

LAGOS DEVELOPMENT ENVISION LAB 2017

ACHIEVING MIXED AND INTEGRATIVE HOUSING IN THE LARGER DEVELOPMENT OF LAGOS



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TABLE OF CONTENTS

INTRODUCTION	1
AFFORDABLE, INCLUSIVE AND INTEGRATIVE HOUSING	5
MIXED INCOME HOUSING POLICIES	9
AMUKOKO: ECONOMIC HUB – INFRASTRUCTURAL DECAY	23
PRIVATE, PUBLIC AND COMMUNITY LED PROJECTS	33
CONCLUSION AND RECOMMENDATIONS	48
REFERENCES	51



INTRODUCTION

Lagos, a mega-city in Sub Saharan Africa, has grown from trading post to regional economic and commercial hub in more than a century. The city is the industrial heart and a major driver of Nigeria's economy. At more than 23 million population (Lagos Bureau of Statistics, 2012), its status as commercial capital of Nigeria has continued to attract visitors and residents from other parts of Nigeria and West African sub-region. People from other African countries and around the world have also chosen Lagos for businesses and residences.

While the population of Lagos State has continued to grow at the rate of 3.2% per annum, delivery of housing, transport, water and sanitation, energy and other infrastructure has remained a key challenge in the State. The inadequacy of urban infrastructures in the State, and the fact that many of the existing urban development policies appear to be responding to scenarios rather than addressing the fundamental infrastructure gap, has created near desperate residents in the city. Solutions to meet the city's needs sometimes provoke misunderstanding between residents and city managers. Attempts at new housing delivery has pitched informal communities with the city officials, while street vendors considered city sponsored environmental preservation as threatening their livelihood

While the argument about the right model for developing the city persists, the capacity to understand the fundamental challenges facing the city is inadequate. Built environment practitioners often ignore the reasons for slum proliferation or presence of street vendors. Most significantly, professionals fail to recognize or understand the development orientation, scope and transformation of the city, hence, the inability to initiate, create or develop appropriate measures for sustainable city development. On the other side, communities often do not see their unplanned, irregular and inhabitable neighborhoods as a challenge, hence, the inability to make an informed demand from relevant government agencies on the service delivery level. Without proportional understanding of the problems in the city, solutions will remain inadequate and often counterproductive.

In addressing the observed capacity gap, Arctic Infrastructure (AI) and the Heinrich Boll Stiftung Nigeria (HBS) developed a program, "Lagos Development Envision Lab" that brought selected youth from informal settlements together with young professionals from the built environment to share knowledge on the fundamental problems and alternative development strategies for the city of Lagos. The Lab was a four day (September 11 - 14 2017) residency training program aimed at closing the huge gap observed in the human capacity to effect development changes that could respond to the needs of the majority of the residents. The Lab focused on "Housing in the Larger Development of Lagos" with strong bias for affordable housing to households earning between 0 – NGN40, 000 per month.

The 20 pre-selected participants, who were joined by seven Masters Students of the Department of Architecture, Stuttgart State Academy of Art and Design, Stuttgart, Germany, deliberated in working groups on different strategies to deliver affordable housing, i.e. mixed housing policies to be introduced in future real estate projects, using Banana Island as an example or a participatory upgrading strategy driven by land owners and CBSs in densely populated areas like Amukoko. Other groups compared the social, environmental and ecological benefits promised by private and government run profit making projects with

potential service delivery through community upgrading. As case studies the groups examined the Imperial International Business City being promoted by Channeldrill Resources Limited, Lagos HOMS/Jubilee Housing program in Ilubirin and Badia and a development plan prepared by the students of Stuttgart Academy for the Otodo-Gbame community in Lekki.

The Lab adopted lectures, group works, audio visual presentations and city tours as method of knowledge sharing during the four-day period. This is in addition to inviting officials from the Lagos State Ministry of Housing to discuss the status of housing in Lagos. The engagements at the Lab were concluded on the fourth day by public presentation sharing views from broad stakeholders in the development of Lagos.

The group technical reports have been converted into chapters in this report and are the basis for a wide range of recommendations.



AFFORDABLE, INCLUSIVE AND INTEGRATIVE HOUSING

At the World Bank/IMF Spring meetings that took place in April 2017 the Finance Minister of Nigeria, Mrs Kemi Adeosun, said that Nigeria's housing deficit is estimated at 17 million (Olanrewaju, 2017). These statistics are slightly outdated having been recorded in 2012 by the National Bureau of Statistics (NBS). It can therefore be deduced that the housing deficit has grown since 2012 and should be more than the estimated 17 million. This worrisome state of affairs does not preclude the existence of a large construction industry. According to tradingeconomics.com, "GDP from Construction in Nigeria increased to NGN694, 618.72million in the second quarter of 2017 from NGN660, 920.64 million in the first quarter of 2017. GDP from Construction in Nigeria averaged NGN559, 190.55million from 2010 until 2017, reaching an all-time high of NGN740, 204.22million in the second quarter of 2015" (tradingeconomics.com, 2017)

With 3.2% of the country's GDP being contributed by the construction industry, the high housing deficit contrasts starkly against the potential of the sector and further reinforces the bleak imbalance in Nigeria's economy where more than 50% of the country's wealth is owned by less than 10% of its population. About 69% of the population was said to be poor in 2010 in an economy adjudged to be the largest in Africa (Oxfam International, 2017).

In Lagos, Nigeria's current economic and former political capital, these stark realities are entrenched and exhibited at an alarming scale, in the dichotomy between the numerous gated estates that fuel the construction boom targeted at the city's rich dweller and the overwhelming slum settlements. Despite the existence of many slum communities in the city's heartland, new slum areas are emerging and growing as the poor are pushed back in constant retreat to the fringes of the mega city where they cling to basic and overwhelmingly sub-standard accommodations and endure long and torturous commutes to make out a living at the financial centers. With a population of more than 23 million and its own share of Nigeria's housing deficit put at 2.5 million, the Lagos State Government will need to resolve the deficit of housing in Lagos by providing 187,500 housing units per annum in the next five years. Different home ownership schemes are being promoted by the Lagos State Government (Udodiong, Inemesit, Pulse.ng, 2016).

One big challenge the state's housing initiatives are facing is the pricing of most housing projects beyond the capacity of the city's low-income dwellers and the constant threat of gentrification in urban areas.

Understanding Affordable Housing and Social Inclusiveness

The definition of Affordable Housing should ordinarily be as straightforward as the literal meaning of the term, but the disparity between what the term connotes and how affordable housing projects are delivered around the world makes it necessary to have a working definition for Affordable Housing. In this report and for the Lagos social and economic contexts, affordable housing is referring to as adequate housing units that are affordable by individual or a family earning below the amount that twice the prevailing minimum wage in Lagos State on monthly basis.

Cortright, J. (2017) has argued that; "It is a problem that is not going away; the so-called "affordable" housing we are building in many cities by which we mean publicly subsidized housing that is dedicated to low - and moderate-income households is so expensive to build that we will never be able to build enough of it to make a dent in the housing affordability problem". The argument is a challenge, not only to the cities'

policy makers and managers but to all the stakeholders to rise up to the need of exploring innovative approaches in delivering affordable housing for the residents. Housing is a difficult problem that persists at global and local level, and presents a threat to housing affordability and social inclusiveness in housing delivery. This report will attempt to explore potential ways of mitigating this risk.

Land Ownership – Challenges and Prospects

Land ownership in Nigeria is exacerbated by three main factors, first, the fact that all lands are vested in the state governments, and the process for securing land tenure is cumbersome, secondly, driven by runaway land speculation that defies the poor infrastructure servicing all of its regions, Nigeria manages to boast of some of the most expensive real estate stretches in the world. The third critical factor bedeviling land ownership in Nigeria is the high incidence of fraud and land grabbing cases experienced by those who invest in real estate. With these and more challenges, home ownership has become almost impossible for low income earners, given that land acquisition tends to be the biggest hurdle they have to overcome.

Hopes of amending the Land Use Act of 1978 to ease up access to land ownership for Nigerians is said to be hampered by the fact that the act was encoded into the constitution when enacted and would therefore require a constitutional amendment for any review to be passed into law, a long and tortuous process by any stretch of imagination. (Olofinji, 2017)

This combination of factors further fuels land speculation, pricing most locations beyond the economic indices required to make affordable housing work, or triggering gentrification where such projects are attempted, therefore making such projects fail at their primary purpose. This makes it imperative to explore possibilities for alternative approaches to accessing land for affordable housing.



MIXED INCOME HOUSING POLICIES

The mixed-income model has attracted interest among urban planners, policy-makers, and researchers around the world as a means of creating more equitable, politically stable, socially diverse and inclusive cities.

Despite high urbanization rates in the global South and especially Africa, concepts of equitable and inclusive city-making are yet to fully emerge as pressing concerns for those with the power to shape the urban environment. While African cities continue to grow, the challenge will be to provide adequate services and equitable access to opportunity for all, bridging the wide gap in infrastructure and housing. Increased transit linkages and better connections between where people live and where they work is another component of creating a more socially inclusive city and civic culture.

In Lagos, there are currently no existing policies to encourage class and income mixture with regards to housing and infrastructure in the city. This produces informal housing and commercial development, often near expensive gated communities and wealthy neighborhoods such as Banana Island. Banana Island is the central case example of this report because it seems to reveal a particularly well embedded strain of social segregation in Lagos.

African cities must first challenge the well-received notions of class separation and consider what the potential benefits of social mixture could be and then, how they might be achieved. How could a city like Lagos design its own models for sustainable and successful social mixture? Are there workable policy frameworks, financial mechanisms and spatial strategies for mixture and what might they look like for Lagos both today and in the future? For such an endeavor, communities must be involved alongside governments, architects, artists, policymakers and politicians. We must begin to build a political consensus around the notion that housing is a basic human need for both the rich and poor in the society, not the free market should be responsible for housing supply ensuring that a sufficient number of dwellings are available.

Current Challenges to Mixed Housing in Lagos

Many reasons exist for the current separation between income and class groups with regards to housing in Lagos, the resulting disinvestment and poverty concentration in certain areas and wealth concentration in others. Prime among these are the failures of government and public institutions to provide the necessary infrastructures and services of the city leading to a reliance on private developments to fill the gap for those wealthy enough to purchase them for themselves. Additionally, the lack of government policy to encourage social mixture, widening income and educational disparity between the classes has led to misalignment of environmental expectations and behavioral patterns for living as well as social and class tension; all this has been exacerbated by a flight to security by the rich away from poor or mixed areas due to crime as well as actual and perceived threats to safety. Moreover contemporary aspiration ideals are driving developers, consumers and other participants in the property market to propagate, and invest in housing developments which are essentially enclaves for the wealthy and higher classes. Examples include not only Banana Island but other exclusive gated estates such as 'Park View Estate' in Ikoyi (another instance of public land being appropriated for private residential development at the high end), 'NICON Town' and 'UPDC Estate' in Lekki, and more recently the proposed 'Orange Island' Development and 'Eko Atlantic' which is already underway.

Defining Mixed Income/Class Housing

Mixed income and class housing can be defined as housing with differing levels of affordability, typically with some market-rate housing and some housing that is available to low-income occupants. 'Income' being understood as a function of monthly earnings and 'Class' being a mixture of family background, education and occupation. The percentages at which this mixture occurs will vary from case to case.

Should Housing be mixed?

Should housing be mixed? The question is worth asking. Must cities design inclusive housing models in order to be successful? The answer, we think, is yes. While 'inclusivity' may extend beyond, it does not exclude the question of housing. It is widely agreed that inclusive and equitable cities are more sustainable, economically vibrant and safer; it is impossible to have an inclusive city without a policy for inclusive housing. For a community such as Banana Island there would be advantages as well challenges to mixture, some of which may be overcome (See. Figure3).

Interest Groups	Advantages	Challenges	Solutions to the Cons
High income / class residents	can be more secure	perception of insecurity	culture of openness community spaces to encourage mixture maintain access control select <i>key work</i> groups socially diverse residents association
	more vibrant community		
Low income / class residents	better integration with the city	challenge of adaptability and behaviour patterns of poor and less educated	residents may adapt over time
		class tension	good social mix including high, middle and low income groups working class residents part of community
City/State	deconcentration of poverty	disrupted social infrastructure of the poor	plan for essential social infrastructure public schools, clinics, etc. allow small scale urban agriculture
	better distribution of state investment	access to affordable food	plan for connection to local markets for lower income groups
City/State	increase in economic activity		
	mixed, higher density		
	greater social cohesion		

(Figure 3) Advantages & Disadvantages of Mixed Income Housing

- high income + class residents
- low income + class residents
- city/state

BANANA ISLAND

Background and History

Banana Island is part of the Lagos local government Area of Eti-Osa in Central Lagos; known for its wealthy and multi-cultural community. The local government has some of the most expensive real estate in Nigeria. Banana Island is an artificially reclaimed peninsular projecting from Lagos Island into the Lagos Lagoon, the project was originally conceived as a commercial appendage to Lagos with offices, residences and dedicated airport known as 'Lagoon City', a concept first developed by Chief Adebayo Adeleke. This vision was never realised but instead, due to the demand for housing, a residential development was eventually decided upon as an addition to the historically residential Ikoyi.

The banana shaped island is approximately 1,630,000 square meters in size and has been divided into 536 plots, accessible by some 100 main avenues and cul-de-sac access roads. Plot sizes range from 1,000 square meters to 4,000 square meters; the typical plot of land valued today at between \$4million and \$6million. The island has been zoned into plots for residential, commercial and recreational areas and the original master plan incorporated other social amenities including a main piazza space, primary and secondary schools, fire and police stations, clinics, hotels and club-houses, making the island a self-contained urban system. As for the infrastructure, most of this is centralized: utilities offered include an underground electrical system, though each house has its own backup generator, an underground water supply network, central sewage system and treatment plant, street lighting and satellite telecommunications networks, as well as overhead and storm water covered drainage.

It is ironic that Banana Island which was developed by the Federal Government via public funds is now completely inaccessible to the general public; security is centralized and access to the Island heavily controlled with only one road leading in and out which is well guarded; entrance cannot be gained without a specific appointment with a resident or office within the gates.

Banana Island Master Plan and Current Occupancy Plan

Figure 1 shows the current master plan of Banana Island with the mixed residential and commercial land to the east and the purely residential land to the west, around the perimeter and waterfront. The Island has been planned for low-density living. Very little open community space has been allowed for in this version of the plan and there are few of the originally intended amenities such as the police station and clinic, though a secondary school does exist currently on the Island. An aerial survey of the land occupancy (Figure 2) shows that the island is nearly 50% undeveloped especially in the commercial zone.

Banana Island Masterplan (Figure 1)



Banana Island Occupancy Plan (Figure 2)





Banana Island

Despite the fact that most of the land has been sold and is now in private hands, many plots have even changed hands several times. The question arises as to whether in a country with a housing deficit of some 17 million (as at 2012 according to the National Bureau of Statistics) where adequate housing and available land for the development of new housing are scarce, it should remain acceptable for land designated for residential use to be left undeveloped for years on end, changing hands only for reasons of speculative profiteering.

Site Visit and Local Resident Interview

An investigative site visit to Banana Island was made and a current resident interviewed on certain aspects of her experience of living in such a community. Among the benefits discussed by this resident were the importance of security and the perception of security challenge despite the cumbersome process of vetting entrants, the convenience of centrally maintained services despite the significant service charge which residents must pay, and the safe clean streets and walkways which make recreation possible. Among the drawbacks mentioned were the lack of public transport connections to the city for the lower class workers and servants within the community and the absence of basic conveniences such as supermarkets within an easy distance. Moreover, it was noted that a degree of mixture is already present in Banana Island in the form of staff and workers who participate in the economy of the estate. As is typically the case in Lagos, there is an active Residents' Association within Banana Island that acts as a voice for the residents as a whole and organizes community centered events and initiatives.

Site visit



Empty Plot



Typical Perimeter Wall and Gate



Power Utility



Typical Single Family Dwelling



Mid-Rise Residential Development



Typical View of Street

Mixed Income & Class Housing International Case Studies:

The following international case studies will be useful for understanding how policy mechanisms and financial incentives can begin to shape and affect housing in the city. While neither of these cities are directly comparable to the urban and economic conditions of Lagos, they nevertheless offer helpful tools for approaching the problem of wealth segregation in the city and affordability of housing.

Case Study 1: Vienna, Austria (50:50 Mixture Ratio)

In Vienna, the city government drives the vast majority of all new apartment construction, affordable housing construction is heavily subsidized and social housing policies are designed to result in economically diverse communities:

Zoning & Density Restrictions: Less than 10% of land in Vienna is zoned for single family, low-density homes. Instead planning policies encourage mid-rise developments of up to 8-storeys to achieve higher densities on valuable land parcels.

Competition: Government funded housing contracts must be won by a competition process in which individual projects are judged by a diverse panel on several factors: ecological efficiency, architectural design and social mixture and sustainability, proposed rent levels and anticipated cost of construction

Economic Subsidies: Upon selection by a jury land is sold to the Developer at a subsidized rate. The city is then able to offer low interest financing with long term loan repayments to private developers in order to maintain affordability.

Mandatory Mixture: Private developers who collaborate with the city government must allow the city to rent half of the new apartments to lower income residents who are also involved in the design process.

Rent Control - Rents are regulated by the city government to maintain affordability such that just 20-25% of monthly household income goes to housing. If income levels increase, residents are not asked to move out but may retain their property.

As a result the majority of Viennese residents both rich and poor (some 60%) live in a "Gemeindebau" a municipal subsidized public housing including both city owned flats and limited profit housing association. The innovative housing policies of Vienna are among the reason Vienna has been judged the world's most livable city. (Sources: [www. HUD.GOV](http://www.HUD.GOV) mixed-income housing and the HOME Program)



(image 12) Timberlawn Crescent Development, Montgomery County, Maryland

Case Study 2: Maryland, USA

The following case study is a comparison between two mixed income developments in Montgomery County, Maryland with very different approaches to a policy of mixture which had been implemented in the country. The policy required that developers of 50 or more housing units set aside at least 15% of the units for low and moderate income households; two thirds of the earmarked affordable housing was required for households of modest income while one third of the earmarked affordable housing was to be offered to the Public Housing Authority in order to supply subsidized housing for the low income.

McKendree Development:

This developer chose to cluster the units for the lower income residents in one area rather than scattering them. No shared facilities or community spaces were created for the residents, in addition poor public transport connections existed in the development making mobility problematic for the lower income residents; finally, the development was not centrally maintained or managed leaving individual residents to deal with its maintenance.

Timberlawn Crescent Development:

By contrast, a separate development within the same county took a different approach to implementing the policy of mixture. At Timberlawn Crescent, the affordable units were well dispersed and generally indistinguishable from the market-rate units, shared facilities were provided and these were centrally maintained. In addition the development was situated near public transport links and adequate amenities for food and shopping. According to comparative residents survey satisfaction was much greater across the board for Timberlawn than for MacKendree with 100% occupancy since it first opened in 1989.

Lessons Learnt:

- Integrate affordable units through the development rather than clustering
- Include amenities and communal spaces to serve all residents
- Locate developments near public transport and services
- Ensure there is on-site professional management and maintenance in place
- Plan for a sustainable mix of occupants to achieve a good social balance and healthy mixture

Towards A New Policy Framework For Lagos

Designing a Policy of Mixture in Lagos

Despite existing challenges to integration, it is possible for Lagos to achieve successful and sustainable housing mixture within the next 20 years. Without clear and effective policies in place this will not be possible therefore, four new policy positions towards the achievement of inclusive housing are proposed.

Policy Position 1

One of the challenges to developing mixed-income housing is determining the right mix of incomes that can be sustained over time. For Lagos, we are proposing a mixture policy in estate 'site and service' developments on land greater than 5 hectares. 20% of the plots are to be earmarked for constructing affordable units in buildings and developments greater than 50 units. 20% of units are to be offered to government and cooperative groups for affordable housing schemes. Of this 20%, we propose that 15% be reserved for key workers and those of moderate income and class, while 5% is to be reserved for the low income and class. It may not be possible to know from the start the optimal mixture that will be feasible in Nigeria; there is a need for further study of local market conditions with community engagement to develop locally supported and sustainable mixed developments.

Policy Position 2

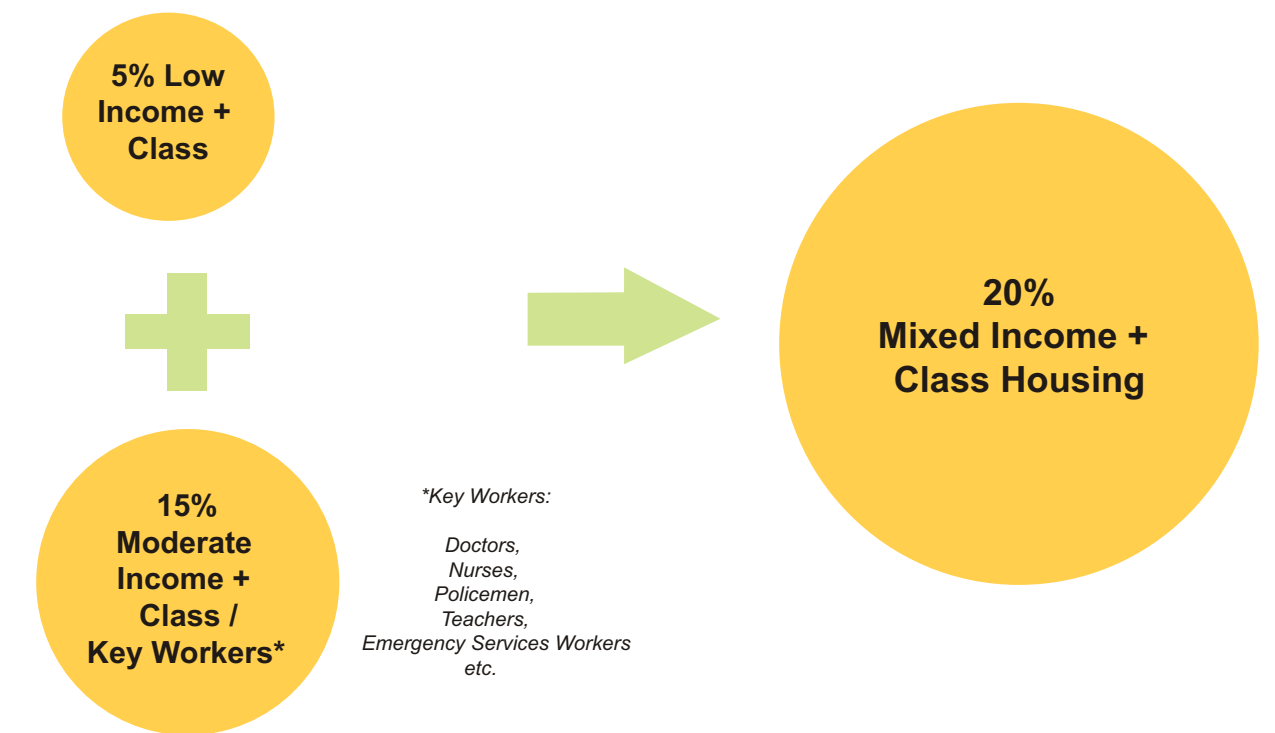
Residential land left undeveloped should accrue a tax, relative to the value of the land every two years. This policy is designed to discourage speculative land purchases without intention of developing the land, a practice which contributes to inflated land values, unaffordability of housing and housing deficit. Taxes accrued should be paid into a Government Housing Investment Fund.

Policy Position 3

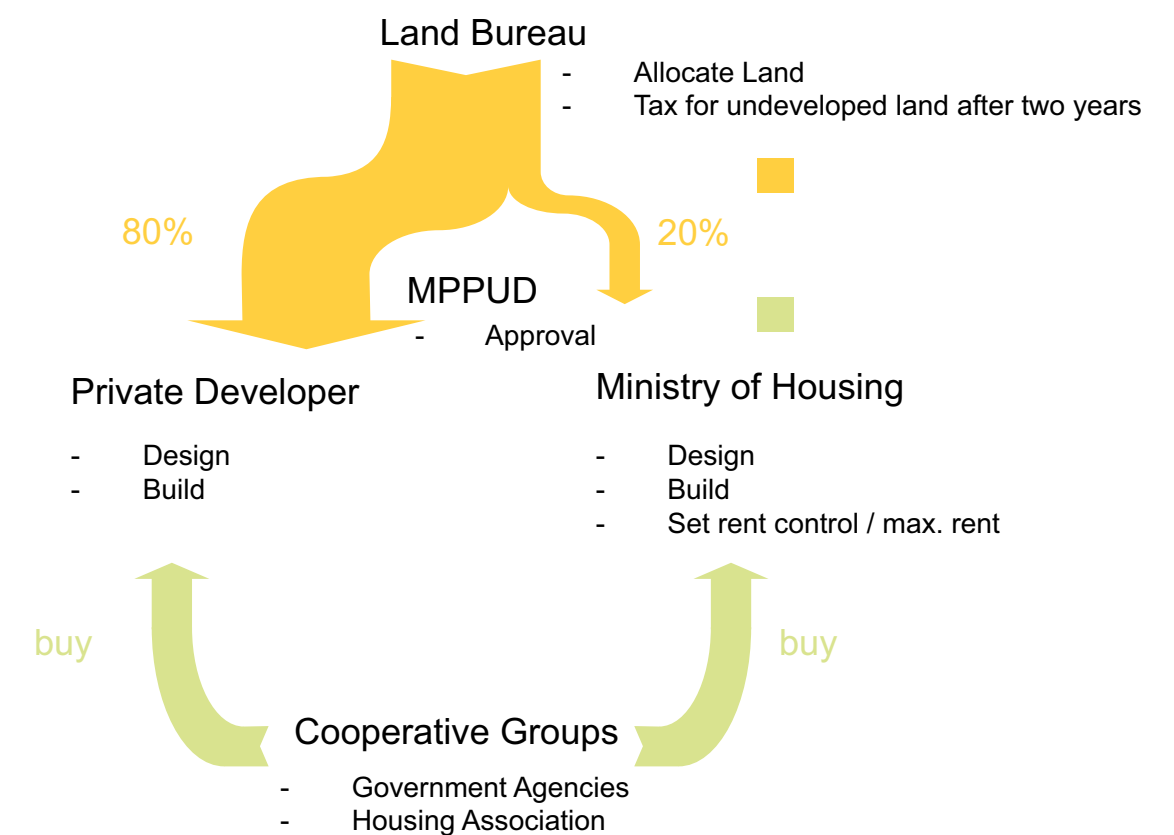
Affordable units are to be sold only to cooperative groups to avoid speculative reselling at market value by lower income residents. Cooperative group members may only transfer their share to other members. Moreover these groups are better able to pool savings and income to meet the cost of mortgage repayments and maintenance charges.

Policy Position 4

Housing that is retained by the government and leased to lower income residents should be rent controlled to maintain long term affordability relative to monthly earnings



Compositions of the Mix



Policy Structure

Mixed Income & Class Housing
Design Guidelines

In addition to policy and legal frameworks, architectural design, planning guidelines and prescription should also be considered in order for policy implementation to produce the desired results for the city and residents in robust and diverse ways:

Urban Design Guidelines

- Affordable housing should be well-distributed within the estate, not clustered or concentrated in any one area
- For new housing estate developments, if not present within 1 km distance, provision should be made for the following:
 - Public Primary School
 - Public Healthcare Clinic
 - Fresh-food market / Farmers 'market
- Provision should be made for accessible, shared community spaces within walking-distance of residences such as:
 - Children's playgrounds
 - Parks / Sports Fields
 - Club-Houses
- The estate must be well-connected to the public transportation network with a dedicated bus-stop within 500m of the main entrance
- Encourage openness and visibility of perimeter fencing and adopt “neighborhood watch” methods of security
- The estate should allow for mixed density development including low and medium densities

Building Design Guidelines

- Buildings should be mid-rise / medium density (maximum of 5-storeys)
- Shared kitchen facilities on each floor could save costs
- Flat roofs could be used for: Small-scale growing, commercial activity, and laundry
- Buildings should include outdoor courtyard space as well as community space for childcare and other activities.
- In mixed-use areas, the ground floor should be used for shop units
- Buildings should be designed and built to last and require low maintenance cost
- Use of local building materials and labor
- Buildings should aim to have good environmental performance (passive cooling and natural ventilation)

Financing Affordable Mixed Housing

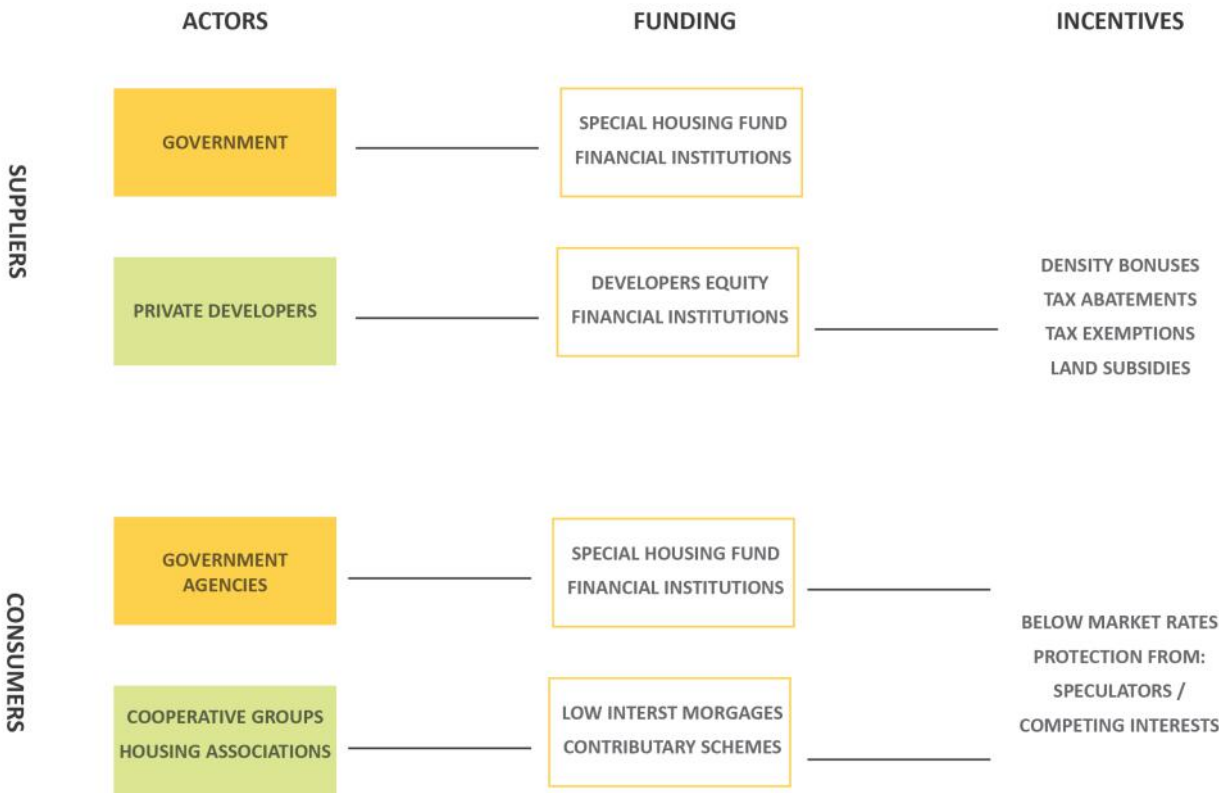
Without government-led financial mechanisms and incentives in place, affordable housing will continue to be pressured by market conditions therefore making it unfeasible. There are a number of ways to support developers financially towards the production of more affordable housing including:

Land Subsidization: In Lagos, land values often dictate affordability; government should offer subsidized or free land to developers for mixed and affordable housing developments.

Low Interest Rate, Long Term Loans: For example, in Austria (case study 1) the government provides low interest loan (0 - 2% interest rate) to cover up to 35% of the project cost payable over 35 years. Similar loans could be structured in Nigeria.

Density Bonuses: Allowing developers of mixed-income housing to build more units per acre than is normally permitted and thereby increase profitability of the land

Tax Incentives and Abatements: Tax abatements can be offered to developers providing mixed income and affordable housing. Competitions for government led mixed income and affordable developments where contractors and architects demonstrate the economic efficiency of their schemes





AMUKOKO: ECONOMIC HUB – INFRASTRUCTURAL DECAY

Amukoko has been one of the designated blighted neighborhoods in Lagos State and is characterized by dilapidated housing and run down or nonexistent public urban infrastructure. Despite its disadvantaged situation, Amukoko remains important to the urban landscape in Lagos due to its critical location on the boundary between the city's commercial hubs and largely residential parts. The area is also of economic importance because it is bordered by the section of Lagos-Badagry Expressway, a major regional transportation artery currently experiencing an upgrade into a multilane express way and rail link. This route is an international trade route and the fringes of the Amukoko community that abut the expressway are typically used for shops and markets that trade in mainly building materials such as granite, marble tiles and other related goods.

The typical low-income community in metropolitan Lagos is overwhelmed by various challenges such as waste management, dilapidated roads, lack of potable water, erratic electricity supply and absence of quality healthcare system. The most pressing are the poor internal road network and failing drainage systems rendering the area uninhabitable during raining season and leading to devaluation of the housing and real estate market.

Challenges of housing and infrastructure in Amukoko

The community is well organized for mobilization and engagement with government and other stakeholders on the infrastructure challenges. The residents are eager and open to development but are concerned over the seeming inability of the relevant government agencies to deliver despite allocation of international funding and comprehensive designs. The first joint project in 2014 under the Lagos Metropolitan Governance and Development Projects/Lagos State Urban Renewal Agency was purportedly redirected to a project at a different location for no clear reasons. In the second instance, after active engagement from the community, a new project was created around funding provided by the Agence Francaise de Development (AFD) which has again been stalled for no clear reasons after a design process that involved active community mobilization and engagement since 2015. This has led to frustrations among the residents and the feeling of abandonment is further exacerbated by the visible development of surrounding communities in contrast to the years of request from the Amukoko community on infrastructure upgrading.

The lack of attention is gradually straining the relationship between the community members and their leaders who need their continued commitment to self-organization and mobilization. Despite the frustrations however, the community is optimistic that the nature of their Community Development Association (CDA) would make them more open to collaborating and cooperating in developing practical ideas that address the present and future challenges of housing in Amukoko.

Majority of the buildings in the area were built approximately up to 30 years ago (or more) and are visibly in need of renovation. Flooding became noticeable over 11 years ago and incrementally got worse as time progressed due to a combination of government neglect, past and recent highway construction, unsuccessful expansion of the flood water canal and several blockages to the existing drainage systems. To cope with the situation, many households have resorted to raising the floor level in already built structures, and filling some areas of the road with sand and refuse to aid pedestrian movement. Environmental

challenges in Amukoko are probably the most pressing issues at the moment. The success of any proposed idea therefore critically depends on addressing the problem of flooding. The degraded or non-existent infrastructure in the area needs to be rehabilitated with urgency, the current neglect has led to the devaluation of existing buildings, even rendering several plots inhabitable in extreme cases.



Existing Conditions



Socio-Economic Pattern

Most of the residents in Amukoko are self-employed earning their living as artisans and traders. Due to the poor living conditions, the area only attracts people seeking very cheap accommodation. On an average, a plot of land (typically 100ft by 50ft or more) sells at approximately 8 to 9 million naira, and accommodates about 12 rooms and 6 'boys' quarters' (total of 18rooms).

A typical household in the community has 8 occupants (Parents and 6 children dependants). Cultural and religious practices in the area are heterogeneous as many groups coexist in this area. The table below highlights some of the social and economic variables in the community.

Challenges

- Despite allocation of international funding and completion of comprehensive designs, promised road and drainage projects were not delivered under a Lagos Metropolitan Governance and Development Projects (LMGDP) / Lagos State Urban Renewal Agency(LASURA) initiated circa 2008.
- A new project created in 2014 around funding provided by the Agence Francaise De Development (AFD) which has also been stalled.
- Straining relationship between the community members and their leaders which adversely affects community mobilization
- Despite these issues, the community still expressed their willingness to engage and participate in our design intervention

SN	Measurable Items	Indicator
1	Current rent per month	Old Structures - N3,000; New Structures - N4,000
2	Cost of plot of land	N9,000,000
3	Total number of units available on a plot	12 units in front & 6 units at rear (single rooms) with shared facilities
4	No. of sanitation facilities on a plot	Two toilets, two bathrooms and a communal kitchen
5	Household income of a typical family	N21,000
6	Primary source of water	Public supply and boreholes



Community Upgrading Strategy

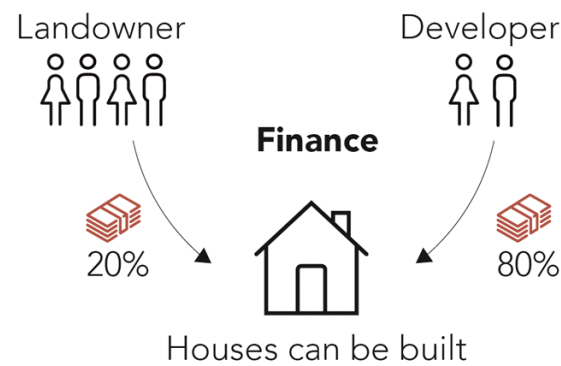
Given their historical, social and economic influence in the CDA and their proven capacity for organizing and mobilizing residents, the landowners would be the best fulcrum with whom to plan the development of the area. They are even open to the idea of pooling their lands together to erect modern inclusive and integrative housing. Most of the land in the subject area was historically owned by the Ojora family, a popular and influential family in Lagos, however though the family still remains influential in Amukoko, and a court ruling has assted the family's Statutory Right of Occupancy over large tracts of land in the area (<http://thenigerialawyer.com/court-resolves-land-dispute-in-ojora-familys-favour/>) majority of the plots in the subject area are currently owned by retired civil servants and artisans or their inheritors, predominantly of Yoruba origins, who settled and bought land in the area. These landlords are organised into Community Development Associations (CDAs) of which membership is not by compulsion, but which still enjoy general participation nonetheless due to the inherent self organisation needs they meet for the communities. Community Development Associations are usually spanning a group of adjoining streets collaborating for common interests such as security, infrastructural development and in many cases as pressure groups to carry out advocacy with government agencies and officials towards ensuring implementation of desired projects and policies. They typically hold regular and / or emergency meetings to highlight and build consensus on emerging issues that need the coordinated efforts of the landlords to solve. The CDAs usually have an appointed Chairperson with one or two other officials nominated from amongst the landlords to help administer the community's objectives.

Housing finance is a huge challenge not only in Lagos but across Nigeria, hence, ensuring that the solution is commercially viable and flexible enough to be able to adopt various funding models is an integral aspect of any proposed solution. Funding for an upgrade design which helps landlords generate income and maximize land use can be sourced within the community through cooperatives, thrift society or cooperation between neighbors, otherwise through joint ventures with private developers.

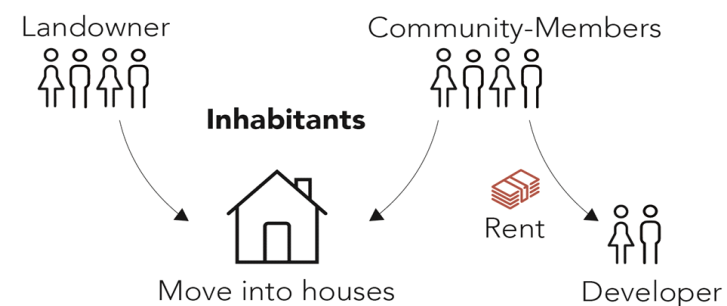
Financing Models

- Land owner and Developer; joint financing for rental housing or co-ownership
- Renting Leasehold Land; opportunity for mortgage / microfinance banks and other financial institutions
- Land pooling; increasing land availability to allow for more housing units
- Cooperative; landowners forming thrift societies to enable access to loan facilities at agreed

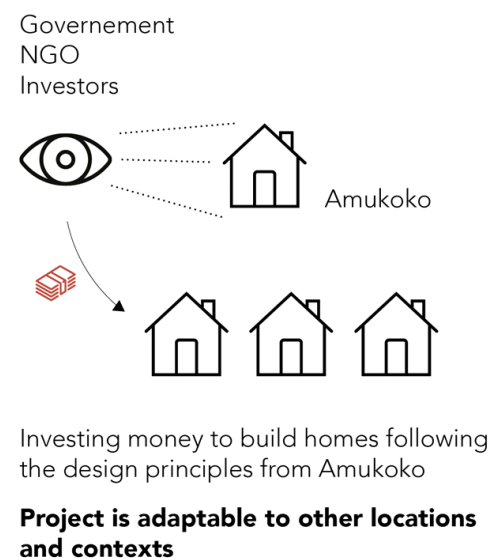
Step 1 Bootstrap / Developer led



Step 2 Adoption, use, repayment plan



Step 3 (Plug & Scale)



Design Considerations

As a result to the stress in the Nigerian economy, the construction of houses in the community might be better executed in phases. Although the construction process should rely on local craftsmen for further income generation, relevant input from experts in the built environment, especially on structures with more than one floor are a must to enhance safety, but also ensure the much needed technology transfer.

The prevailing housing type in the community is multi-tenancy row style housing, hence a design that updates and improves on this housing pattern should be considered while also creating an alternative for two-bedroom apartments for those who are ready to climb further up the housing ladder.

As a proactive step, prototype units on a raised platform for the ground floor should be considered to make the buildings more resilient to incessant flooding which doesn't allow landlords to maximize the use of their land. Therefore, knowledge of the soil composition and structure in the area is essential for proper engineering of the buildings.

A test scheme for one plot provides for ten rooms with temporary storage provided under each room area in the flood reticulation area under the ground floor. The rooms are split into two blocks banked on corridors and separated by a small courtyard area which can be partitioned into small private gardens. Six toilet facilities and six shower cubicles are provided in the center of each block of rooms.

The proposal allows for blocks to be built as bungalows in the initial stage with the possibility to remove the roofs and add an extra floor on top of each block to double the number of rooms when funding allows.

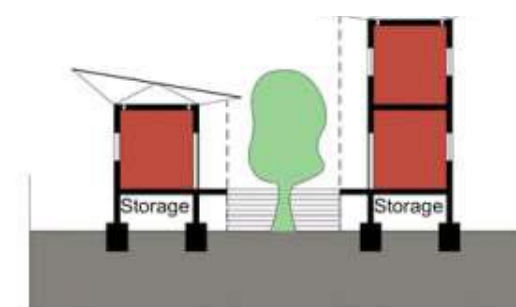
Lagos Development Envision Lab 2017 - Group 2 - Amukoko

Design - Proposal

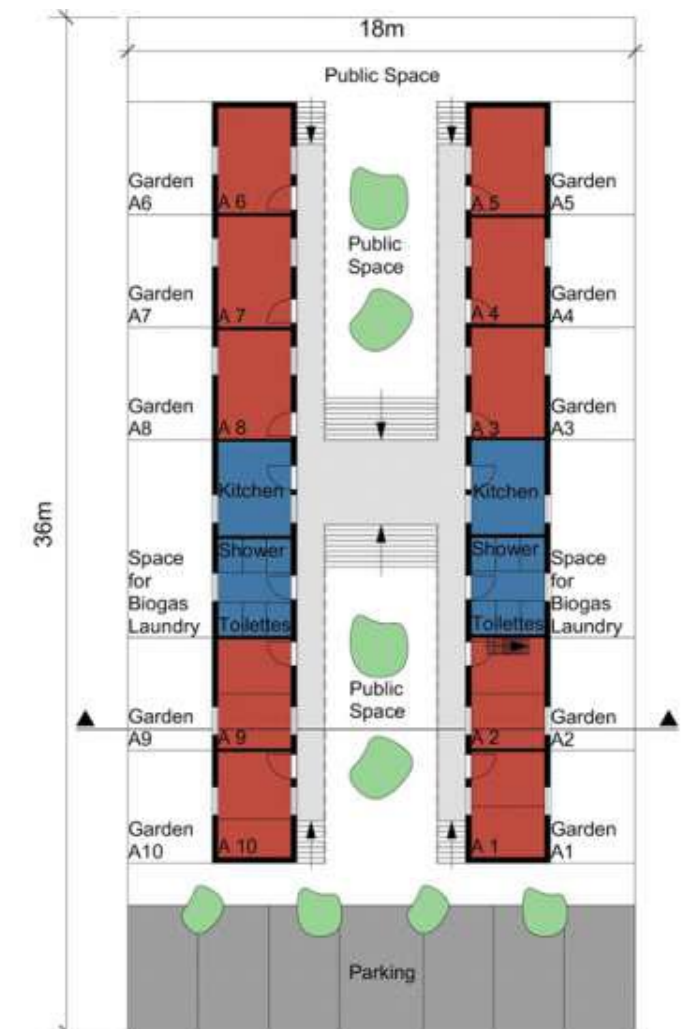
- 10 Apartments
- 10 Storage Rooms
- 6 Shared Toilets
- 6 Shared Showers
- 2 Kitchen
- 1 Shared Public Space
- 7 Parking Spots

There is the ability to expand the Apartments to the second floor depending on the needs.

- Apartments
- Facilities



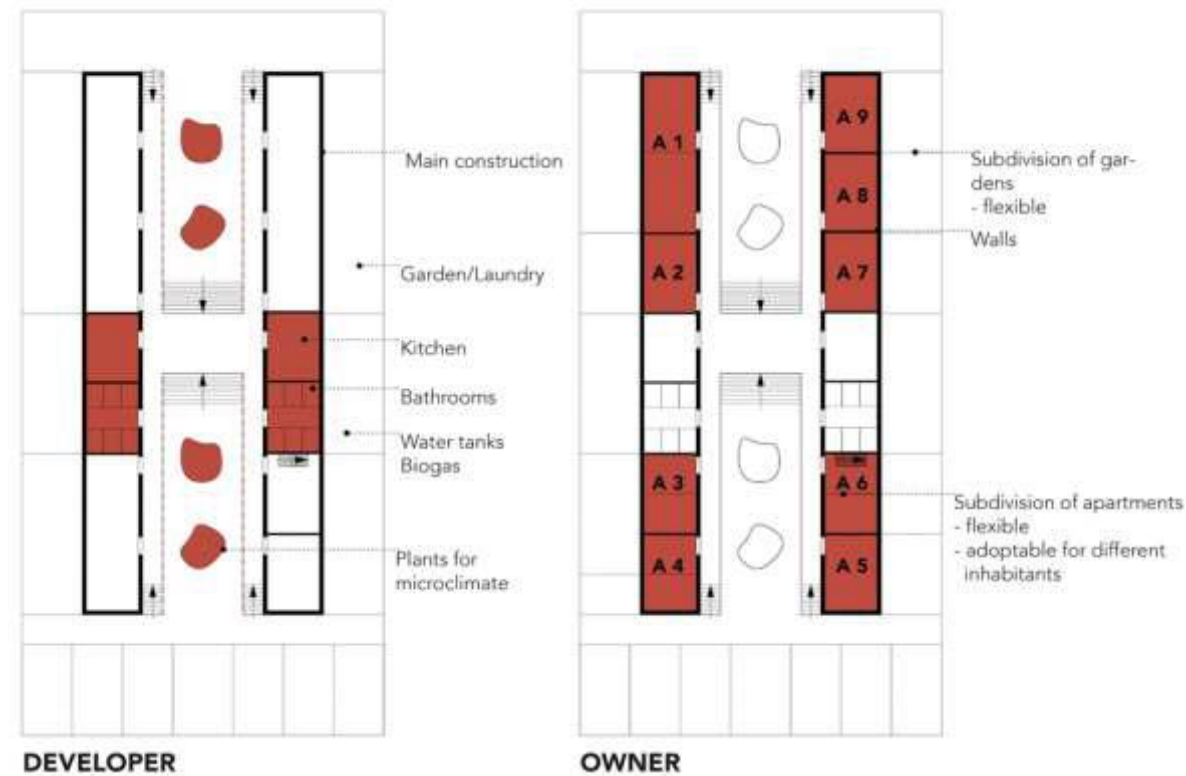
Section A-A



Scheme of 1 Plot - Groundfloor

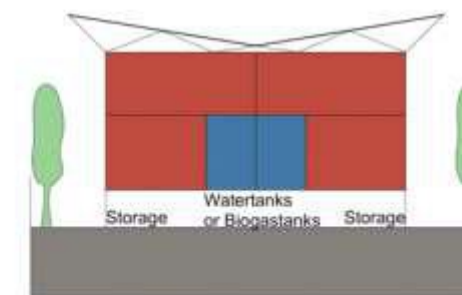
An alternative option allows for two bedroom apartments to be arranged on each plot using similar design parameters, to allow for a bit more variety in the housing types provided and to cater to more types of housing needs in the community. There is also a proposed option where the developer develops the main shell, structure and core facilities of the building while the landowner handles the internal partitioning and finishes at their own pace

BUILDING PROCESS

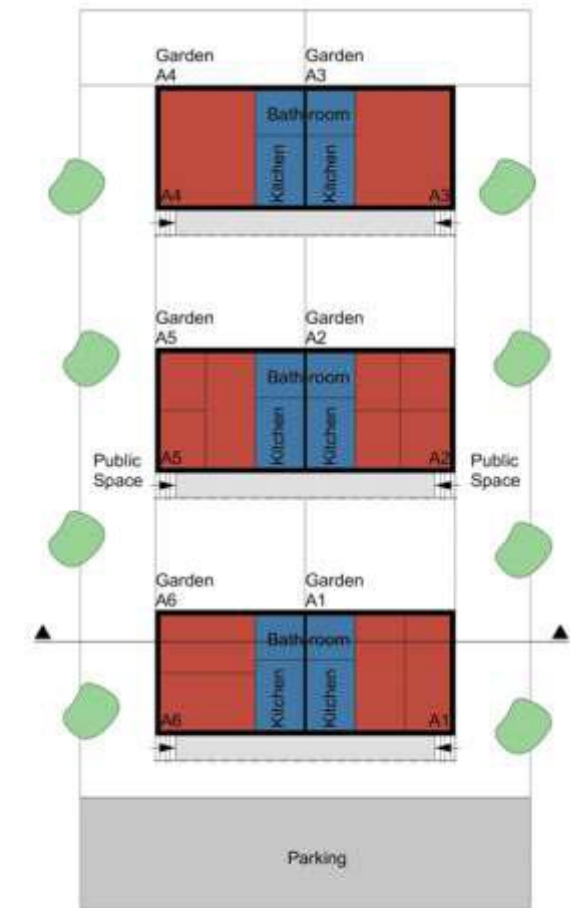


Lagos Development Envision Lab 2017 - Group 2 - Amukoko

Design - Proposal alternative Option



Section A-A



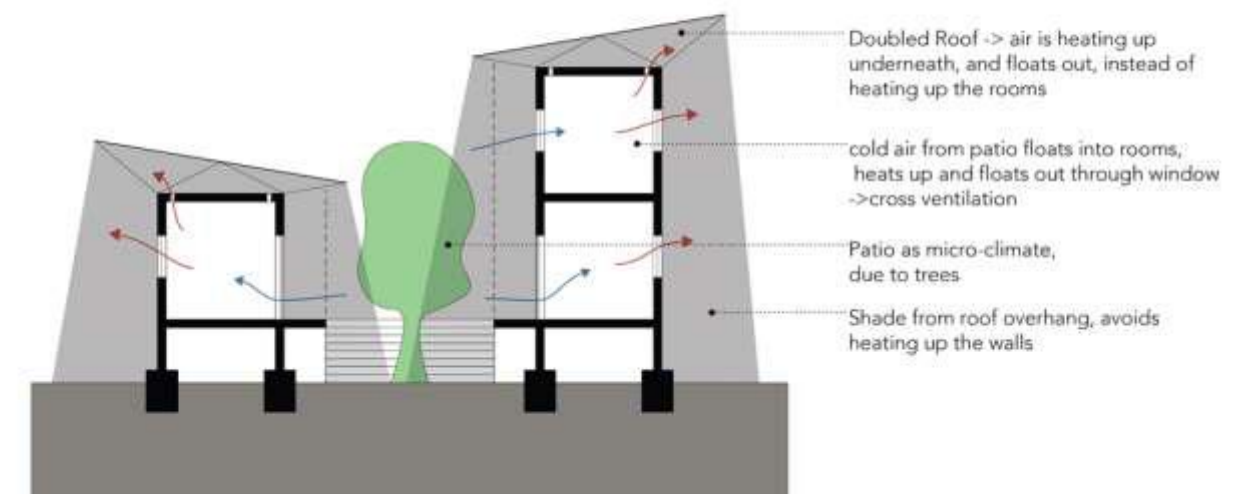
Scheme of Groundfloor

Climatology parameters to be considered for upgrading:

- Allow for ample roof overhangs to shield the building from direct sunlight, therefore reducing the need for cooling
- Use of double roofs to aid natural ventilation
- Incorporate green pockets such as courtyards in the site layout to improve air quality and general ambience
- Rainwater harvesting for house hold water requirements
- Use of affordable and sustainable materials where possible, through alternative building materials and
- Use of building mass for thermal regulation of the building

CLIMATE-DIAGRAMM BUILDING

The Aim: a design, that is climate-friendly by just using passive elements, to provide a good environment in the rooms. Electricity can be saved aswell, making the building very sustainable.





PRIVATE, PUBLIC AND COMMUNITY LED AFFORDABLE HOUSING PROJECTS

As the most populous city in Nigeria, it is no surprise that Lagos has its share of housing issues. Lagos State Government has identified the housing deficit in the state as 2.5 million (Musbau, 2017). Over the years different Lagos State Government administrations have tried to curb the deficit using various solutions but most of them have only scratched the surface. The deficit has continued to grow despite government led and private sector driven initiatives.

This research compares the Ilubirin and Ijora Badia Jubilee Housing Estates, which are part of the Lagos Affordable Public Housing programme (LAPH), the private estate development "Imperial International Business City" in the Lagos Lagoon opposite Lekki phase 1 and a imaginative development plan for the Otodo Gbame community which was driven away from its land opposite Lekki phase 1 to make way for the construction work of the Imperial International Business City.



Imperial City Ikate, Concept Mater Plan, Neighborhood Character



Otodo Gbame Proposal



Ilubirin Rendering

Government Driven Projects

The current housing program under Lagos State Government, Lagos Affordable Public Housing programme (LAPH), aims to build 20,000 housing units in the next five years. The currently built housing units have been named Jubilee Housing Estates in commemorating the 50th anniversary of the State in 2017. It is designed as a public private partnership (PPP) to be built by private developers. Ownership is accessed through the Rent-to-Own policy: individuals will pay 5% of the cost of the housing unit as a commitment fee and the balance can be spread over a number of years, but not more than 10 – under the previous Lagos Home Ownership Mortgage Scheme (Lagos HOMS) program an initial payment of 30% had to be paid. As a PPP, the government only initiates the projects and provides land equity, while private developers plan the project, fund the construction, manage, sell and rent them after completion. An applicant needs to be above 21 years old, a Lagos State resident in possession of the Lagos State Residents Registration Agency (LASRRA) Card, with a steady taxable source of income out of which at least 33% of the monthly income can cover the monthly payments. LAPH therefore will unlikely cater to the majority of the population who live on less than \$2.50/day.

Two of such projects, the Ilubirin and the Ijora Badia housing projects, were started in 2013 under Lagos HOMS, but the constructions had been stopped due to financial problems. In 2017, the construction work resumed under a PPP model. In Ijora-Badia over 9,000 persons were displaced (Amnesty International & SERAC, 2013) for the development of 21 low-cost buildings with about 1,000 housing units expected to be delivered. New construction technologies with prefabricated components were initially meant to keep construction costs low, but due to the high costs of the foundation in difficult soil conditions, the government had to stop the construction after only two buildings were built. Before starting construction again in 2017, the master plan was redesigned and will now accommodate 700 housing units to be built for middle and high income groups (LAGDEL site visits, 2017).

A 2 bedroom flat is expected to cost NGN22 million, NGN27million for a 3 bedroom flat and NGN45million for a 4 bedroom flat. Buying a flat under the Rent-to-Own scheme would mean a commitment fee of NGN1.1million and a monthly payment of around NGN175, 000 without interest rate (LADEL site visit, 2017). Looking at the fact that low income families can save around 360,000 NGN in a year it is clear, that a flat at Ijora-Badia is totally out of the reach of those income groups. It is not yet known at what price the units will be rented out at Ijora Badia.

Ilubirin is a mid-market luxury development project on Lagos Island. Its objective is 'to contribute to the vision of the Lagos State Government for prime residential development, leisure, recreation, and tourism' (First Investment Development Company, 2017). After establishing the PPP, the master plan and the existing buildings were modified for residential and commercial use and high income apartments to increase the profit. The price of a housing unit in Ilubirin is not yet known, but the project is being advertised with phrases like 'affordable luxury at the lagoon' or 'Prime Residential, Commercial and Retail Development' and architectural renderings show high end apartments, so it should be assumed that Ilubirin is for the high income group only. Originally, around 1,200 housing units were planned for the middle and high income group. But after modifying the masterplan under the PPP, commercial use will increase and only 600 housing units are going to be built (LAGDEL site visits, 2017). This also shows that the interest of the private developers is

in profit only and not in contributing to the lack of housing in Lagos.

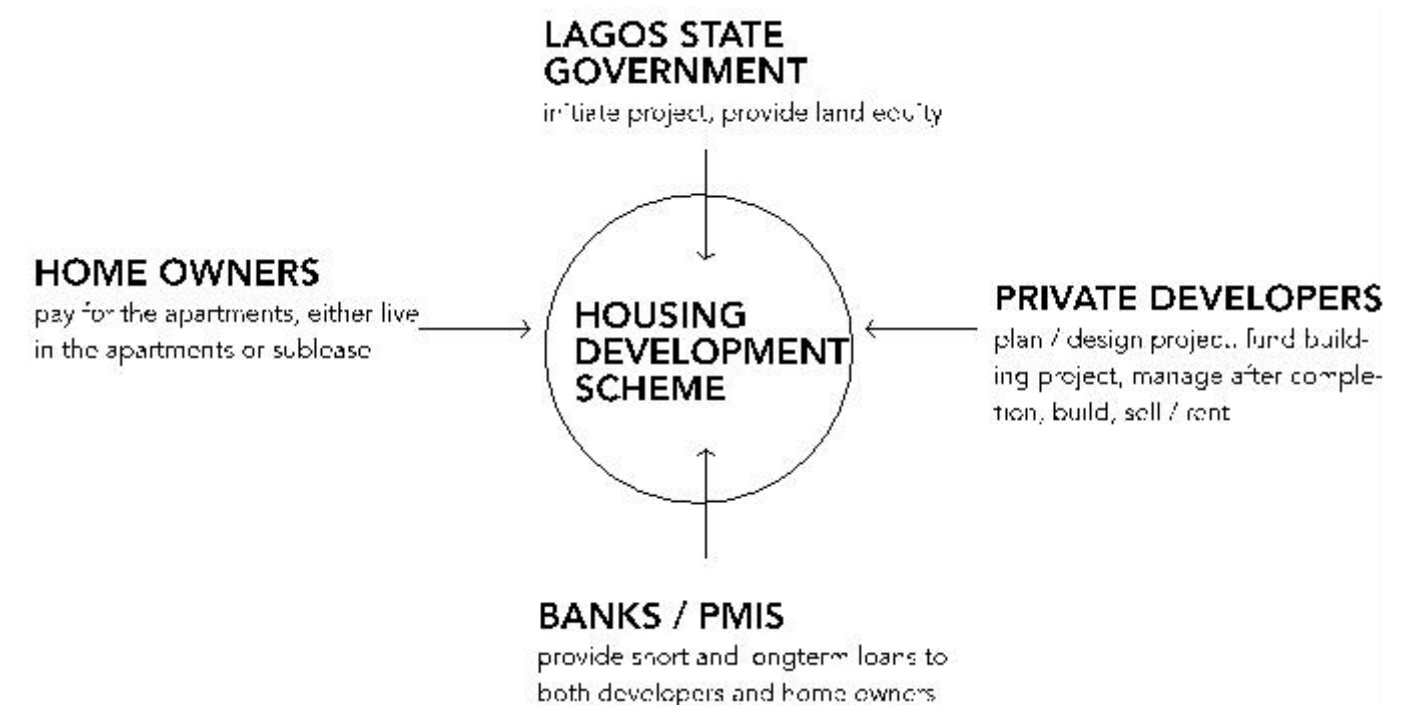
According to the article, 'Bridging Housing Deficit in Lagos' issued by Lagos State Ministry of Information and Strategy (Musbau, 2017), artisans, technicians, and food vendors are mentioned not as beneficiaries of the program who would one day own or at least live in one of the homes under LAPH programme but as beneficiaries from mere foot traffic therefore bettering the Lagos economy.



Ijora Badia, Building Site



Proposed Jubilee Housing Estate, LSG



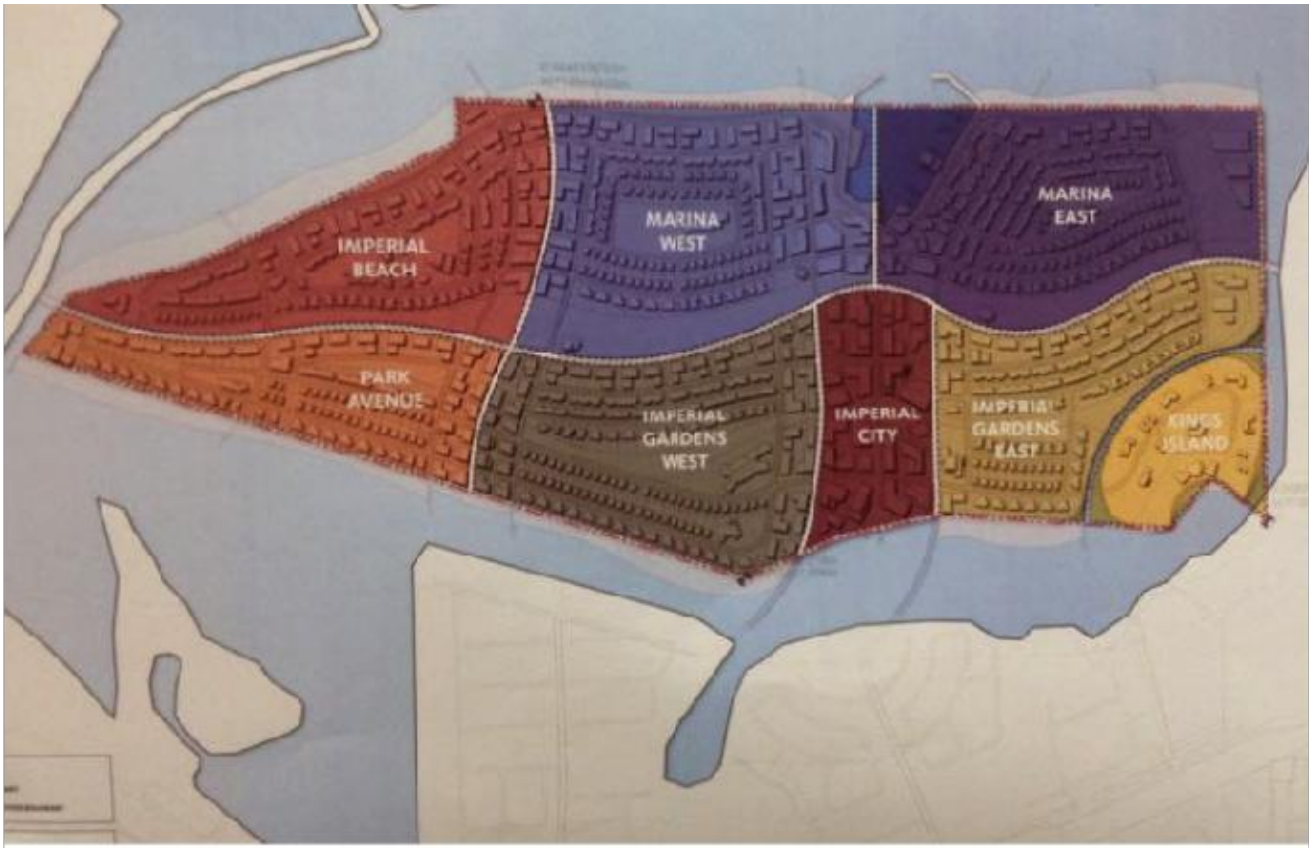
Programs Driven By Private Developers

One of the numerous private led housing initiatives is the Imperial International Business City (IIBC), a \$300 million “eco-friendly smart city” which wants to be “recognized as the benchmark for high quality urban developmental projects in Africa and at the same time preserving the historic landmark of the ancient city of Ikate Elegushi”. This estimated 5 years joint venture project between Channel Drill Resources Limited and Elegushi Royal Family (ERF) will be dredged off the Lagos Lagoon with completion date in 2022. The island will stretch over150 hectares and have 50% low density residential, 10% high density residential, 15% percent mixed use and 25% commercial and health zones. Their Pre-Sale Teaser and Concept Master Plan document does not explicitly mention the intended residents, however by using phrases like 'the most luxurious city in the continent', 'exclusive private living...a leisure destination', and 'exclusive private island' there is a sense that the target residents are high income earners only. (Channeldrill Resources Limited, 2017).

The price of land also shows who will be able to live in IIBC. The cost of land is NGN75, 000/sqm (see table on the right). This is cheaper than all other developments in the area, such as Eko Atlantic (NGN750, 000/sqm), Orange Island (NGN120, 000/sqm) or Lekki Phase 1 (NGN170, 000/sqm). Although, the price of land is cheaper than their neighbours, it is likely that rent will be similar or higher than that of Lekki Phase 1, due to the amenities IIBC promises to provide and its location. In Lekki Phase 1 the rent for small units (mini flats to 3 bedroom flats) range from NGN750, 000 to NGN3.5 million per annum (Castles Lifestyle, 2015).

From the prices explained above, middle income earners should be able to rent at IIBC but will not be able to own property or land at IIBC. It is likely that the small units will be located in the 10% high density residential area of IIBC, therefore majority of residents will be high income earners.

The IIBC financing model is simple and ideally sustainable. However it is dependent on how much land they sell. It is likely they have investors to start the project because they have started dredging. They aim to sell all land before the infrastructure is implemented. The completion of the IIBC project is determined by how much land is sold. In the current economic climate it is hard to determine how quick the land at IIBC will sell and if they will fulfill their requirements in the time allocated.



(fig e 4) Imperial CityIkate, Master Plan Vision, Western Gateway Sketch View

IIBC PAYMENT & PRICING SCHEDULE					
Available for Sale INNER-CITY LOW DENSITY RESIDENTIAL AREA PAYMENT & TIME FRAME	650 sqm <small>NGN75,000/sqm</small>	800 sqm <small>NGN75,000/sqm</small>	1000 sqm <small>NGN75,000/sqm</small>	1200 sqm <small>NGN75,000/sqm</small>	
	AMOUNT PAYABLE (NGN)	AMOUNT PAYABLE (NGN)	AMOUNT PAYABLE (NGN)	AMOUNT PAYABLE (NGN)	
	1st Installment (25% of total amount) Immediate payment for reservation	13,406,250.00	16,500,000.00	20,625,000.00	24,750,000.00
	2nd Installment (25% of total amount) 3 months after first installment	13,406,250.00	16,500,000.00	20,625,000.00	24,750,000.00
	3rd Installment (25% of total amount) 3 months after second installment	13,406,250.00	16,500,000.00	20,625,000.00	24,750,000.00
	4th Installment (25% of total amount) Beginning of infrastructure	13,406,250.00	16,500,000.00	20,625,000.00	24,750,000.00
	53,625,000.00 <small>(Inclusive of 10% for Administrative & Processing Fees)</small>	66,000,000.00 <small>(Inclusive of 10% for Administrative & Processing Fees)</small>	82,500,000.00 <small>(Inclusive of 10% for Administrative & Processing Fees)</small>	99,000,000.00 <small>(Inclusive of 10% for Administrative & Processing Fees)</small>	

(fig e 12) Pricing Schedule, IIBC

Community Driven Housing Project Proposal

Otodo – Gbame was a neighbouring community to Ikate land of Oba Elegushi. It is a community majorly occupied by Egun and Awori with a population of about 36,000 people (<https://ynaija.com/otodo-gbame-attack/>, April 13, 2017). They are predominantly fishermen occupying expanse of land along the Lagos Lagoon of the Lekki peninsula, Lagos. The dwellers of the community were forcefully between October 2016 and April 2017 to make way for the sand filling and construction works of the IIBC project.

Five Master architecture students of the Stuttgart State Academy of Art and Design used the Otodo Gbame case to develop urban design strategies for community regeneration. The “Alternative Proposal for Otodo Gbame” is a proposal for the urban poor targeting the resident who lived in the community before displacement. Proposing solutions which could empower the local community by giving them access to basic infrastructure, and creating jobs considering the financial capabilities of the community.

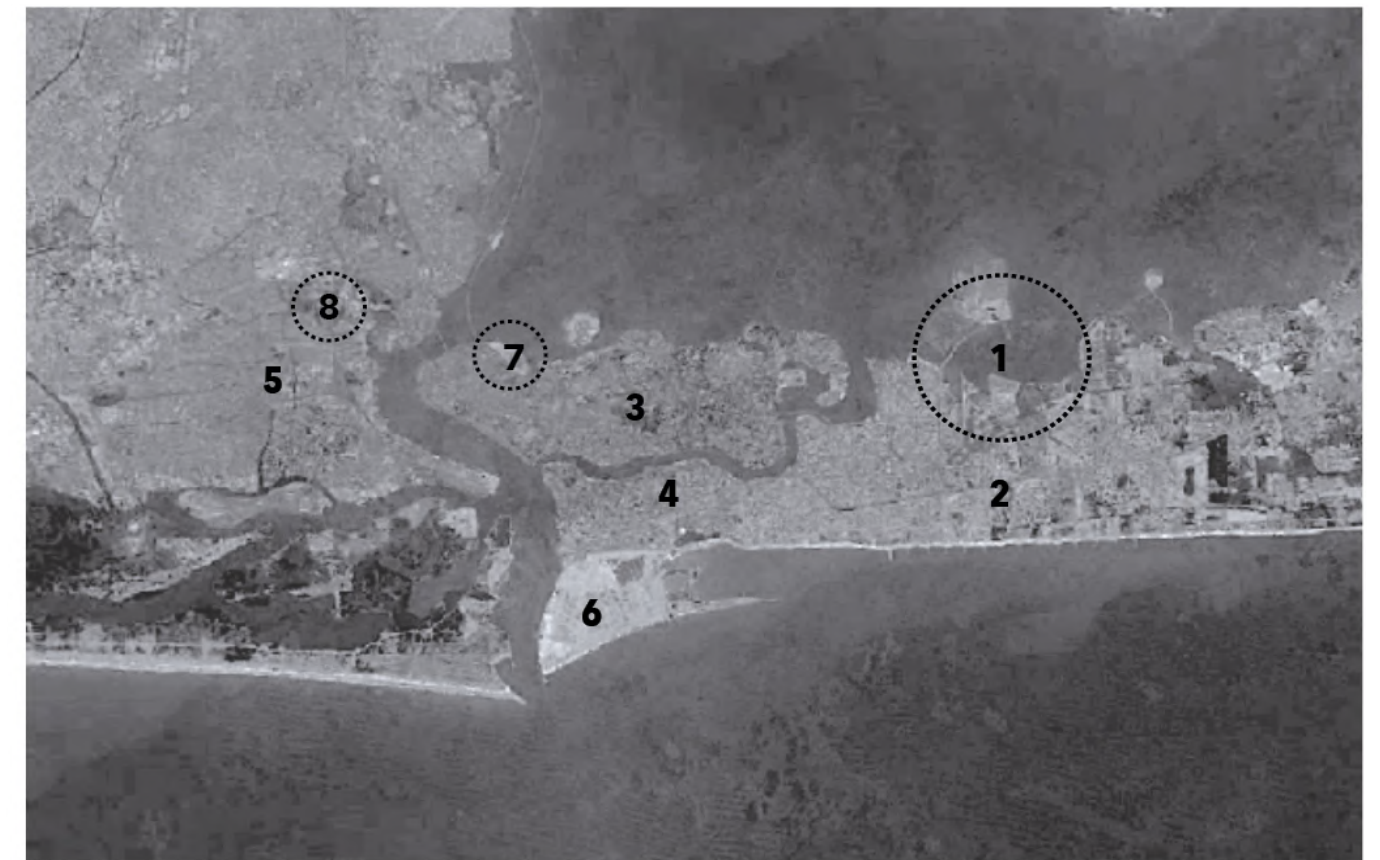
It promotes a cluster plan, where clusters of homes share infrastructure with a major focus on sanitation. About 1,500 cluster housing units (approximately 10 people/unit with 8m²/person/unit) can be built on around 25 hectares of land with the potential of housing up to 15,000 people. The proposal considers the future growing population. Each housing unit would cost NGN600, 000 and can house three families, therefore each family will need to pay NGN200, 000. A community member confirmed that a family should be able to save about NGN30, 000/month. In a year they would save NGN360, 000. Therefore they are most likely to afford the housing cost of NGN200, 000 if they save for 12-18 months.

The plan is to have 92 sanitary and kitchen points each one to be shared by 120 people. The sanitary points use a biogas model and the methane gas produced will be supplied to the kitchen areas. When there is overproduction, the gas can be used for generators to generate electricity.

The sanitary and kitchen points can be described as micro units. These units are made of a biogas cooperative, savings groups, and private businesses. The micro group would also address other infrastructural issues within its area. These units can further be joined together to create Meso Units. The Meso Units will have public facilities that can include learning centres, health centres and community halls. The aggregated Meso Units would form Otodo-Gbame then called the Macro Unit. This level will contain shared public spaces, hospitals and secondary schools. This system becomes a way of urban planning as well as governance

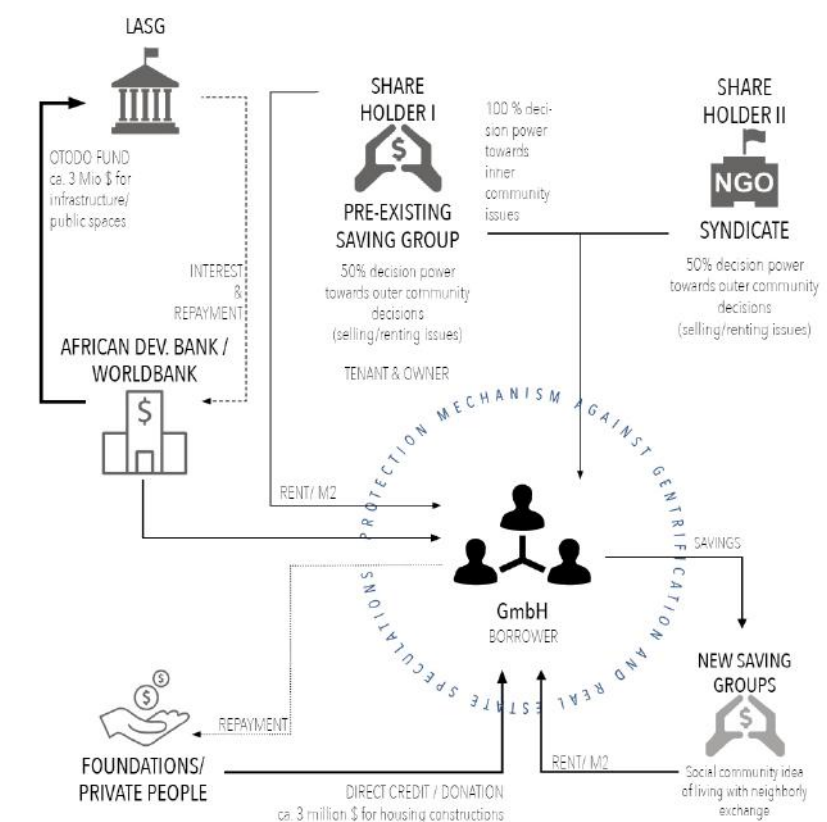
Through the cluster system a financial structure is created (see table on the right). It is based around a conglomerate entity that acts like a community manager. This conglomerate is made up of pre-existing saving groups and a syndicate (NGOs that work within the community). Each group holds 50% of the decision making power of the conglomerate group to ensure the community's needs are met in a sustainable and ethical manner. The group can then act like a company and borrow from development banks, work with the Lagos State Government and receive donations from foundations and private individuals. This administrative set up would also allow to tap into other funding streams, the largest would be from international banks through the Lagos State Government (LASG). After managing such a multi layer funding scheme for several years, it is hoped that the community can become self sustainable and therefore will no longer need to recur to international banks (see table on the right).

This is an optimistic financial model because funds from international banks will need to go through Lagos State Government and this means it may not get to the intended project. It is therefore very important to think about how all partners can be made accountable of the funds given. Also realistically it may take many years for the community to be self sustainable.



1. IIBC and Otodo-Gbame 2. Lekki Phase 1 3. Lagos Island 4. Victoria Island 5. Mainland Lagos 6. Eko Atlantic
7. Ilubirin 8. Ijora Badia

Stuttgart Strategy



LAND TENURE

Land in Nigeria is governed by the Land Use Act of 1978. The Act states that all land situated in each state are vested in the Governor of the state and the Governor has the right to issue certificates of occupancy for land holders in their states. Therefore the Governor controls and manages all land, including land allocation within the state. Since inception, the Land Use Act has created problems around land management all over the country. The Act does not allow a free market economic system to work, and land assigning and management is not sufficiently managed by government offices and this hinders the housing market and housing finance institutions. The insufficient management and delays in securing Statutory Certificates of Occupancy have led to land transactions being done informally. Governors have abused their power to revoke the right of occupancy 'for overriding public interest' over time showing the fragility of statutory certificates of occupancy. The Lagos State Government over the years used this Act as a way to forcefully evict communities, businesses and home owners for personal and state gain (Mabogunje, A. L., 2010).

The security of tenure is important for any development to take place in Lagos State. It is also important to have buy-in not just from the government but also from the Governor. IIBC is a joint venture with partners Channel Drill Resources Limited and the Elegushi Royal Family. Channeldrill Resources Limited is the developer while the Elegushi Royal Family own the land and have secured the approval to extend their land by 200 hectares. Being already a land owners and has clandestine political support from the Lagos State Government (LASG), it is likely that the IIBC project will move forward with limited land tenure issues, except the court case instituted by the Otodo Gbame community claiming that the land is theirs.

For the Alternative Proposal for Otodo-Gbame by Stuttgart Students there was an assumption that Lagos State Government will give the community security of tenure.

SOCIAL IMPACT

Similarly to the environment, it is important to acknowledge the impact a development project will have on the people using it and around it. The projects are to be built for people and not in a vacuum, but in a city that already exists. It is therefore important to understand what social impact they will have.

The Alternative Proposal for Otodo-Gbame is inclusive of community members during planning and implementation. The design includes a recreational area not just for the immediate community but other areas in Lagos through its walkable promenade and water sports activities for all the family. The macro, meso and micro units will not only act as a good way of organizing the community, but they will also create social cohesion and an inclusive governance structure.

The IIBC, Ilubirin and Ijora Badia are rather inward looking projects which do not connect to the existing conditions within the city which can easily foster social segregation. The island of the IIBC and most possibly Ilubirin and Ijora Badia as well will act like gated communities, keeping some people in and the majority of the population out. In the case of Ijora Badia, social segregation was fostered as Lagos State Government demolished shanties that were situated on the site, evicting more than 9000 persons without giving them any compensation (Amnesty International and SERAC, 2013). Built directly next to a slum, rich and poor people will live wall to wall without having any contact. For IIBC all the design ideas are foreign and borrowed from the west and therefore not a reflection of the Nigerian or local culture.

In comparison to IIBC the Alternative Proposal for Otodo-Gbame by Stuttgart Students is socially inclusive and takes in to consideration the already existing social groups that have developed within the

communities in the development area.

The research experience during this Lab has also shown that private and government led real estate projects take a long period before they are implemented – if they ever materialize. During the construction period, vast amounts of urgently needed land in Lagos are left undeveloped whilst thousands of residents, often displaced to make way for the new projects, have to squat in temporary shelter. Using the aforementioned upgrading strategy combined with sanitation and energy solutions based on locally available renewable and bio technologies would seriously enhance the economic productivity and physical aesthetic of the city.

LAND TENURE SYSTEM IN LAGOS STATE

the section 1 of the land use act 1978 vests all land to the Governor of the State

FREEHOLD

ownership tenure is indefinite, which means ownership of both building and land is in perpetuity

land can be transfered to children/inheritors

or

usually ver expensive to own

there is no payment of ground rent to the Government

LEASEHOLD

ownership tenure is determined by the government usually about 99 years which means temporary right to hold land/property

leaseholders **will have to pay maintenance fees, annual service charges** and ground rent to the State government

usually cheaper than freehold

the land returns to the being Government's property after the lease period

HIGH PRESSURE ON LAND
53m NGN per Plot (600qm)

COMPARISON OF HOUSING ASPECTS

	OTODO GBAME	ILUBIRIN	IJORA BADIA	IIBC
Number of Housing Units:	1,500	600 (1254 orig. planned)	714 (1,008 orig. planned)	-
Total Land Area in ha:	25.25	30	13.54	200
People per ha:	588	120	318	-
Group of Income:	low-income	high-income	middle+high income	middle+high income
Selling Price (NGN):	200,000	not available m ²	2 bedroom: 22m 3 bedroom: 27m 4 bedroom: 45m	75,000NGN/m ² of land
Building Technology:	modular wooden structure	conventional	prefabricated concrete modules	conventional
Conclusion:	high density, but just 8 qm per person, cheap modular system, but without profit and costs of land	low density, because of commercial uses, build for high-income earners	prefabricated modules too expensive, because of special production; maybe cheaper if replicated	Majority low density area for high income earners

Stakeholders For Development

Stakeholders are key to any development project and they should be identified as early as possible, ideally before design and planning of the project. Stakeholders are different and are likely to have different needs and objectives, therefore it is ideal to identify areas of convergence and areas of difference. This can be done at the beginning of a project by drawing up a stakeholder map or matrix. This may also help to understand when each stakeholder should be involved in the process from planning, design, construction, maintenance and evaluation. Stakeholder engagement is an ongoing process and should not be seen as one-off event.

The Alternative Proposal for Otodo-Gbame listed a myriad of stakeholders ranging from community members, savings groups, local government, and local schools to Lagos State Government and professionals. The stakeholder matrix (see table on the right) shows how the different stakeholders may engage with each other but it does not identify when they will engage with each other and when their individual input will be necessary.

IIBC has engaged with various stakeholders mainly professionals (contractors and promoters) and Lagos State government represented by multiple agencies including Lagos State Ministry of Waterfront and Infrastructure Development. At the meeting with the Elegushi Royal Family, when asked about engaging with those who lived in the area and Lekki Phase 1, the representative responded that they are not able to engage with these groups because they do not have the capacity to do so, however they are engaging with the Lagos State Government on infrastructure development plans of Lekki Phase 1. The lack of engagement was emphasized by the Lekki Phase 1 Resident's Association, who knew nothing about the new island being built north of the community.

In Ilubirin and Ijora Badia Lagos State Government and the private developers are the most important stakeholders. They develop the projects together. They both engage with other stakeholders involved in the planning and construction as necessary. Banks and Primary Mortgage Institutions provide short and long-term loans to the developers and also to the home owners. The home owners are getting involved as soon as the apartments can be sold and either live in the apartments or sublease them. In both projects future residents and neighbouring communities are not engaged in the development process.

Environmental Impact

Buildings and development in general are assets to any city but they also have significant environmental and health impacts. There are several building and development laws that speak to environmental issues. The Environmental Impact Assessment Act (1992) deals with environmental considerations (positive and negative) for public and private projects. The Nigerian Urban and Regional Planning Act (1992) and the Land Use Act (1978) also tackle environmental issues. Section 39 (7) of the Nigerian Urban and Regional Planning Act establishes that "an application for land development would be rejected if such development would harm the environment or constitute a nuisance to the community" (Environmental Law Research Institute, 2011). Overall the Act advocates for realistic, purposeful planning to avoid overcrowding and poor environmental conditions.

The Alternative Proposal for Otodo-Gbame has strategies around energy, water, pollution and climate change. Sanitation was identified as a major issue within the Otodo-Gbame community and the Alternative

Proposal has identified biogas toilets as a viable solution. This reduces water pollution and produces compost for manure. The manure can be used for growing small amounts of vegetables and plants. The biogas will be used for cooking instead of firewood, reducing air pollution. If the amount of biogas is adequate it can also be used to power generators. The proposal also has a plan for rainwater harvesting on the roofs of the housing units. Green spaces have been integrated into the design and the architecture is conducive to the environment. By building the housing units on stilts the environment allows for free flow of water so as not to disturb the water table and biodiversity. The facade and folding doors allow for natural ventilation and remove the need for artificial cooling, reducing the energy use. Since low income groups usually walk, use bicycle or public transport means, the project would not necessarily contribute to traffic congestion, if public transport stops and hubs would be adequately integrated and it would contribute to a CO2 reduction of the city's air pollution.



Source Justice & Empowerment Initiative

IIBC has completed an Environmental Impact Assessment (EIA), which could not be accessed because it is not available publicly. However, because it is a dredging and landfill project it will affect neighbouring communities and the biodiversity of the Lagos Lagoon. The Lekki Residents Association are already complaining of the impact flooding has on their community and they believe that the artificial islands being built adjacent to their community will further impact the rate and impact of flooding within Lekki Phase 1. Apart from flooding, traffic is another concern for neighbouring communities because there is only one arterial road that goes through the Lekki Peninsula; therefore it is likely that with increase in population this will impact the already congested streets leading to and from Lekki Phase 1. Despite all these environmental concerns, the project has been given the green light and the proposed project is being built which, in itself, has quite a number of environmentally conscious design efforts, for example a gas plant for power, a green

area cutting across the island both for recreation and to help with flooding, and pedestrian and cycle only zones to reduce CO2 emissions from cars and to encourage walking and cycling in the city.

In Ilubirin and Ijora-Badia, there are no innovative strategies or design efforts on how to consider the environmental impact of the projects – traffic, CO2 emission, flooding or waste among others. Ilubirin is, as the IIBC, a dredging and landfill project which will, as mentioned before, have an effect on neighbouring communities, the biodiversity of the Lagos Lagoon and flooding. In Ijora-Badia, the original plan was to test a new building technology, a standardized prefabricated building components that are produced on site. This building technology was meant to make building construction more effective and affordable and could have had a positive impact on the environment, as it would have reduced transportation and water consumption.



Otodo Gbame Proposal

CONCLUSION AND RECOMMENDATIONS

Housing in Lagos is a critical component of meeting the needs of residents of Lagos and a major element in the transformation of the city-state. However, the current segregative and profit oriented housing policies and practices have not translated to economic productivity and physical aesthetic of the city. Rather, it has exacerbated proliferation of neglected and isolated wall communities. It is obvious that the city cannot be sustainable on the practice of housing delivery based on segregation, isolation and class cluster. It is ideal for the city to reconsider its housing delivery approach by exploring mixed and integrative models.

The integrative housing model has enormous potentials to attract both local and foreign investments, to increase the productivity of Lagos, create sustainable urban architecture and pull considerable number of residents into the tax bracket. The model will enhance the social, economic and environmental resilience of the residents and push Lagos into the league of global cities. The findings of the Lagos Envision Development Lab give a good picture on how such a model could be achieved in Lagos:

- o Government has to channel its funds to address the infrastructure decay caused by constant flood as a result of the city's topography. An intelligent and well leveled drainage system running throughout the city is indispensable for any sustainable housing development.
- o The long held perception of "housing for profit" by the Lagos State Government has to be reviewed. Such a change in perception will lead to process change, stakeholders' re-orientation, consideration of alternative housing models and paradigm shift in the conceptualization and implementation of housing delivery system in Lagos State.
- o With such a paradigm shift the current public housing programs, Lagos HOMS, Rent-to-Own, Rental Housing and Lagos Affordable Public Housing (LAPH) will become more responsive to the quest for affordable housing by the residents of Lagos. The units should be sold mainly to cooperative groups to avoid speculative reselling at market value since Cooperative group members can only transfer their share to other members.
- o In strategic areas, rent should be controlled to maintain long term affordability relative to monthly earnings.
- o Residential land left undeveloped should accrue a tax, relative to the value of the land every two years to disincentivize speculative land purchases without intention of developing the land. Taxes accrued should be paid into a Government Housing Investment Fund
- o On-site mixed use and inclusionary housing models where specific percentages are earmarked for different income groups and possibly cross-subsidize each other will be central in the resolution of housing crisis in Lagos.
- o Land and home owners in highly populated communities need to be included in densification processes to build social cohesion and mitigate against the risk of gentrification and to ensure housing schemes delivered have a strong sense of community from inception.
- o Experience has shown that residents and workers in informal communities are very keen in investing their funds into better housing and a cleaner environment. Upgrading of such communities could be achieved quickly with short-term land tenure for the residents where the government would give the existing informal settlements security of land tenure for approximately 20 years through proper

documentation with a view to driving the upgrading of the communities should evolve. At the expiration of 20-year period, government may consider the extension of the tenure or redevelopment to accommodate and reflect the changing social and economic scenario of the specific communities, without necessarily displacing anyone.

- o For such a regeneration process, a cooperative structure and funding model will be expedient. An "Upgrading Cooperative" consisting of saving group members, NGOs and professionals to coordinate the upgrading of the informal settlements will be responsible for project fund administration. Additional funding can be sourced from development partners and banks, which would be paid back by the saving groups through the cooperative.
- o For planning purposes a clear definition and periodic (five year) delineation of the incomes groups – low, medium and high - is required. Housing development projects should therefore be developed with the financial capability of different groups as major consideration.
- o The financial model needs to be realistic and reliable to ensure the continuity of the project. Financial models do not need to be solely through sales but can also include financial support from within the community as well as externally. There is a misconception that low-income earners cannot pay for anything - they have formal savings groups and are already paying for amenities, informally. Therefore, this misconception needs to be removed for proper engagement in the project development financial structure.
- o Experience has also shown that private and government led real estate projects take a long period before they are implemented – if they ever materialize. During the construction period, vast amounts of urgently needed land in Lagos are left undeveloped whilst thousands of residents, often displaced to make way for the new projects, have to squat in temporary shelter. Using the aforementioned upgrading strategy combined with sanitation and energy solutions based on locally available renewable and bio technologies would seriously enhance the economic productivity and physical aesthetic of the city

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