


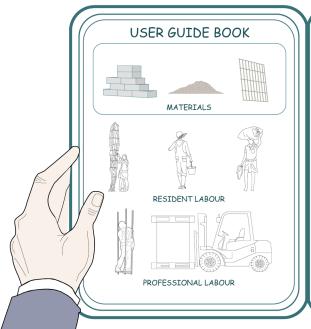
Fig. 3.61 Individual green lots for the basic/common house type Drawing by author

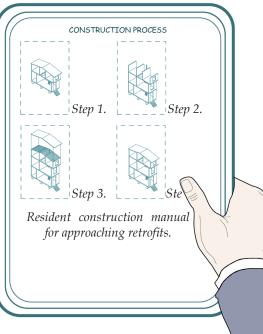


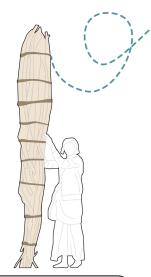
Housing type 02: The Income Generator Type Number of storeys after retrofit: 3



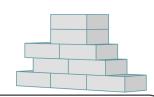
Number of people living in the home: 5 + 2 (*Tenants*)







New materials: Structural bamboo for the roof



New materials: Aerated autoclave blocks for wall infills



New materials: Reinforced conce frames for the main structure

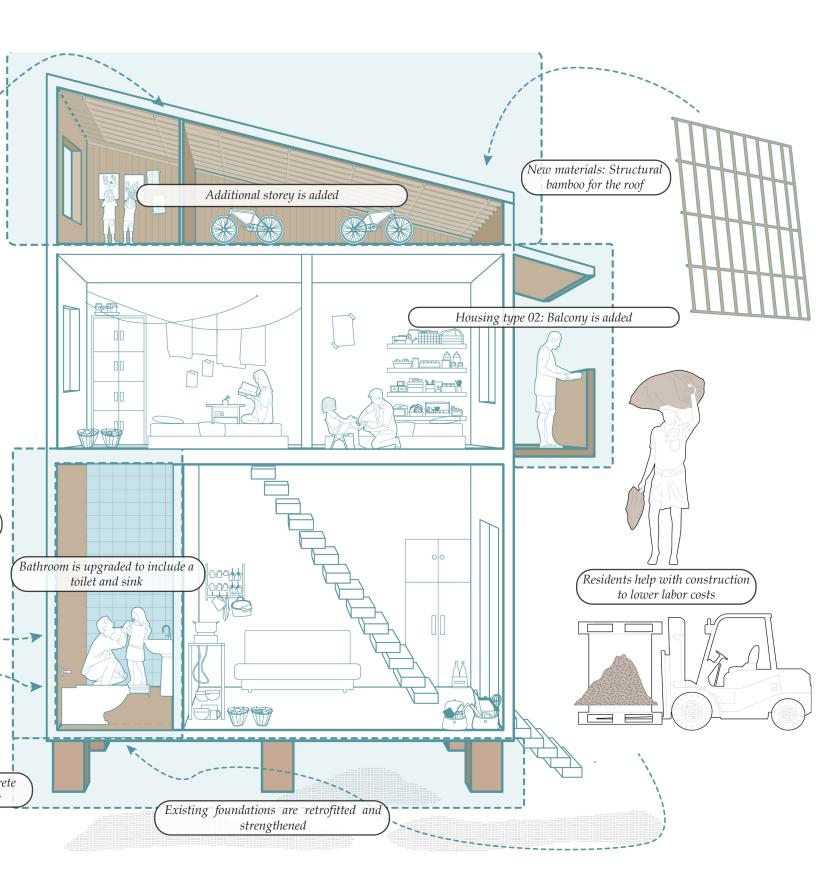
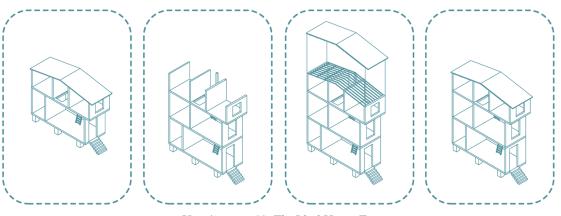
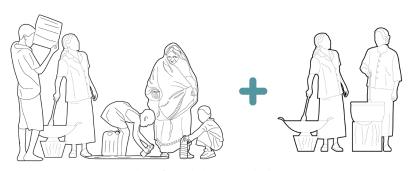


Fig. 3.62 Retrofitting the Income generator house type Drawing by author

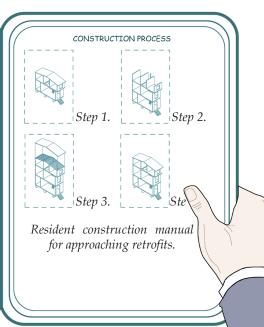


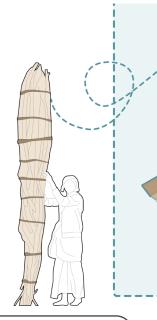
Housing type 03: The Ideal House Type Number of storeys after retrofit: 3



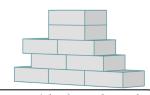
Number of people living in the home: 5 - 6



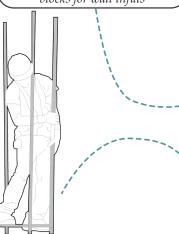




New materials: Structural bamboo for the roof



New materials: Aerated autoclave blocks for wall infills



New materials: Reinforced concr frames for the main structure

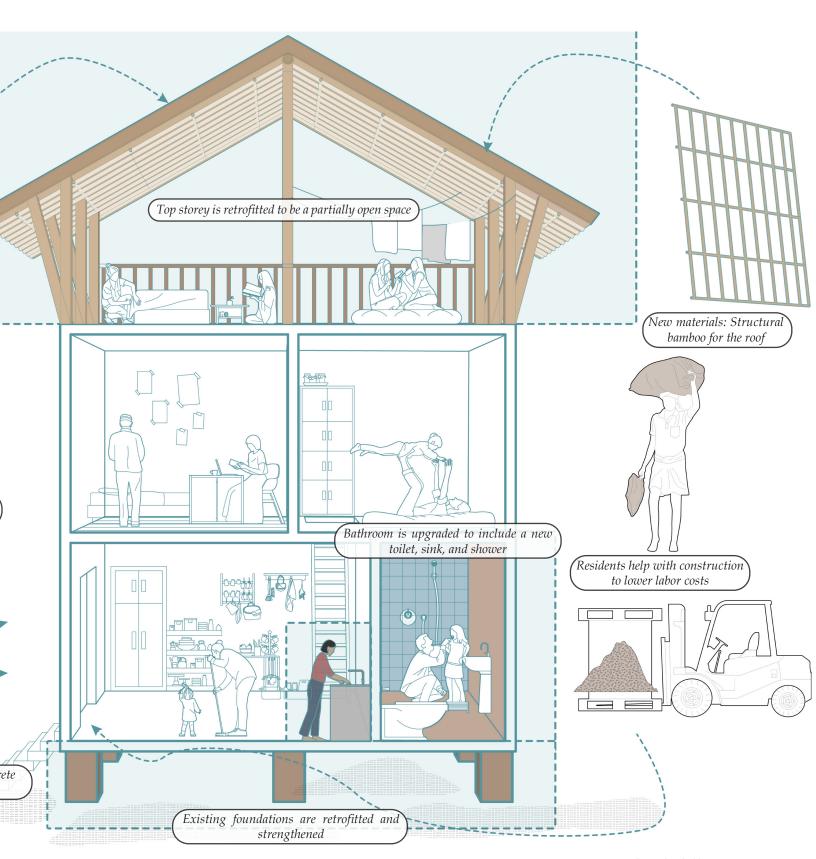
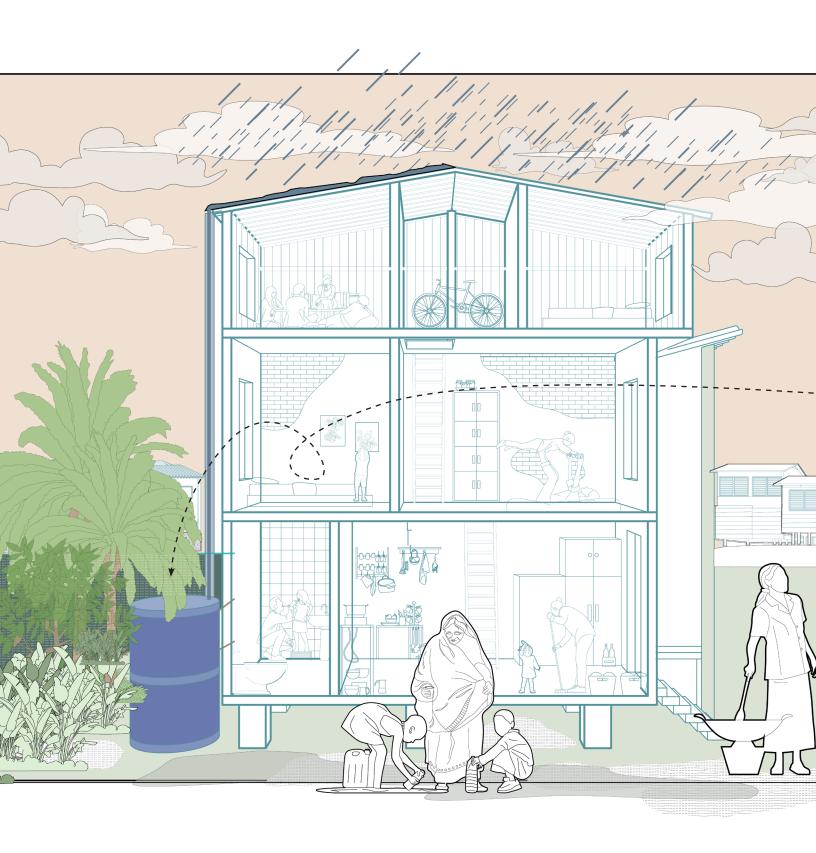


Fig. 3.63 Retrofitting the Ideal house type
Drawing by author



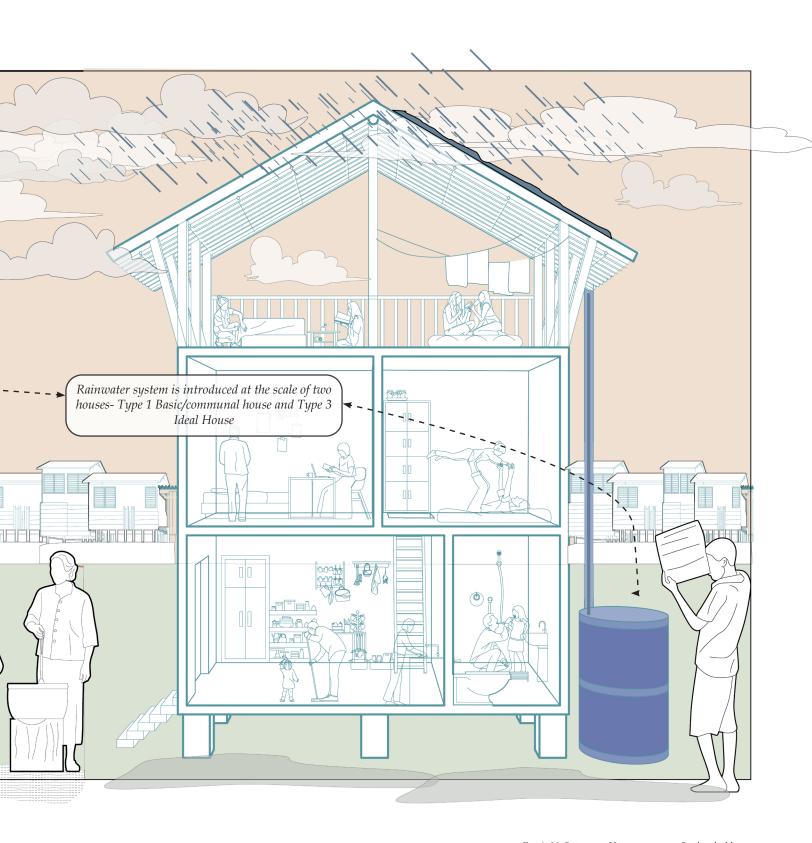
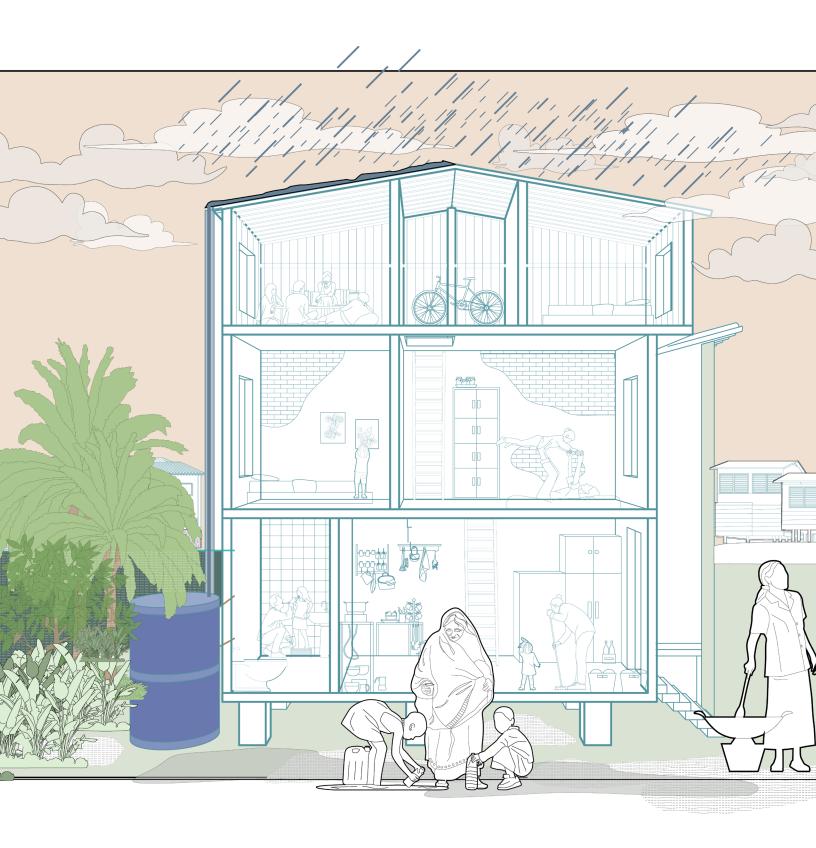


Fig. 3.64 Rainwater Harvesting system for the ideal house type Drawing by author



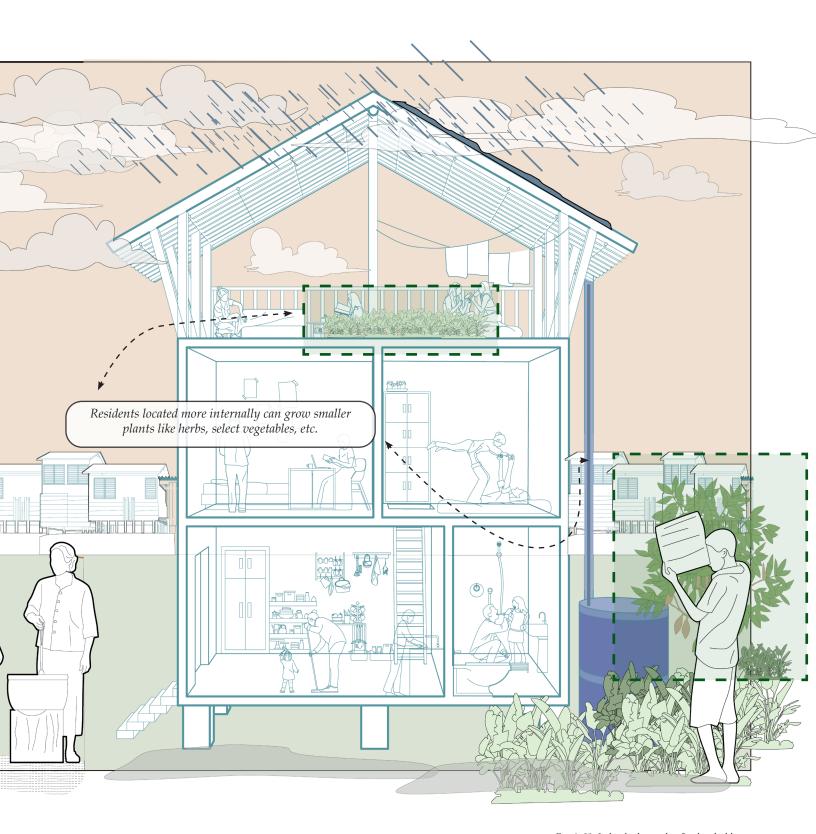
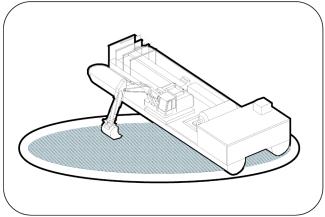


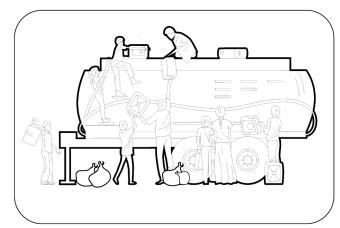
Fig. 3.65 Individual green lots for the ideal house type Drawing by author

<u>It takes a village: collaborative approach to *kampung* improvement.</u>

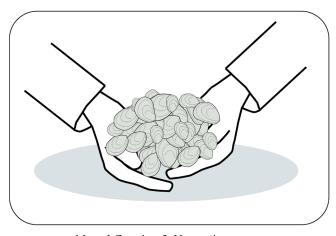
A key metric for the success of the proposed retrofits is a collaborative and participatory approach in initiation, operation, and maintenance of interventions (Fig. 3.66). The proposal in this research relies on the collective efforts of a kampung coming together to execute and implement the different phases of the retrofits. The retrofits take into consideration the varying sizes of households and their subsequent needs, while also responding to residents' occupational requirements (Fig. 3.67, and 3.68). Retrofits and upgrades are carefully proposed to address and eventually counter issues of water insecurity, food insecurity, and most importantly, insecurities of displacement (Fig. 3.69, and 3.70). This collaborative approach is extremely conducive for the kampung housing development as it naturally supports a rich ecosystem of social and economic relations between residents (Fig. 3.71). These proposed strategies and initiatives offer the residents of Kampung Muara Baru a plan that takes their homes and communities into account as they carefully attempt to mitigate future threats of eviction as a result of the NCICD master plan (Fig. 3.72).



Dredging



Garbage Collection



Mussel Growing & Harvesting

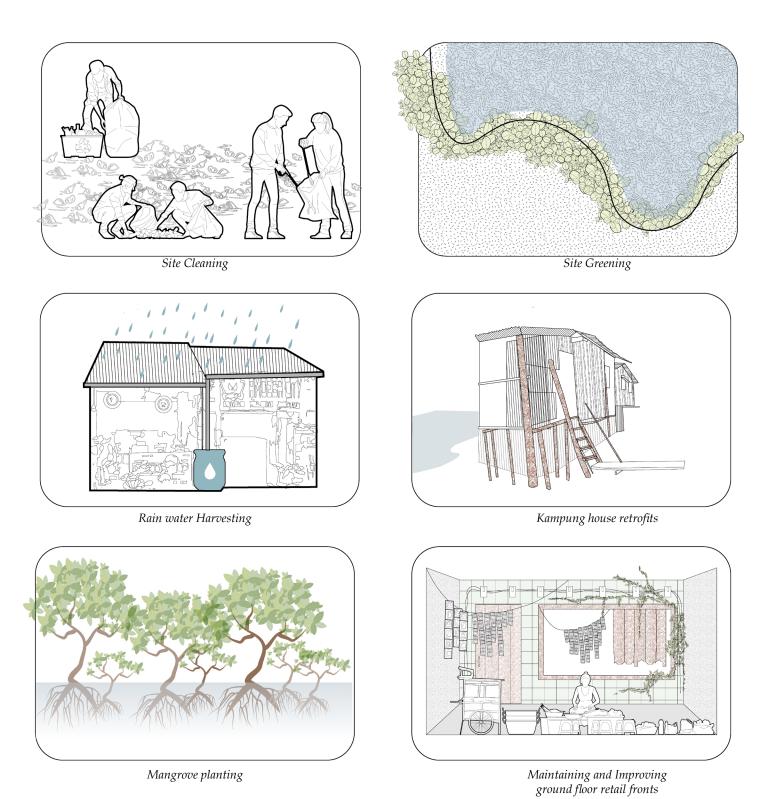
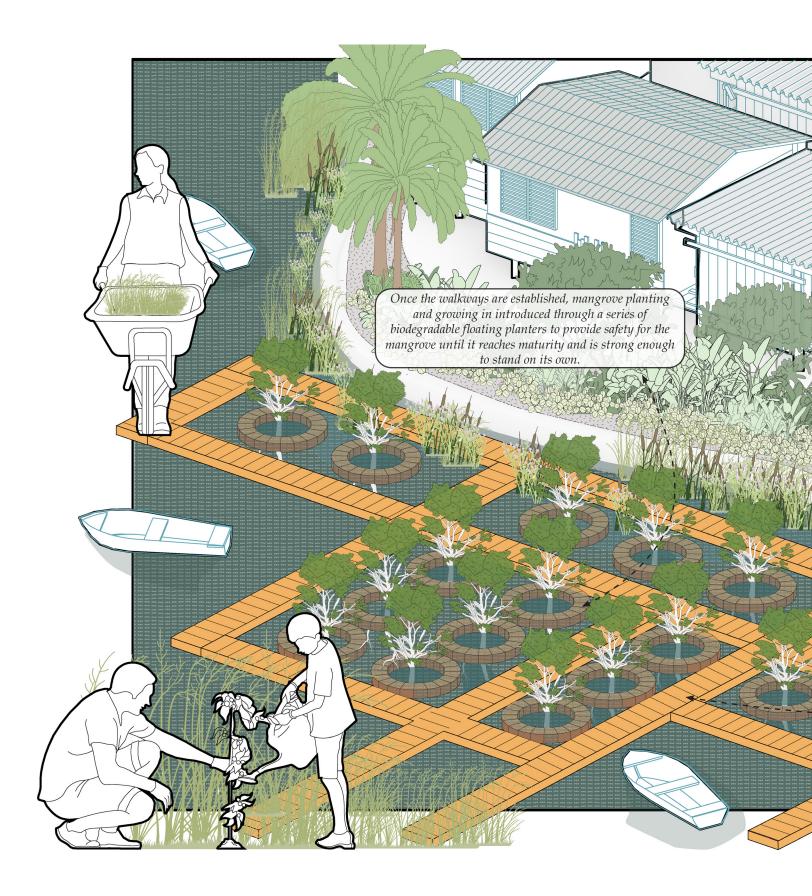


Fig. 3.66 Design Strategies for Kampung Muara Baru Drawing by author



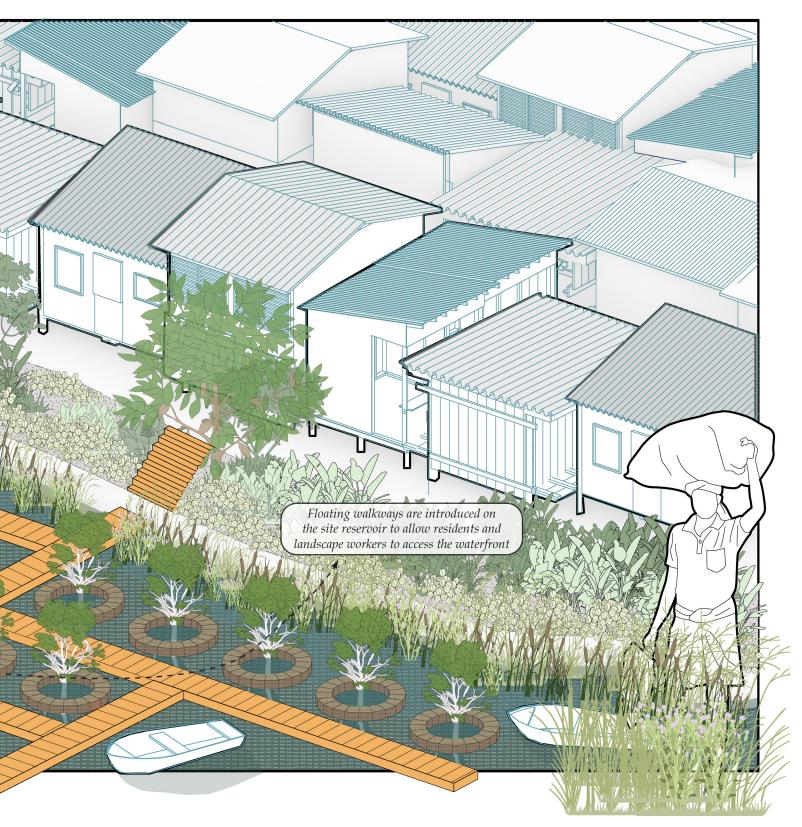


Fig. 3.67 Axonometric showing mangrove planting at the scale of the site

Drawing by author

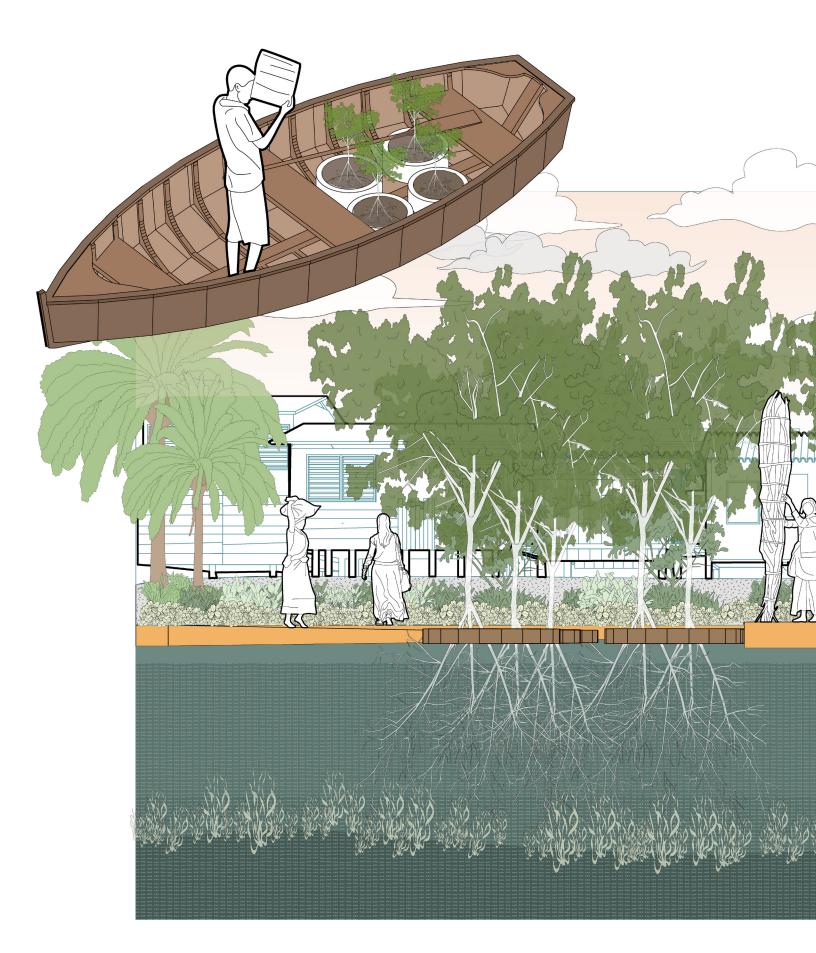




Fig. 3.68 Section showing mangrove planting at the scale of the site Drawing by author

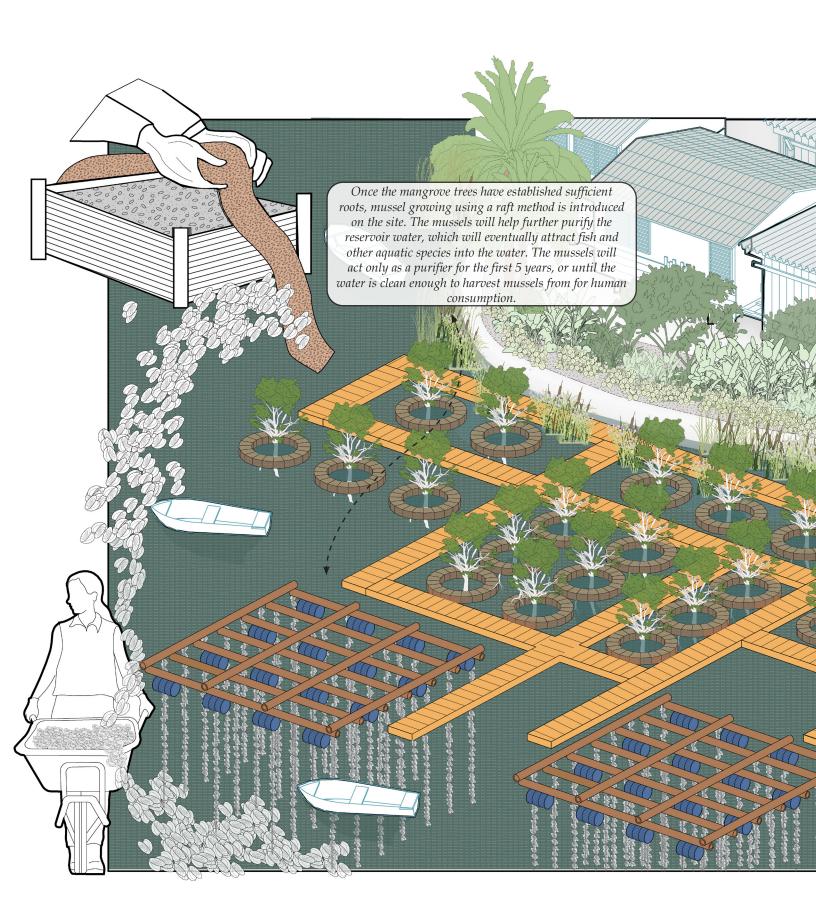
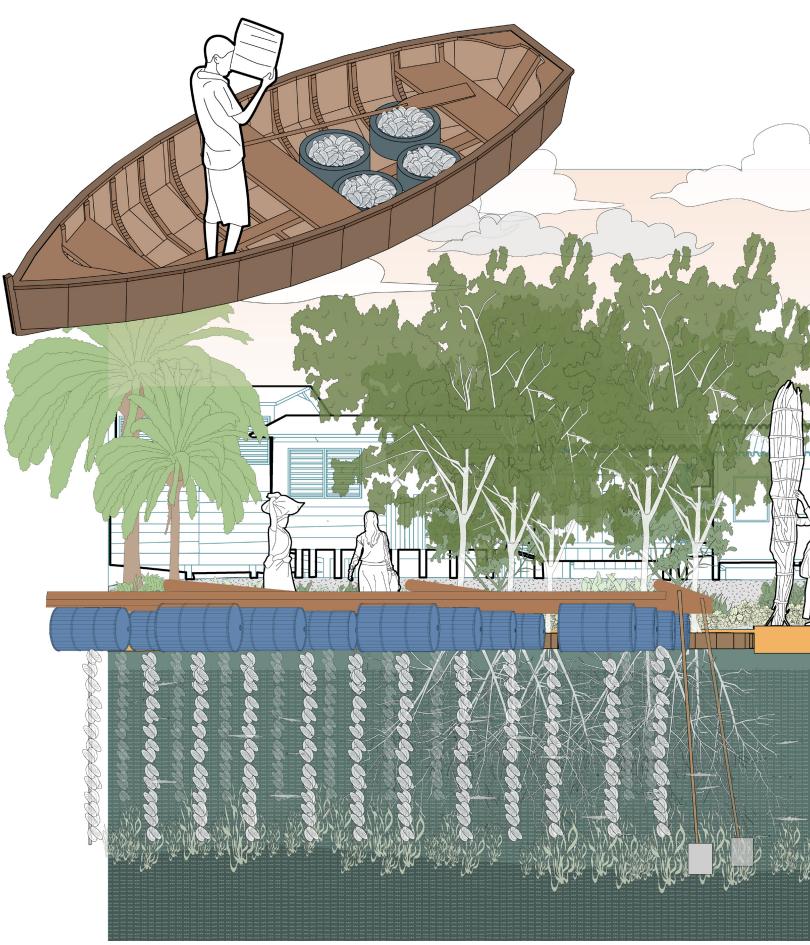




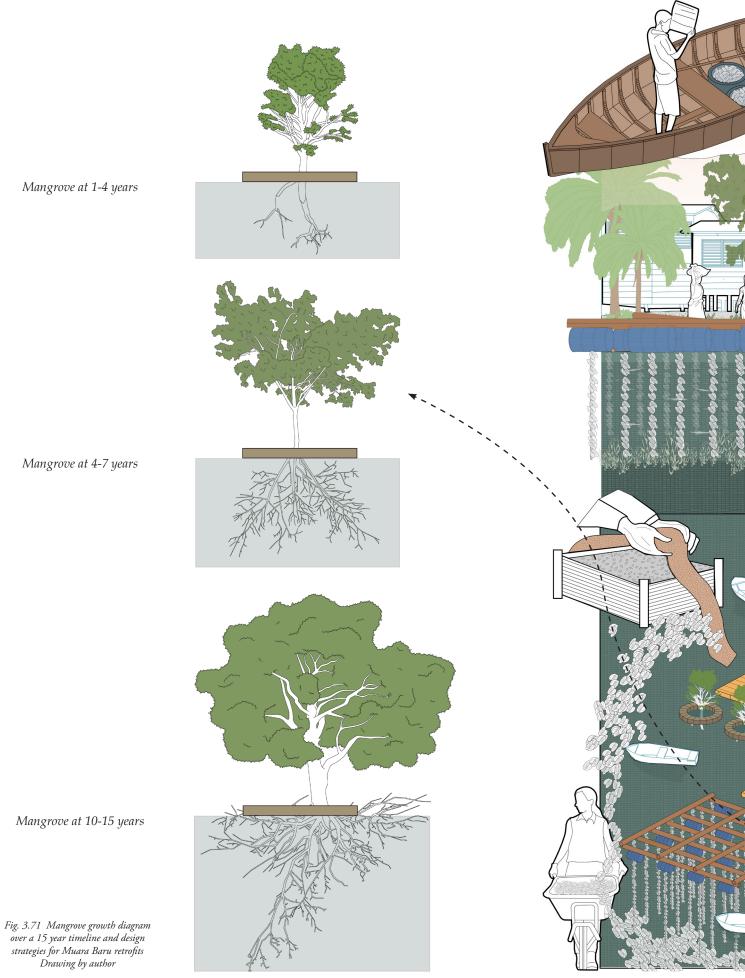
Fig. 3.69 Axonometric showing mussel growing at the scale of the site Drawing by author



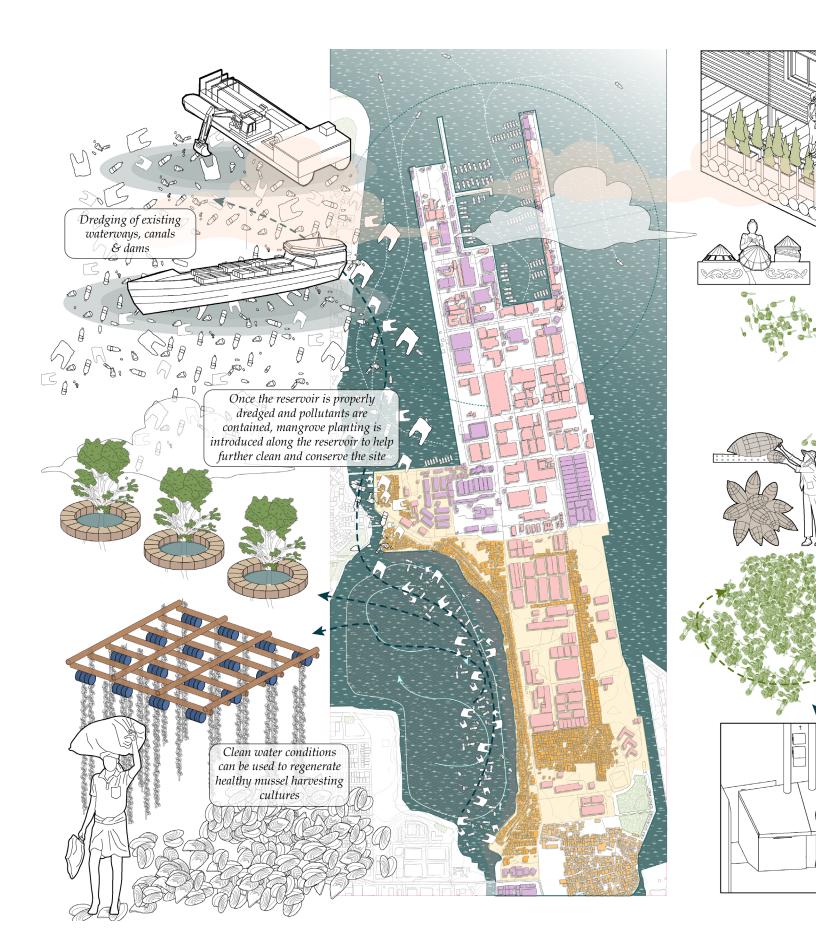


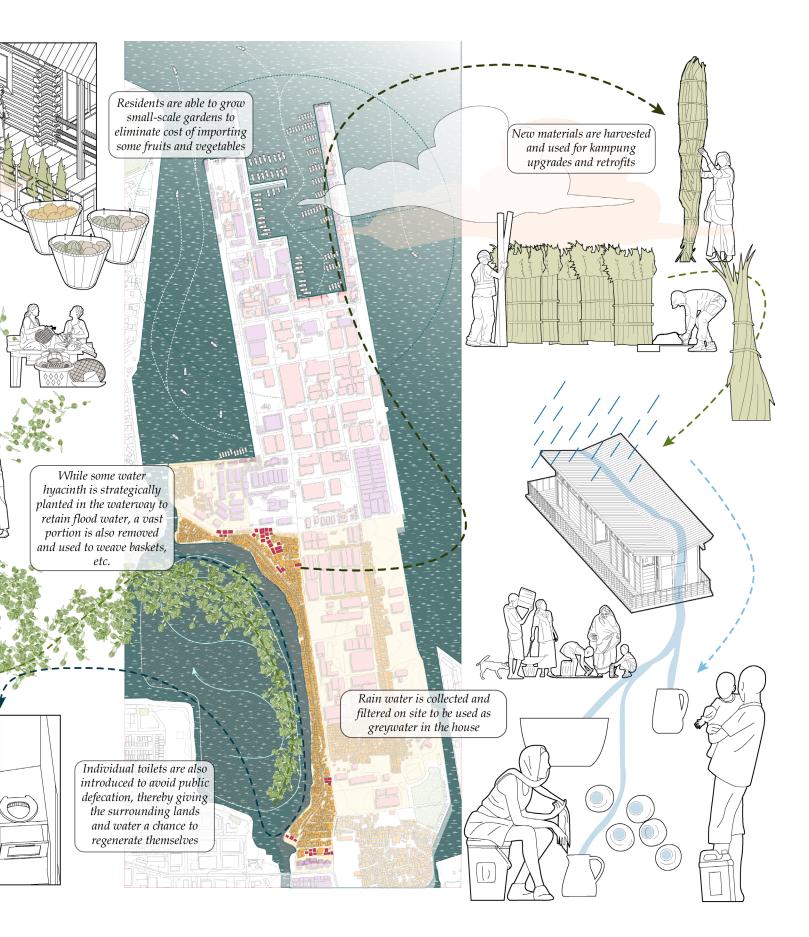
257

Fig. 3.70 Section showing mussel growing at the scale of the site Drawing by author









CONCLUSION

Conclusion

The harsh consequences of colonialism have persistently affected indigenous and marginalized groups more severely than other social and cultural groups. Colonizers created the division that still exists between social, economic, and ethnic classes which led to hierarchical water distribution policies, undesirable settlement allocations for indigenous groups, targeted forced labor, etc. Colonial powers have harmed the growth and evolution of indigenous populations as they exploited indigenous agricultural lands, implemented an unequal distribution of indigenous natural resources, and caused brutal evictions and forced displacement. While the outcomes of colonialism directly and unapologetically targeted many marginalized groups, neo-colonialism targets these minorities through subtler actions often taking the form of beautification processes, urban renewal projects, and free trade agreements. This thesis investigates the adverse effects of colonialism and neocolonialism, more specifically the creation of marginalized communities and their forced displacements through time, under the pretense of implementing beneficial urban renewal projects.

Urban displacement has proved to have irreversible and long-term damaging effects on displaced, marginalized residents. Forced evictions are often carried out from a perspective of neoliberalism, capitalist urbanism and political opportunism. Political agencies typically locate socially and economically deprived communities as their prime target for "forced evictions" or "slum clearance" initiatives. This methodology has navigated itself into the modern city of Jakarta through the brutal action of forced kampung evictions by political and colonial powers. In an attempt to analyze and subsequently counter neo-colonial urban displacement, this research introduces the issue of forced evictions as a consequence of the NCICD master plan in Jakarta's northern district of Kampung Muara Baru (Fig. 4.1). As a response, the thesis proposes a design intervention in the form of small-scale kampung and site retrofits, including in situ enhancements. By strategically employing the power of visualization, including the use of narrative drawings, maps and purposeful photographs, this thesis research conveys the importance of understanding and responding to the varying needs of Muara Baru residents under the threat of displacement.

Documenting and responding to site-specific necessities allow the visual representations to empower the *kampung* residents by communicating new knowledge and skill. The graphic representations inform *kampung* residents on the importance of the past, present, and future infrastructural changes on the city's terrain and consequential political responses. While these graphic



Fig. 4.1 Kampung Maura Baru interior street Image by author

styles prove informative for *kampung* residents, it also spreads an essential awareness to Jakarta's middle and upper classes regarding the significance and validity of *kampungs* and their inhabitants. The proposed retrofits are a sensitive and considered response to the issues faced by *kampungs* as informal settlements. The design proposal intends to create a framework for an "improvement plan" that unlike the NCICD's advertised proposal, legitimately enhances the *kampung* communities. Moreover, the intent of this work is to develop an argument for the residents to remain in place as they clean, green, and upgrade the neighborhood while abiding by the city planning agenda, without adding to a cycle of population displacement and further degrading *kampung* communities. The thesis achieves these goals by restoring the use of lost local practices, popularizing existing interventions and using successful and precedented design strategies.

The political narrative of the *kampung* as a slum has heightened the threat of kampung evictions across Jakarta. Kampungs have historically acted as a refuge for marginalized and/or displaced residents. They offer a social, economic, and cultural commons to accommodate kampung residents' precarious livelihoods. However, under Dutch colonial rule, and the subsequent postindependence period of Jakarta, the kampung became synonymous with the term "slum" — a space with poor living conditions, lacking basic services, and polluted environments — and more importantly, an antithesis to Jakarta's modernization practices. The kampung's stigma as an obstacle to modernity is a result of its incompatibility with the European-inspired city planning policies of the Dutch, and Batavia's hierarchical urban water policy. As the kampung did not fit the Dutch vision of a new city, a modern Jakarta, planning officials sought to erase the *kampung* from the city fabric by implementing a Kampung Improvement Program (KIP). This program failed multiple times, over numerous time periods, resulting in a failed attempt to revitalize and renew the *kampung* in the eyes of Jakarta's general public.

Following Jakarta's independence in 1945, city governors and leaders sought the need to modernize the city as a renewed capital for Indonesia. It was during this time that the NCICD was in its developmental stages. As the NCICD masterplan enters the third phase now, it is abundantly clear that the project and its key stakeholders have used the pretense of mitigating natural hazards to strategically propose a private-capital investment. This is a blatant example of neocolonial practice that mirrors a difficult and painful colonial past for the native Javanese. The involvement of the Dutch in the NCICD plan and its associated proposal is aligned with historical cycles of colonial practice; discriminatory water policies and grey infrastructure development to address natural hazard events, rapid urbanization and land subsidence. Moreover, through a commodification of Javanese culture and aesthetics, the Great Garuda development of the NCICD masterplan insults the vulnerable

communities of Jakarta, including Kampung Muara Baru, by presenting itself as a symbol of hope. Instead, the masterplan represents a symbol of unbridled neoliberalism that seeks to maximize private capital gain at the cost of displacing marginalized *kampung* residents, among other groups similar to Jakarta's urban poor.

At the core of the NCICD masterplan is the issue of "resettlement", a term often used parallel to "forced eviction". Resettlement processes are often carried out by city or government officials without involving the evictees in the relocation planning process. This top-down approach is detrimental to the evicted residents as they are forced out of their homes, and as a result, they experience severe financial, social, and psychological harm. The master plan's proposal necessitates the removal of vulnerable *kampung* communities that exist in fragile site-specific economic and social ecologies. In particular, Kampung Muara Baru, the research site, is at great risk of being demolished and its residents forcibly evicted as a result of the master plan. While authorities have announced compensation and resettlement alternatives, this has proven to be ineffective in addressing the residents of *kampungs* and their specific requirements to rebuild a new life away from their homes.

In order to address and alleviate any future eviction of Kampung Muara Baru by the NCICD masterplan construction, this research proposes adaptation strategies for residents over the site at multiple scales and timelines. These proposed design strategies will help preserve and enrich local community life as the research takes into consideration the delicate and precarious lives of the kampung residents. These retrofits are proposed as a considered reaction to the lack of appropriate responses by the master plan to accommodate marginalized communities. Since Jakarta's colonizers have a history of employing grey infrastructural solutions to combat natural hazards, this thesis primarily employs the use of green infrastructure to offset threats of resident displacement, food insecurity, and water insecurity. Learning from precedents like Kampung Tongkol and Kampung Pulo, the interventions are proposed across the scale of the site, community, and individual household. At the scale of the household, three different kampung housing types are considered to ensure retrofits are deployed in a variety of architectural configurations to meet the varying needs of *kampung* residents. This is also done to observe the viability of each retrofit for different kampung living situations, from a small nuclear family to a multi-generational household. These retrofits are namely material upgrades and structural repair, but also include the installation of a rainwater harvesting systems. As these retrofits are proposed on or within residents' homes, they strategically bypass the bureaucracy and restrictions of government authorities and city agencies.

¹ D. Jijelava, and F. Vanclay. (2017). "Legitimacy, Credibility and Trust as the Key Components of a Social Licence to Operate: An Analysis of BP's Projects in Georgia," J. Clean. Prod.

At the scale of the community and the site, the design interventions are concerned with promoting a sense of collective resident responsibility for the improvement of the kampung. Locally-based participatory and collaborative approaches are introduced to empower residents and other collaborators to initiate, operate and maintain the proposed interventions. Involving the residents through all the design stages, from schematic drawings to construction processes, motivates them to maintain the retrofitted site appropriately, while also understanding its long-term needs and benefits. In this manner, residents gain new awareness and knowledge to spread through the entire community, so that it functions cohesively as a site-wide unit. Some of these collaborative interventions include remediating the adjacent reservoir, implementing mangrove planting, harvesting mussels, and implementing urban community gardens (Fig. 4.2). In contrast to the use of grey infrastructure development to address natural hazards, the green infrastructure proposed in this research acts as an environmentally and socially sensitive design approach that eliminates cycles of displacement and socio-ecological harm to marginalized communities.

Reflecting on the design proposals in this thesis, while green infrastructure can empower and engage marginalized communities to act, it is not a sole solution to address the issues of land subsidence, severe flooding and Jakarta's discriminatory water policy. As analyzed in Part 1 of this thesis, centuries of grey infrastructure use and over-canalization of Jakarta's waterways have severely damaged the city's terrain beyond what a current small-scale *kampung* retrofit can resolve. In the instance of Kampung Muara Baru research site, the kampung interventions are a strong example of a hybrid green and grey infrastructure solution to the aforementioned issues. This is because Kampung Muara Baru is currently protected by the grey infrastructure of the NCICD seawall to the north of the site, which allows the green infrastructure to thrive without the prerequisite of addressing potential severe flood water damage to the site and adjacent buildings. Since the city's terrain is carved and covered with grey infrastructural solutions dating back over four centuries, future green infrastructure proposals should take into consideration the benefits of existing grey infrastructure.

The design prototype introduced in this thesis will act as a framework to suggest a response for multiple threatened sites across Jakarta. I hope that these responses will rehabilitate deteriorating urban sites and water bodies in vulnerable *kampung* communities. The proposal also aims to encourage local communities to resist and minimize the impacts of urban renewal, while simultaneously advocating for a decentralized, collaborative, and interdisciplinary approach to community empowerment and *kampung* resilience.



Fig. 4.2 Waduk Pluit Image by author

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