

**URBAN  
APPROPRIATION  
AUTONOMOUS CITY  
AND URBAN REVOLUTION**

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# CONTENT

<b>ABSTRACT</b>	P. 04
<b>INTRODUCTION</b>	P. 07
<b>CASE STUDIES</b>	P. 08
FREETOWN OF CHRISTIANIA	P. 08
KOWLOON WALLED CITY	P. 18
MAKOKO	P. 28
<b>CONCLUSION</b>	P. 36
<b>BIBLIOGRAPHY</b>	P. 38
<b>LIST OF ILLUSTRATION</b>	P. 40

# ABSTRACT

In the 20th and 21st centuries, the economic crisis and rising cost of living along with major social and political issues, have been posing a serious housing threat to several low-income individuals and families worldwide, and the appropriation and occupation of public spaces and land within cities have provided an alternative housing solution for many.

An analysis of some important case studies around the world, such as Christiania (Denmark), Kowloon (China), and Makoko (Nigeria), provides valuable housing design ‘lessons learned’ and a significant insight on social-economic dynamics that we will need to consider in the future as designers.

Christiania is a neighborhood in Copenhagen, within the island of Anger, that self-declared its autonomy after an occupation by hippies and anarchists in the 1970s.

The Walled City of Kowloon developed as a result of uncontrolled building by refugees in Hong Kong, following the end of World War II.

Makoko is a slum of stilt houses in Lagos, built on marshes due to the lack of land available and estimated to host up to 300,000 people.

In the study of these three realities, the different circumstances (social, political, economic, spatial and geographical) leading to the appropriation of these public spaces were determined by the challenges faced by their residents, and the lack of support by their respective governments.

The members of these communities faced, and still do, numerous challenges in terms of building regulations, H&S and fair living conditions, which require government help in order to prevent certain situations from getting out of hand.

In Christiania, the intervention of the authorities has helped to avoid the rising crime rate and construction of unsafe housing. In Kowloon, the buildings had to be destroyed after the tall storied buildings became increasingly dangerous and too unhealthy for its residents. In Makoko, however, the government has yet to intervene in responding to its deplorable unsanitary conditions due to lack of resources.

With proper design, can appropriation be a viable solution to challenges threatening housing, such as the rising cost of living and climate change?





# INTRODUCTION

How can I escape rent? How can I escape modern living without being forced to leave the City? The current situation is starting to affect me directly, and I am genuinely worried. The cost of living is exponentially rising, and climate change is terrifyingly getting to an irreparable point in a way that will impact our way of living and challenge our economy dramatically. Could 'occupation' and 'appropriation' be the solution? Maybe. The first concepts of 'appropriation,' 'spatial rights', and 'right to the city' got developed by Henri Lefebvre, a French Philosopher and sociologist, who explained the idea that the inhabitants of the City have the right to physically access, occupy, and use any urban space and change it or develop it according to their needs. In this sense, the right of appropriation is explicitly designed to counter the use of space as theorised and practised by capitalism, based on private property, and commercialized to have value on the market.<sup>1</sup>

Freetown Christiania in Copenhagen was founded during the European economic crisis of the 1970s as a utopian self-sustaining community. Looking into the history of such community I discovered that people occupied a neighbourhood and started living free of modern-day rules and constraints; this is a perfect example of off-grid living on urban land and developed mainly under the philosophy of 'architecture without architects', an 'occupation' experiment that is still standing and functioning. How did that go?

Nowadays, we live in a time when human rights are at the centre of political and ethical talks, where most of the energy and resources are invested into building, protecting, and articulating a "better world".

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1 Lefebvre, H. (1996) *The Right to the City*, Paris: Verso

Often these ideals and rights are designed by and for the 1%, under the control of the state and capitalism, excluding low classes and those displaced through discrimination and oppression from economic development, who are consequently forced to find alternative ways of living.

The Walled City of Kowloon represents a case of 'appropriation,' where minorities escaping oppression after WW2 in China took control of an existing former military fort and turned it into a fully functioning organism, detached and self-declared independent from the government, which became the most densely populated place on Earth at that time.

Did they have the right to do it? What happened to the community and their way of living? According to Lefebvre, the 'right to the city' applies to everyone and is indisputable, but if that is true, who is part of it and who is not? Would the right to the city and appropriation always positively impact the city and its inhabitants?<sup>2</sup>

Makoko, a floating slum of Lagos in Nigeria, is an extreme 'occupation' example where the community had nowhere to live, and therefore had to 'reclaim' the lagoon that overlooks the city.

The settlement started in the XVIII century as a fishermen's village, and continued to grow ever since because of urbanisation issues and more recently for climate change challenges, the 'Venice of Africa' now has approximately 300,000 people working, living, and praying above the slum's wooden stilts.

Is it sustainable for the inhabitants? Is it a temporary or a permanent situation?

This essay will look at the 'architecture of appropriation' as a potential solution to the current economic-spatial housing crisis, analysing its positive and negative impact on the city and society. I will be doing so by looking closely at three examples of collective escaping driven by different causes and events, that turned appropriation into an opportunity and created actual self-sustaining communities.

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2 Lefebvre, H. (1996) *The Right to the City*, Paris: Verso







CHRISTIANIA  
LEVE

**FREETOWN  
CHRISTIANIA  
/occupying**



Freetown Christiania is an informal community and self-declared micronation. Members of a group that does not have the official recognition of the rest of the world's governments or major international organisations are a micronation.<sup>1</sup> Christianshavn is a neighbourhood in the Danish capital of Copenhagen, located on the island of Amager. It is home to a community of individuals who share a moral compass and have come together to build a way of life that represents their values.

Christiania, with around 900 residents, was established in September 1971 and is the most significant and oldest autonomous European community.

In the face of a dire housing shortage, inhabitants of the capital city tore down the walls around a decommissioned military installation, moved into the vacant barracks, and constructed a playground for their kids. In the following weeks, the neighbourhood was flooded with young people from the city looking for a cheaper, more alternative way of life; this was a great decision since they had no alternative.

Surprisingly, Copenhagen's municipal officials have repeatedly tried to recapture the 85-acre lakefront property, unsuccessfully, especially when they sparked widespread demonstrations, and the community was eventually accepted and established in May 1972 as a pilot social experiment by the Danish government.<sup>2</sup>

Despite a 2011 court judgment affirming the state's ownership of the property on which Christiania sits, the community there continues to operate independently. Instead of forcibly reclaiming the land and structures, the Danish government opted to "normalise" the area, enabling locals to acquire the property as a group so long as the redevelopment followed the law. Christiania now has an actual city council, but one with very different priorities and ideals from its "official" counterpart.

I believe this was a significant step in fortune for the Christiania community.

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1 Sawe, B.E. (2017) What is a micronation? WorldAtlas. WorldAtlas. Available at: <https://www.worldatlas.com/articles/what-is-a-micronation.html> (Accessed: January 4, 2023).

2 Dobraszczyk, P. (2020) Future cities: Architecture and the imagination. Reaktion Books Ltd

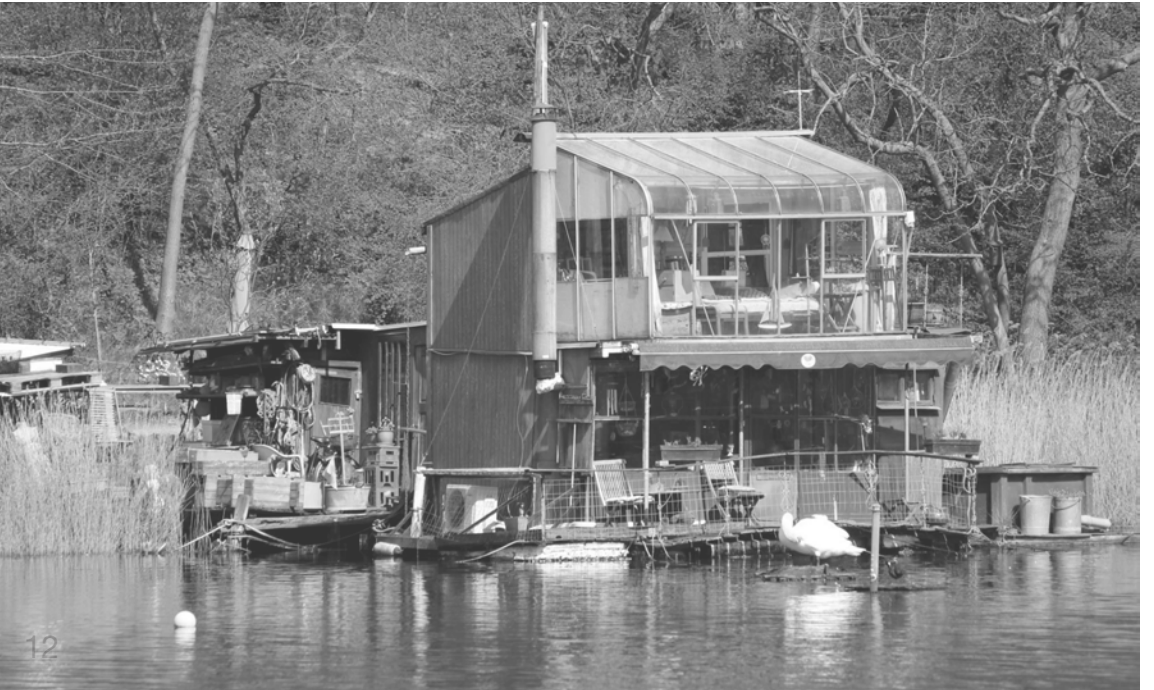
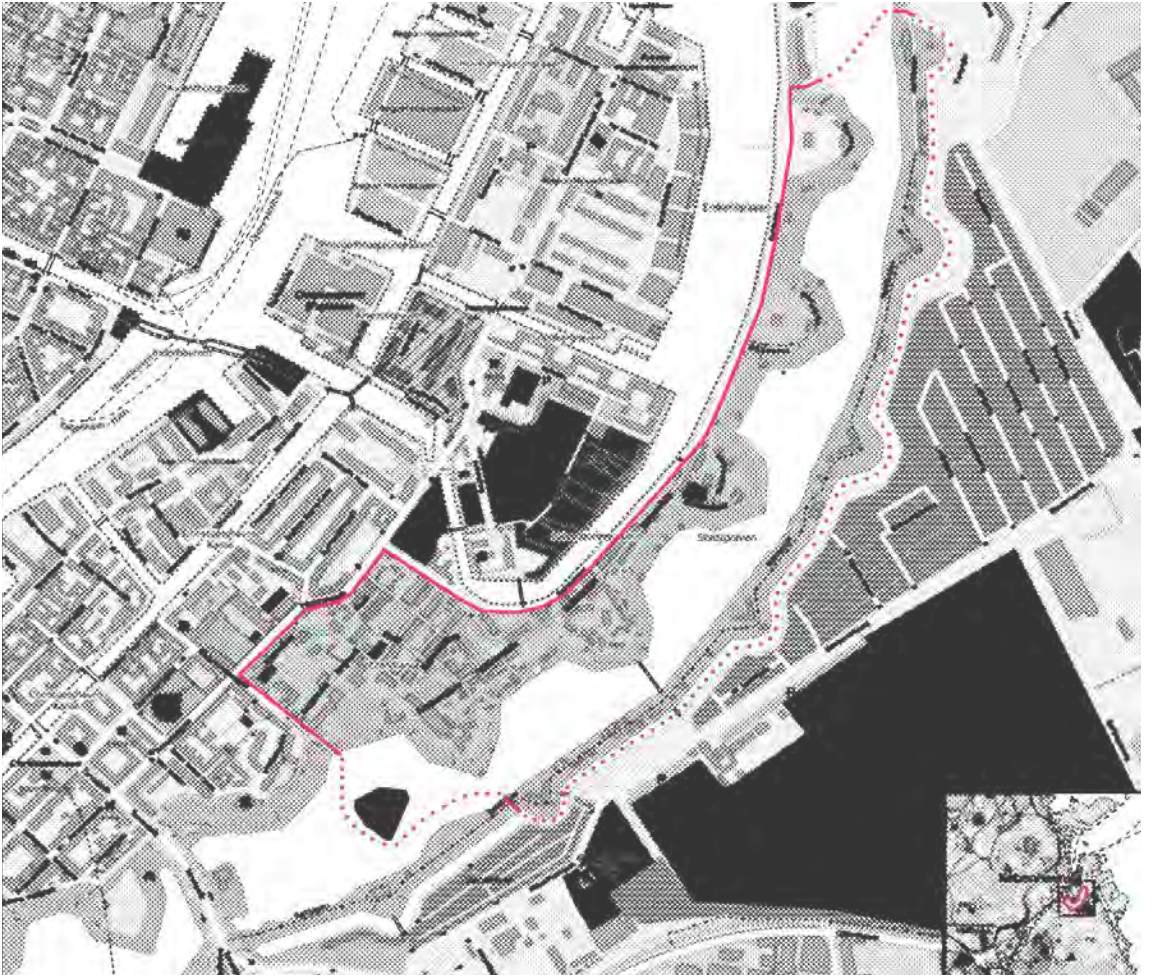
A vast range of vernacular architecture was developed, from the futuristic to the environmentally friendly to the design of more conventional Scandinavian homes, all because the Danish government first refused to recognise the community as legitimate.

As part of their redevelopment plans, 66 "irregular" dwellings in Christiania were on the list of structures the government wanted to demolish. Some residents did not want to live in the historic barracks structures, which date back to the 1830s, so they constructed their own residences among the neighbourhood's many other dwellings.

These highly customised residences come in a wide variety of shapes and levels of architectural complexity. Some houses are converted caravans, shepherd's huts, or gypsy trailers. For instance, there is a house that looks like a cross between a mountain chalet and an orthodox cathedral and another that is entirely constructed from recycled windows. Another floats and is made of reclaimed planks, glass, and scaffolding poles, creating a wild and unique vernacularism.

Notably, most materials used in constructing the most straightforward and elegant homes come from recycled sources; this was an interesting creative architectural approach. Such sources included wood, corrugated metal, glass, and a lot of the breeze bricks used in the construction of the buildings in Christiania were likely obtained from the city's specialised hardware store. However, self-construction in the free city has been forbidden for the past 15 years owing to government-imposed restrictions for the site's management.

What is left of the city's buildings is a testimony to the rich range of homes that might develop if residents were given more say over construction standards, however authorities in Denmark currently do not permit any new construction in Christiania, but they may allow existing inhabitants to make structural changes like adding or removing floors or changing the pitch of their roofs.



Some people have even erected illegal settlements on floating platforms and boats tied together with rope in the sea beyond the site's northern limit, violating this imposed authority.

Christiania's self-built houses have been lauded for their potential to inspire a more diverse and creative approach to urban housing, the structures are distinct for their imaginative shapes and some are even transparent made of glass, inspiring innovative architectural designs within other areas of Copenhagen. Still, their integration into the larger community is the most compelling illustration of how autonomous buildings might develop in an anarchist society. Christiania, with its about 900 people, is sizable compared to other alternative communities today and its longevity is the product of a system of autonomy that has consistently served its people well. Christiania's 15 districts, with anything from 50 to 90 residents each, allow for decentralised decision-making, with smaller-scale decisions being made at area meetings (similarly, community-wide norms do the same thing on a larger scale).<sup>3</sup>

Consensus-building has been the norm for over half a century, even though meetings may drag on and on and cause tension. The result is a broad range of housing options inside Christiania, from DIY homes to shared flats in converted barracks. Even at this relatively tiny urban scale, individuals are continually located inside a multi-scalar context that is highly localised and connected to the total.

Nevertheless, Christiania has a similar connection to Copenhagen as a whole. Its prominent and trafficked position in the city's heart played an essential role in bridging the gap between mainstream planning practices and more radical forms of urban renewal. Since the property is often more expensive in metropolitan centres, these alternative locations are frequently positioned in rural areas remote from city life. Freetown's future as a hub for radical alternatives is uncertain given the current regulations barring any new development in Christiania.

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3 Vasudevan, A. (2017) *The Autonomous City*, London: Verso

Some people are prepared to fight against any enforced authority, as seen by the illegal homes erected on property areas and the residents believe the place must continue developing despite the danger of its extinction: Christiania's slogan, "you cannot kill us - we are part of you," is a strong statement of shared vulnerability that reflects the city's trust that its historical connections to the larger city will ensure its survival in the future.

Can we condone this operation, which took territory belonging to the democratic state? Ought we congratulate it for advancing culture and assisting marginal groups? In my interpretation, the questions imply that Christiania's fate is again up in the air: Christiania goes beyond the concept of an alternative community. Other parts of Copenhagen are considered "alternative" because they challenge the current political order, these areas, however, are located precisely in the middle of the status quo, with the government and the market holding all the cards.

What's more, by providing a structured alternative to the status quo, they lend legitimacy to the very democratic system that's responsible for creating an alien value system. Christiania has cancelled the social contract that guarantees protection and democratic influence in return for conformity to the system's laws, making it more contentious and globally notable.

The city council of Christiania is unique compared to the typical roles of a city council whose focus is on policy-making and budget allocation, here it mainly priorities in fostering the self-management of its residents and catering for the costs of common amenities: Freetown Christiania's city council is a platform for sharing common challenges.<sup>4</sup> A meeting of cashiers representing various community areas takes place yearly and decides how to take care of the water and electricity bills common to their regions.

Most people have a positive attitude towards the lifestyle

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4 Traganou, J. (2022) "The paradox of the Commons: The Spatial Politics of prefiguration in the case of Christiania Freetown," *Index*, pp. 144-160. Available at: <https://doi.org/10.51952/9781529215687.ch010>.

within Christiania and the intentions behind its creation, the community has influenced even Christiania's public amenities, unlike most Copenhageners. The Freetown has taken over this area and introduced a new way of life to the inhabitants of the whole city, and has received praise from locals for its popular yoga classes and meditation culture and environmentally friendly solutions to their economic and development challenges.

A lesson on the benefits of sustainability in Christiania has inspired Copenhagen to promote sustainability as a means of achieving carbon neutrality by as early as 2025.<sup>5</sup>

Christiania is a primary tourist attraction site in Denmark and the economy of community is majorly dependent on tourism, residents sell food and alcoholic beverages at various points in the streets whilst some artists and artisans sell their artefacts. Many individuals with financial difficulties have had the opportunity to call Christiania home, which has been its most significant contribution to Copenhagen and its people. While it has become known for its tourism, it remains an authentic way of living for most residents, however its opposers point out that the community attracts drug addicts and encourage their behaviour.<sup>6</sup> In fact, a major problem experienced is that it harbours criminals, primarily drug dealers, which has resulted in several shootings involving the police and some community members.

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5 Sharma, I., Kumar, A. and Lindgren, P. (2019) "Environmental Management for Sustainable Development (Denmark)," 2019 22nd International Symposium on Wireless Personal Multimedia Communications (WPMC) [Preprint]. Available at: <https://doi.org/10.1109/wpmc48795.2019.9096111>.

6 Greve, A. (2013) "Book review: Space for urban alternatives? Christiania 1971-2011," *Urban Studies*, 50(2), pp. 448-450. Available at: <https://doi.org/10.1177/0042098012467836>.

Since 2007, Christiania has seen numerous changes in how it operates, losing most of its autonomy to the Copenhagen city council and the Danish government. Residents of Christiania have struggled to adapt to the new changes in its governorship, especially on the need to purchase the lands they have occupied for years. The restrictions introduced on housing policies have also reduced the ability of members of a community to be creative in making their houses (Safier, 2002).<sup>7</sup> While the new statuses of Christiania have hindered the realisation of the initial concept of the community and the original ideology, it has improved safety and crime management, ensured its longevity, and allowed its integration within the city, crucial for the success of a permanent status.

The Freetown still has an authentic aesthetic motivated by the need to offer a unique and different lifestyle to various types of people, it has a long history of a unique artistic and architectural culture, however, progress and technology, as well as heavy tourism, might significantly impact its future.

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7 Safier, M. (2002) "On estimating 'room for manoeuvre'," *City*, 6(1), p. 117-132. Available at: <https://doi.org/10.1080/13604810220142871>.





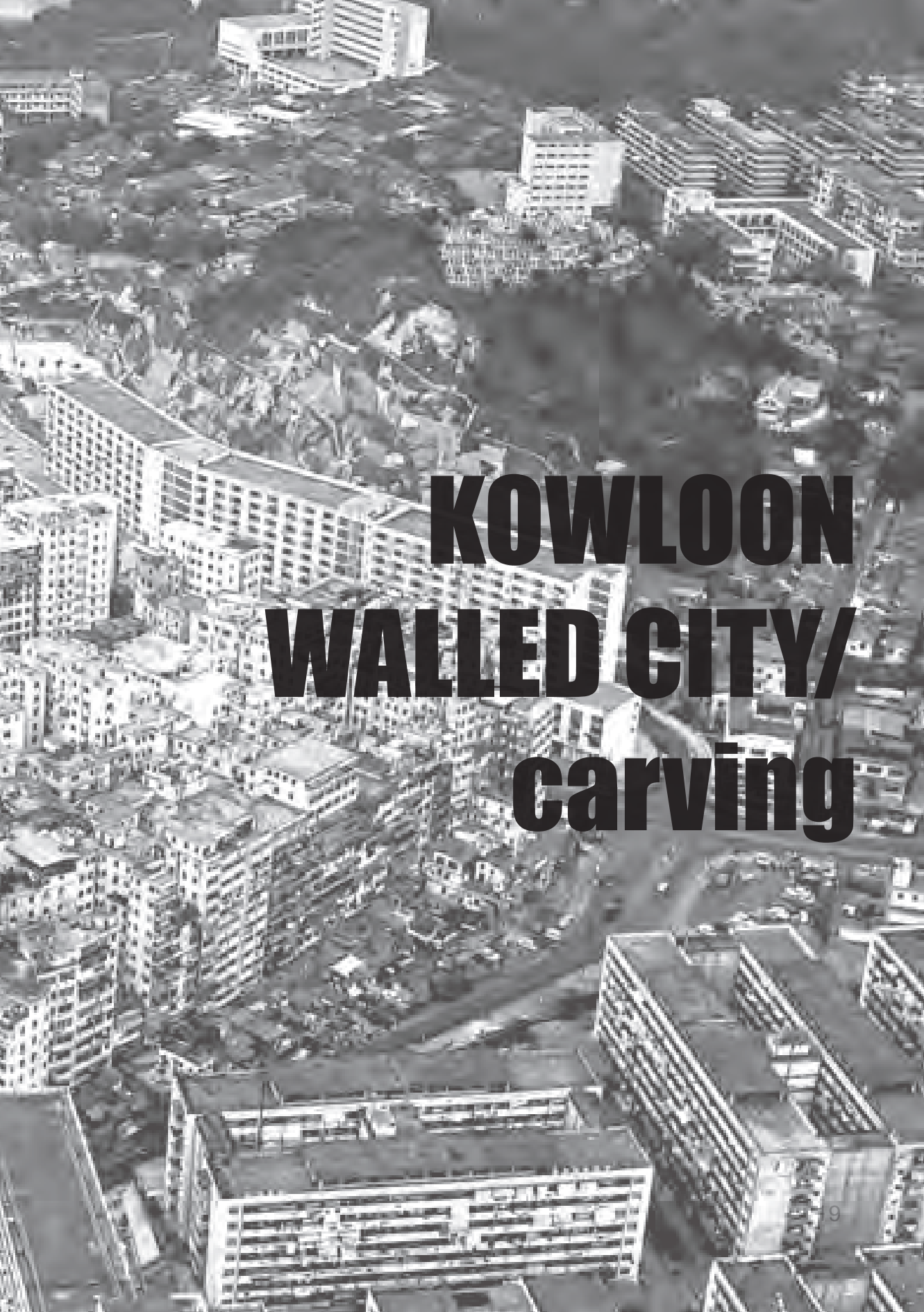
Fig 8. Previous page. seier+seier. Glass House. 2007 Available at: <https://www.flickr.com/photos/seier/1243393024>





Fig 9. Previous page, seier+seier. Glass House Interiors. 2007 Available at: <https://www.flickr.com/photos/seier/1243393024>





**KOWLOON  
WALLED CITY/  
carving**

Urban areas have expanded mainly vertically for the better part of a century, skyscrapers are everywhere in cityscapes worldwide, yet most metropolitan areas developed simultaneously.

Improvements in transportation, urbanization, and migration are all contributing factors in today's rapidly expanding cities, however, the government's inability to properly assist all segments of the urban population is generally tied to the urbanization trend, and when official housing options aren't available, individuals create their own informal communities.

Interestingly, Kowloon Walled City, on the territory of Hong Kong Mainland, is undoubtedly the most famous multi-story city in the world. It saw an exponential increase in population after WWII when many poor people fled to escape oppression and settled on the site of this former military fort, trespassers started flooding in and uncontrolled construction began over, above and around the original buildings ruins.

Early stages of the Walled City had recognizable building types and were built on the squatters' rights premises, with a disorganized construction on the open ground by whoever got there first.<sup>1</sup>

Even though it was destroyed in 1994, I know its primitive construction methods of residents still resonate with the current architecture. For a long time, there had been a dispute about who owned the ground on which the city was built: China was obliged to give over Hong Kong to the British after losing the second Opium War in 1860, although it held on to the Kowloon Walled City.

Uncertain borders shaped its development as inhabitants erected makeshift structures wherever they happened to exist, and the city's iconic image was solidified during the building boom of the 1950s and 1960s.<sup>2</sup>

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1 Saywell, J. (2014) The architecture of Kowloon Walled City: An excerpt from 'City of Darkness Revisited,' ArchDaily. Available at: <https://www.archdaily.com/493900/the-architecture-of-kowloon-walled-city-an-excerpt-from-city-of-darkness-revisited> ( Accessed: November 19, 2022).

2 Giles, O. (2019) If these walls could talk: Kowloon walledcity as captured by photographers Ian Lambot and Greg Girard, Tatler Asia. Available at: <https://www.tatlerasia.com/culture/arts/kowloon-walled-city-photography-ian-lambot-greg-girards?gallery=true&slide=1&type=carousel> (Accessed: November 19, 2022).

Fig 10. Previous p. Kowloon from above, The City of Darkness Revisited 2022. Available at: [https://cityofdarkness.co.uk/category/the\\_city/#post593](https://cityofdarkness.co.uk/category/the_city/#post593)

Fig 11. Opposite top p. Kowloon, The City of Darkness Revisited. 2022 Available at: [https://cityofdarkness.co.uk/category/the\\_city/#post593](https://cityofdarkness.co.uk/category/the_city/#post593)

Apartment buildings were made of brick, concrete, and wood, with heights of six or seven storeys.

A constant willingness to change, improvise and work together laid the foundation for this community, without the restrictions of land use or construction codes, structures were built on top of one another with little to no input from architects or engineers.

Winding and narrow stairways connected buildings, some had no visible pilings or foundations, and it was almost impossible to do proper upkeep since the structures did not adhere to standard electrical and mechanical practices. However, several innovative skyscrapers stood out: some apartment complexes had makeshift annexes of iron and masonry affixed to their roofs flush against one another. The result was a remarkable increase in visual variety over the roof. Rooftops in Kowloon served various purposes, from exercise and play areas to the less appealing task of trash collection. Even though its narrow streets provided for a gloomy environment, the Walled City was as improvised as buildings could be, a massive construction constantly adapting to meet the demands of its inhabitants.

Kowloon made wholly novel uses of the existing area without being limited by conventional factors like title deeds, property lines, or restrictions. Those buildings were examples of creative, nonconformist architecture and the height restriction imposed by Kai Tak Airport was the sole regularity in all of Kowloon, if you could go above this one "golden height limit," everything would be doable. Unorthodox circulation pathways began to wind around the city, ascending and descending among neighboring buildings since there were no strategies or compliance with the laws.

Often, levels were cantilevered over alleyways until they reached the buildings on the other side, and existing stairwells were repurposed. The Walled City's rooftops developed into an independent public space with potted horticulture, children's games, adults lounging around, and a hub for lateral movement.

Fig 12. Opposite bottom p. Kowloon internal view, The City of Darkness Revisited. 2022 Available at: [https://cityofdarkness.co.uk/category/the\\_city/#post593](https://cityofdarkness.co.uk/category/the_city/#post593)

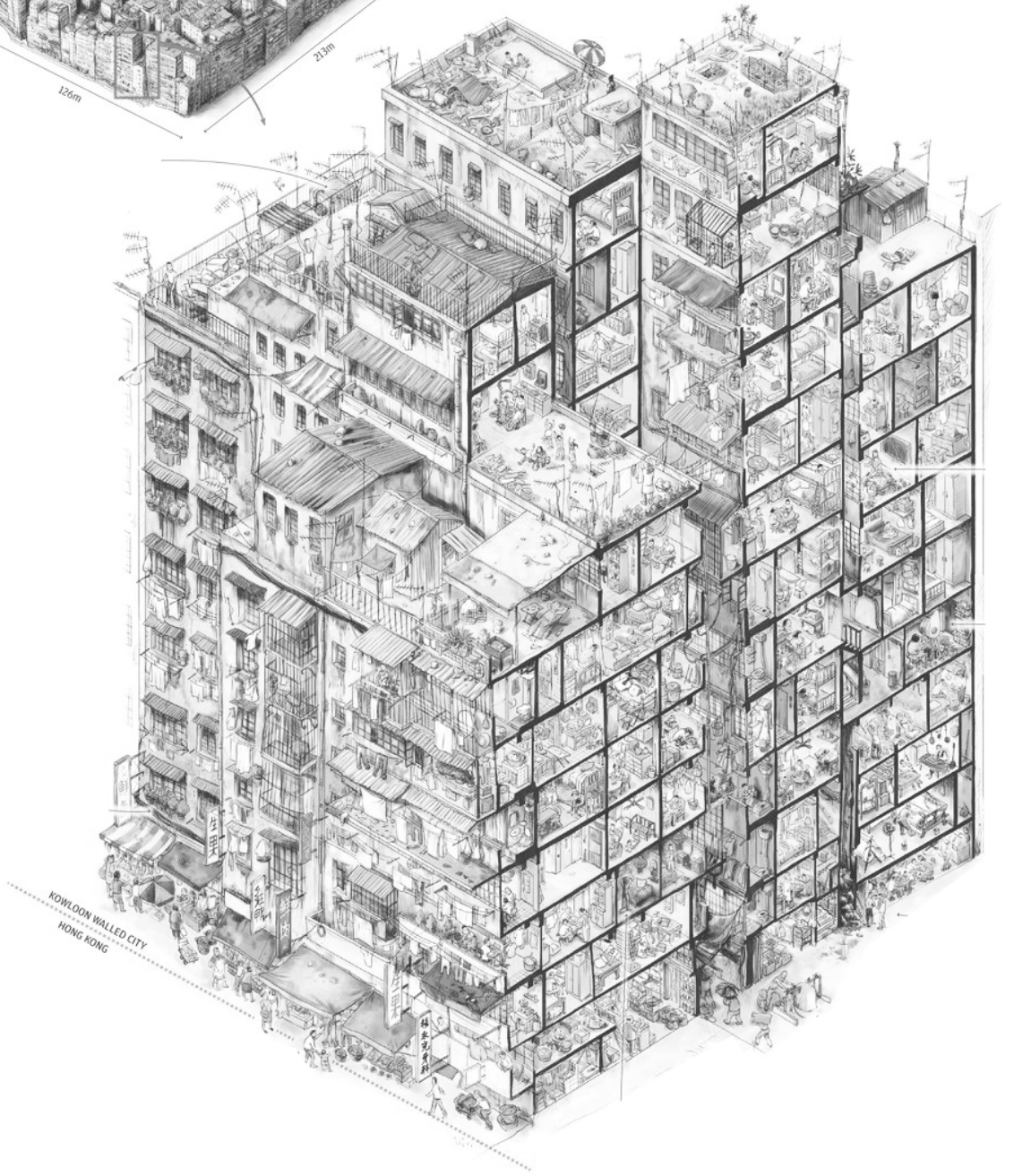
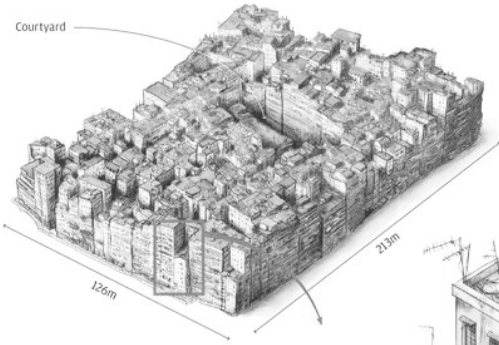


Fig 13. SCMP Graphics, 2013. City of Anarchy. Available at: <https://www.scmp.com/infographics/article/1193675/remembers-kowloon-walled-city>

Fig 14. Next page. Kowloon. EKowloon's Walled City. 2022. Available at: <https://www.hongkongev.com/news/kowloon-walled-city#>





Curiously, some shorter structures were not destroyed but had storeys added onto them, sometimes even by neighboring, higher structures. Corridors were linked at upper levels to enable passage from one building to another without descending to street level, making it impossible to tell when one had crossed a ‘property line’ during a walk around the city.

The city’s regulars, who knew their way around the complex network of streets without a hitch, did not care about the ambiguity and this amazing “organic” growth became, architecturally and urbanistically speaking, one of the Walled City’s most remarkable and distinctive aspects.

Based on my observation, the increasing construction activity and congestion worsened the already poor living conditions within the community. Genuine, though only partially effective, outside attempts by the government and authorities to solve the issues of declining water supply and sanitary standards, inadequate drainage, and frequent power outages were unsuccessful.

The administration was stuck in an impossible bind: it wanted to improve the circumstances without promoting additional expansion, but it could not do so since the Walled City had become a confusing labyrinth.

By the 1970s, Kowloon had reached its maximum size, with skyscrapers reaching as high as 14 storeys into the air and almost no daylight reaching the ground, except for at its geographic heart. They calculated that each resident had just 7 square feet to themselves, and many structures lacked clear delineation of their party walls, whilst others seemed to lean on their neighbours, and others were absurdly tiny. As the city developed and became virtually a unified physical mass, structural context helped partially to offset structural weakness as the buildings supported or stabilized each other.<sup>3</sup>

3 Giles, O. (2019) If these walls could talk: Kowloon walledcity as captured by photographers Ian Lambot and Greg Girard, Tatler Asia. Available at: <https://www.tatlerasia.com/culture/arts/kowloon-walled-city-photography-ian-lambot-greg-girards?gallery=true&slide=1&type=carousel> (Accessed: November 17, 2022).

Was the Walled City an ideal experimental setting for urbanization that occurred naturally rather than as a result of government oversight or deliberate planning?

Is its impromptu development a preview of what all cities might look like if the government didn’t exist, a Mad Max society where the people set the only rules and restrictions?

Without sugarcoating the unpleasant facts, I may say that the Walled City did its best to contain them, developing a proto-government, relying on unwritten rules rather than written ones, operating mainly as a genuine democracy, an actual market economy. The more it merged inside, the more practical it got, as its network of social, geographical, economic, and even architectural dependencies grew, the society became remarkably well-oiled, the coherence of which may not have been immediately apparent outside its people. By that point, it had become a physically distinct organism of its right, which has piqued the interest of architects and urbanists for decades.<sup>4</sup>

I believe that the seedy side of Kowloon’s story isn’t limited to its notoriety as a sanctuary for illicit businesses like brothels and gambling dens. Despite the area’s limited space and lack of formal connections to utilities, it proved productive: Kowloon was sometimes referred to as Hong Kong’s “shaWdow economy” due to the many small workshops and firms that could be found in the area, which produced goods for businesses all across Hong Kong. Many people were relocated or offered buyouts before the Kowloon Walled City was demolished and turned into a park in 1993 and many businesses in Hong Kong were permanently closed because their owners could no longer afford the high rents.

4 Crawford, J. (2020) “The Strange Saga of Kowloon Walled City” Available at: <https://www.atlasobscura.com/articles/kowloon-walled-city> (Accessed 18022)





The Kowloon walled city has provided essential lessons on the importance of urban planning and how it can facilitate micro-living. As urban populations continue to rise, micro-living offers an opportunity to house individuals who need to access options available in urban areas.<sup>5</sup> Currently, there are several micro-living spaces in places like New York, with low rent affordable to low-income individuals; in the UK, the residential building Terminus house located in Harlow was criticized for its living conditions under the permitted development initiative. Other notable extreme living conditions exist in Hong Kong, where people live in tiny roomed houses known locally as “coffin cubicles”. In these housings, there are hardly any places to walk around. The occupation of the 45-story block Tower of David in Venezuela by squatters portrays a classic example of urban appropriation.

The building had remained uncompleted but provided extreme housing conditions for many families in Caracas due to the housing crisis. While Kowloon was destroyed, it still gives valuable lessons on how to change and improve urban housing that will cater for various societal challenges.

*“All this intensity of random human effort and activity, vice and sloth and industry, exempted from all the controls we take for granted, resulted in an environment as richly varied and as sensual as anything in the heart of the tropical rainforest. The only drawback is that it was obviously toxic.”*

– Greg Girard, author of City of Darkness

5 Bailey, N. (2019) "The right to the city," Routledge, pp. 1–10. Available at: <https://doi.org/10.4324/9781315266589-44>.

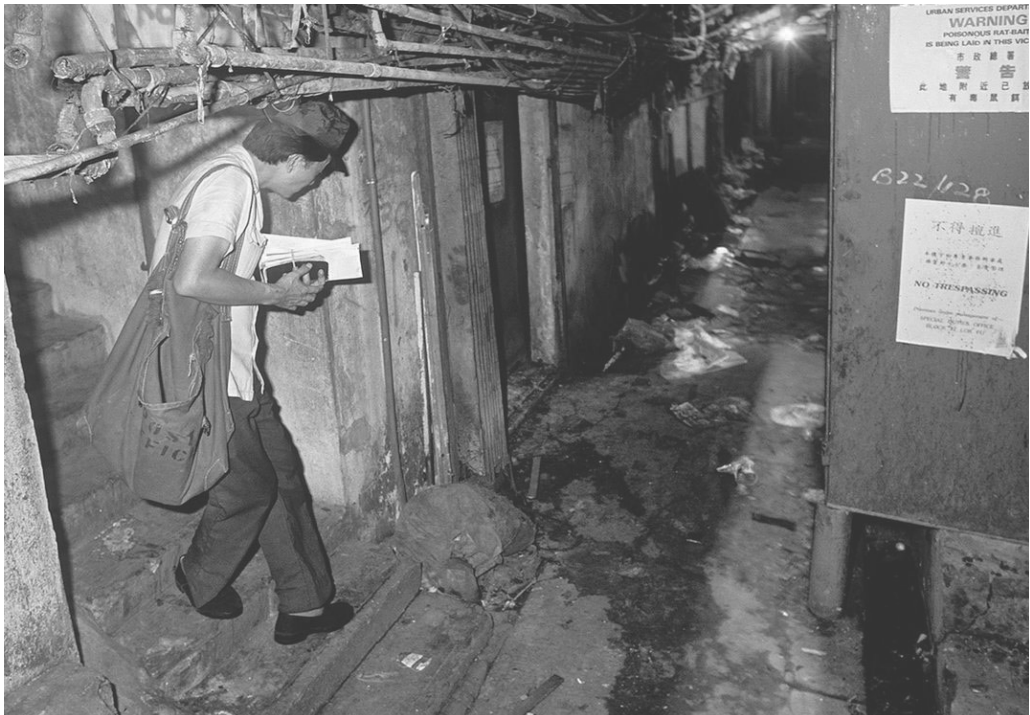


Fig 17. Opposite top p. Girard G, 2022. Kowloon Walled City. Available at: <http://greggirard.com/work/kowloon-walled-city--13>

Fig 18. Opposite bottom p. Girard G, 2022. Kowloon Walled City. Available at: <http://greggirard.com/work/kowloon-walled-city--13>





# MAKOKO / reclaim



In Makoko, one needs a canoe to go about it. Some parts are on land, but the majority of the town is on marshy ground that need proper sanitation and other services infrastructure in order to be 'liveable'. Makoko was initially established as a fishing village by families who had relocated there from the Benin Republic in the nineteenth century. Its population has exploded since 1962 along with Nigeria's, however, data on the area's growth and its communities are sketchy since maps show very little in the way of buildings, population density, or individual streets and keeping tabs on property ownership, mapping out infrastructure, optimising services, preparing for crises, or promoting growth is challenging.

In a nutshell, since Makoko isn't on any official maps, it never received the attention and support it deserves from the local government and sadly, most of the roughly 300,000 residents of the waterfront community live in extremely poor conditions. Despite its proximity to the City's financial district and Victoria Island, where oil and gas corporations have their headquarters, this area was formerly unmarked on maps of Lagos.

To put it simply, Lagos is one of the world's most impressive megacities and it does have the potential to become one of the world's most significant megacities, with an estimated population of 25 million by 2025 and maybe even 40 million by the year 2100. Due to insufficient resources and weak institutions, the State administration has been unable to adequately manage the rapid population expansion. Since there isn't enough housing to go around, many individuals have had to take matters into their own hands and start constructing their own houses.<sup>1</sup>

<sup>1</sup> Ottaviani J. (2020) "Mapping Makoko: A Community Stating its Right to Exist" Available at: <https://www.urbanet.info/mapping-makoko-a-community-stating-its-right-to-exist/>

Consequently, many cities like Makoko have become slums with high population densities and little access to essential amenities, leading to increased crime risk, poverty, and illness due unsanitary living conditions. The opportunity to see the other side of the "City of Excellence," where water is a source of life or death and where the average resident earns less than \$1 per day, one has to drive about town, mainly to Makoko, as one blogger puts it. Squatter communities in Lagos have an exceptionally high population density, why? Because there's nowhere to put new structures. Oko Agbon, Adogbo, Migbewhe, Yanshiwhe, Sogunro, and Apollo are the six "villages" that makeup Makoko: the last two are landlocked, whereas the first four are "Makoko on water", where homes are constructed on stilts and float on the Lagos Lagoon.

The settlement lacks basic infrastructure and sanitation, and initially, houses were made out of from discarded materials like wood, plastic sheeting, and corrugated metal. The building slightly improved over time however the use of more advanced materials available to the residents could improve construction techniques, for a better end product and better living conditions.

Therefore, in my view, Makoko is representative of the most severe problems caused by coastal Africa's rapid urbanisation and shifting climate and it has also sparked ideas for overcoming these problems and finding possible substitutes for the environmentally hazardous process of land reclamation.<sup>2</sup>

<sup>2</sup> Etomi I. (2012) "Makoko" Available at: <https://architectureindevelopment.org/project/173>

In response, NLE collaborated with residents of Makoko to construct a prototype floating structure officially functioning as a school that is home to its first cohort of pupils. It might develop into a school, hospital, marketplace, amusement park, or residence. The prototype's floating triangular structure is secure and inexpensive but must be modified to fit specific demands. The innovative but simple systems of renewable energy sources reduce waste, treat water and sewage, and encourage the use of low-carbon modes of transportation, all of which align with the most stringent standards of sustainable development. It was built by eight local Makoko residents using eco-friendly materials, including bamboo and wood from a nearby sawmill.<sup>3</sup>

The housing in Makoko, and its general way of life, indicates the innovativeness of its residents towards solving their problems and the government should harness this innovativeness to solve the housing crisis. The community desperately requires government help and intervention, particularly to improve the current dramatic unsanitary conditions in which the residents have to live in.<sup>4</sup> Makoko should be recognised by the authorities to facilitate provision of basic social amenities, such as schooling and health care because improving living conditions here could make the area a viable housing solution for many residents of Lagos.

<sup>3</sup> Leardi L. (2018) "A Deep Dive Into the Sad Story of the Makoko Floating School". Available at: <https://www.archdaily.com/890330/a-deep-dive-into-the-sad-story-of-the-makoko-floating-school>

<sup>4</sup> Etomi I. (2012) "Makoko". Available at: <https://architectureindevelopment.org/project/173>



Fig 22. AD. 2012. Makoko building techniques. Available at: <https://architectureindevelopment.org/project/173>

Fig 22. Opposite top p. Spiegel Panorama. 2017. Makoko. Available at: <https://www.spiegel.de/panorama/gesellschaft/wasserslums-in-lagos-bedrohte-heimat-a-1170694.html>

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Fig 24. ArchDaily, 2018. Makoko Floating School. Available at: <https://www.archdaily.com/890330/a-deep-dive-into-the-sad-story-of-the-makoko-floating-school>



# CONCLUSION

In conclusion, the answer is ‘yes’.

With proper design, appropriation can be one viable answer to the challenges threatening housing, the constantly increasing living expense and the terrifyingly nearing irreversible moment at which climate change will influence our way of life and undermine our economy.

Free from the constraints of modern society, the Christiania community occupied public land and established itself as a model of off-the-grid urban living, with buildings constructed primarily by the principle of “architecture without architects”. To reflect on the ideals of appropriation, Kowloon’s minorities, fleeing persecution in mainland China after World War II, took over a decommissioned military base and transformed it into a thriving, though unsafe, metropolis. In Makoko, the community was too desperate to despise the lagoon, so they reclaimed it and made it a home in the best way they could using the minimal resources available to them.

In all three cases, the residents have used the resources at their disposal to solve housing challenges. As a designer, Christiania, Kowloon Walled City, and Makoko have taught me precious lessons on the pros, cons and challenges surrounding urban appropriation realities, and will inspire me to be more innovative in solving unique problems for specific communities in my future projects, as well as carefully considering and tackling real economic-social-environmental-political issues that haunt our generation and the ones to come.

Christiania’s model works from a social-economic-political perspective, and it can be replicated, its residents managed to compromise with the authorities on building and H&S standards and interact with locals opening the doors to some of their activities, as well as finding a way to capitalize on tourism and ensure their economic independence and longevity, even if it goes against their original utopistic ideology. I believe Christiania will survive as long as residents and authorities continue to cooperate.

Kowloon did something good, it helped and saved a lot of people, but it was demolished by the government because of high H&S risks and sanitary conditions, the settlement was in the end not equipped to provide for that many people efficiently and safely and therefore doomed to be temporary, construction levels got out of hand and therefore made it unsuitable and not sustainable as a long-term solution in the modern world. I believe it could have been a successful permanent reality if it remained a smaller community, if the government had found a way to intervene sooner, help the residents and preserve the area providing appropriate interventions.

Makoko, home to a huge poor community, is facing bigger challenges and is yet to receive recognition and help from its government, which may be sadly due to the fact that it is located in a poor country, with corruption, lack of local funds and resources that will likely never come, even though its people deserve help and support after having to fend for themselves for so long in such terrible living conditions.

In conclusion, I believe that integration within the wider system is crucial for off-grid communities in order to survive long-term, they must coexist with the government, the city, and all its inhabitants; compromise and respect of certain rules are necessary, otherwise such settlements will always only be a temporary solutions to housing problems that the authorities will have to eventually demolish, when what the world needs are effective sustainable permanent solutions.

Despite the challenges faced by the communities that were born and live as a result of the appropriation of public spaces and land, valuable ‘lessons learned’ from their analysis can help me understand how to better design the housing of the future, I believe the right strategy will be to take a sensible and sustainable approach towards alternative solutions to real and current living issues that will inevitably be affecting more and more people in the future across the world as global problems continue to rise exponentially. Nowadays, I believe that design should be driven by the needs of society and should help providing innovative solutions for fair living conditions for all.

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